



May 21, 2024

**New Mexico Oil Conservation Division**

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

**Re: Updated Site Summary Report and Closure Request**

Hare 16  
San Juan County, New Mexico  
Hilcorp Energy Company  
NMOCD Incident No: nAPP2335018887

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Updated Site Summary Report and Closure Request* associated with a produced water release at the Hare 16 natural gas production well (Site, Figure 1). The Site is located on surface managed by the Bureau of Land Management (BLM) in Unit H, Section 3, Township 29 North, Range 10 West, San Juan County, New Mexico.

**SITE BACKGROUND**

On December 15, 2023, a Hilcorp operator discovered a 60-barrel (bbl) produced water release at the Site. The operator observed fluids outside of the 95-bbl below-grade tank (BGT) but contained within the unlined cellar surrounding the BGT. The BGT is set at a depth of approximately 3.5 feet below ground surface (bgs) at this Site. Upon discovery, a water truck was called in immediately and recovered approximately 52 bbls of produced water. While none of the fluids migrated horizontally outside of the cellar and secondary containment, approximately 8 bbls of fluid was not recovered by the water truck and seeped into the underlying soil. The release was a result of a corrosion hole that formed on the bottom of the BGT near the load line. The BGT has been taken out of service for inspection and re-coating. Hilcorp notified the New Mexico Oil Conservation Division (NMOCD) within 24 hours of discovery and submitted an initial *Form C-141 Release Notification* on December 16, 2023. NMOCD assigned the release incident number nAPP2335018887.

**SITE CHARACTERIZATION AND CLOSURE CRITERIA**

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

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

The closest significant watercourse is an intermittent stream located 370 feet north of the Site. The Site is greater than 200 feet from any lakebed, sinkhole, or playa lake, and is greater than 300 feet from a wetland (Figure 1). The nearest fresh-water well is New Mexico Office of the State Engineer (NMOSE) permitted well SJ-04544 (Appendix A), located approximately 4,130 feet southwest of the Site. The recorded depth to water on the NMOSE database is 30 feet bgs. Well SJ-04544 is located at an elevation of approximately 5,832 feet above mean sea level (AMSL), which is approximately 125 feet lower in elevation than the Site. As such, depth to groundwater beneath the Site is likely greater than 100 feet bgs. No wellhead protection areas, springs, or domestic/stock wells are located within a ½-mile radius 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.

## SITE CLOSURE CRITERIA

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

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

## SITE ASSESSMENT ACTIVITIES

Hilcorp and Ensolum advanced eight potholes (PH01 through PH08) using a backhoe on February 8, 2024 to assess potential soil impacts resulting from the release. The NMOCDC was notified at least two business days prior to commencing on-Site activities (Appendix B). Potholes were advanced to depths between 2 feet and 8 feet bgs and were all advanced until the backhoe met refusal on formation sandstone. Pothole PH01 was advanced immediately adjacent to the BGT (source of the release) in order to assess soils with the greatest potential impacts resulting from the release. Potholes PH02 through PH08 were advanced to delineate the lateral and vertical extents of potential impacts based on the observations encountered in PH01. Soil samples were collected from each pothole and field screened at the ground surface and at 2-foot intervals for the presence of organic vapors using a calibrated photoionization detector (PID) and chloride using Hach® QuanTab® test strips. PID and chloride field screening results are included in Table 1.

In general, Site lithology consisted of unconsolidated sand with clay and clay from the ground surface to depths up to 4 feet bgs. The sand was underlain in all potholes by sandstone and potholes were advanced until refusal was met at depths of 2 feet to 8 feet bgs. As indicated in the photographs taken during field activities (attached as Appendix C), blue/gray-stained soil and bedrock were observed in potholes PH01, PH02, PH03, PH04, PH06, and PH07 at varying depths. Soil can turn blue-gray in color due to anaerobic or reducing subsurface conditions in the soil. These anaerobic or reducing environments can often occur through microbial degradation of organic matter and the depletion of available oxygen. Additionally, elevated PID readings were measured in these potholes and correlated with the blue-stained soil.

Two soil samples from each pothole were collected for laboratory analysis: one sample collected from the depth interval with the highest PID reading and one sample collected from the terminus of the pothole (at the point of backhoe refusal). Field screening measurements and observations from potholes PH02 and PH03 were similar to those collected from the initial pothole PH01; as such, soil samples collected from these potholes were used for field screening purposes only and not submitted for laboratory analysis. Additionally, potholes PH04, PH05, and PH06 were advanced at greater distances away from the source of the release due to the location of several utilities at the Site, as seen in Figure 2. Samples were collected directly into laboratory-provided jars, immediately placed on ice, and submitted to Eurofins Environment Testing (Eurofins) for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B, TPH-GRO, TPH-DRO, TPH-MRO following EPA Method 8015M/D, and chloride following EPA Method 300.0.

Based on the laboratory analytical results collected during the February 2024 delineation, all COC concentrations were in compliance with the NMOCD Closure Criteria. Soil sample analytical results are summarized in Table 1 and depicted on Figure 2, with complete laboratory analytical reports attached as Appendix D.

## CONCLUSIONS AND CLOSURE REQUEST

Based on the soil sampling activities and analytical results described above, petroleum hydrocarbon and/or chloride contaminants were not detected in any of the samples collected at the Site above the NMOCD Table I Closure Criteria. COC concentrations within the top 4 feet of soil also met the reclamation requirement. As such, Site conditions appear to be protective of human health, the environment, and groundwater and Hilcorp respectfully requests closure for Incident Number nAPP2335018887.

## 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 document to the NMOCD. If you should have any questions or comments regarding this document, please contact the undersigned.

Sincerely,  
**Ensolum, LLC**



Wes Weichert  
Project Geologist  
(816) 266-8732  
wweichert@ensolum.com



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

Updated Site Summary Report and Closure Request  
Hare 16  
Hilcorp Energy Company

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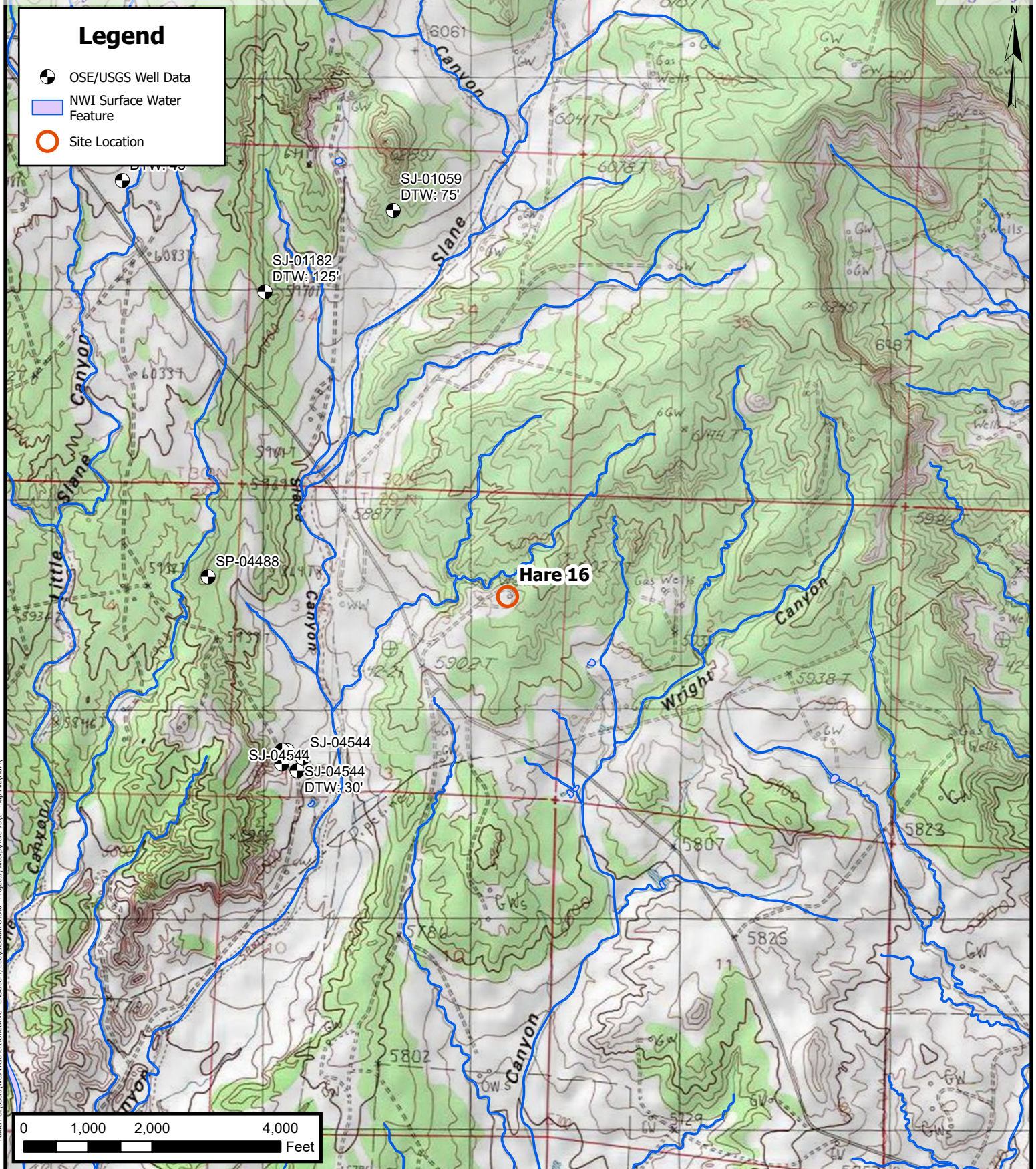
**Attachments:**

Figure 1: Site Receptor Map  
Figure 2: Soil Sample Analytical Results  
  
Table 1: Soil Sample Analytical Results  
  
Appendix A: NMOSE Point of Diversion Summary  
Appendix B: Agency Sampling Notification  
Appendix C: Photographic Log  
Appendix D: Laboratory Analytical Reports



FIGURES

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**ENSOLUM**  
Environmental, Engineering and  
Hydrogeologic Consultants

## Soil Sample Location Map

Hare 16

Hilcorp Energy Company

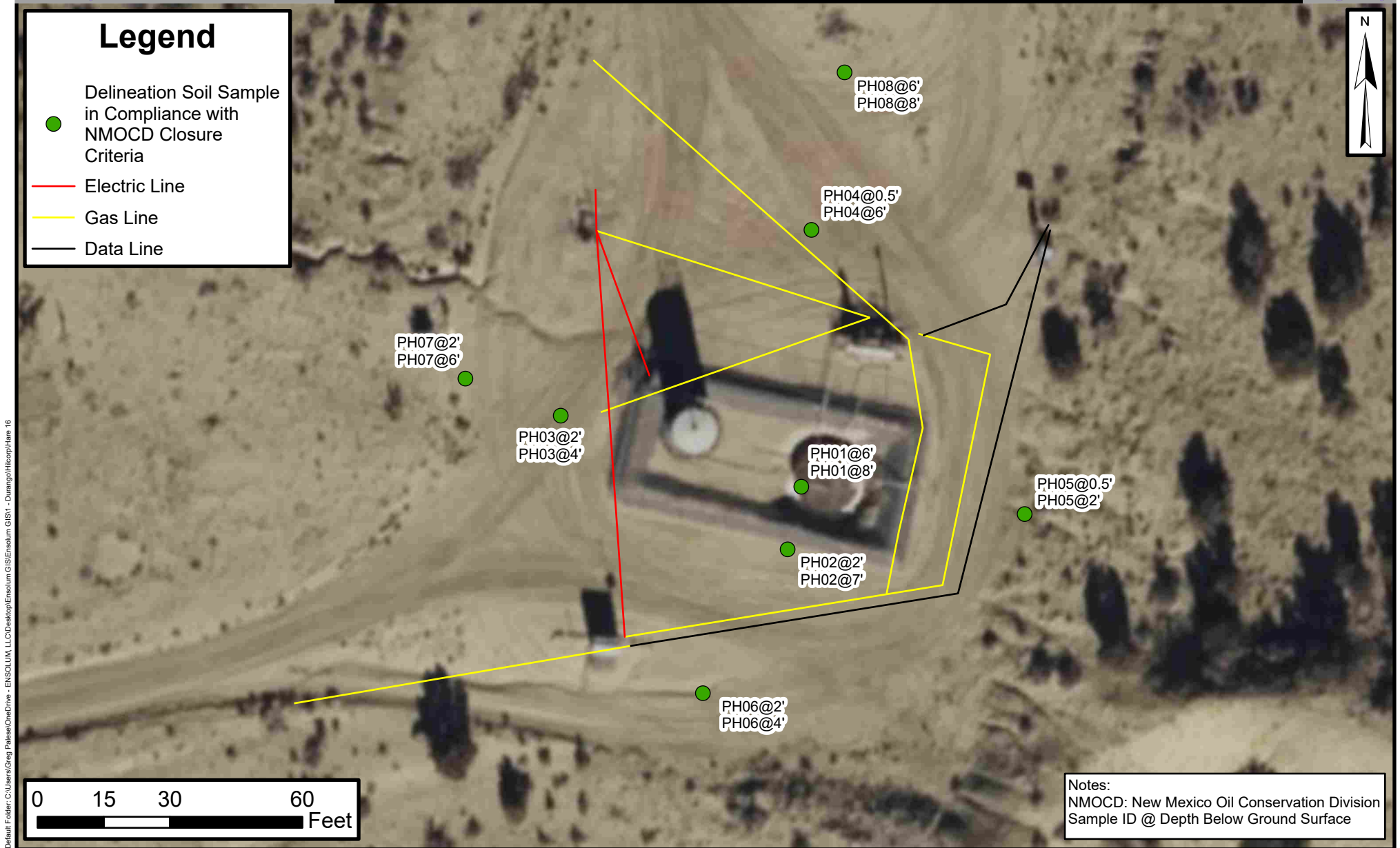
Incident Number: nAPP2335018887

36.7559738, -107.8665085

San Juan County, New Mexico

**FIGURE**

**1**



## Delineation Soil Sample Locations

Hare 16  
Hilcorp Energy Company  
Incident Number: nAPP2335018887  
36.7559738, -107.8665085  
San Juan County, New Mexico

FIGURE  
2



TABLES



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**

Hare 16

Hilcorp Energy Company  
San Juan County, New Mexico

Sample ID	Date	Depth (feet bgs)	PID (ppm)	Chloride Field Screening (ppm)	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)	TPH- GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
<b>NMOCD Closure Criteria for Soils Impacted by a Release</b>			<b>NE</b>	<b>NE</b>	<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
PH01 @ 0.5'	2/8/2024	0.5	15.7	<124	--	--	--	--	--	--	--	--	--	--	--
PH01 @ 2'	2/8/2024	2	451	124	--	--	--	--	--	--	--	--	--	--	--
PH01 @ 4'	2/8/2024	4	1,803	<124	--	--	--	--	--	--	--	--	--	--	--
PH01 @ 6'	2/8/2024	6	1,946	<124	<0.024	<0.048	0.16	1.3	1.46	59	180	<48	239	239	170
PH01 @ 8'	2/8/2024	8	837	148	<0.025	<0.049	<0.049	0.28	0.28	14	200	83	214	297	250
PH02 @ 0.5'	2/8/2024	0.5	803	--	--	--	--	--	--	--	--	--	--	--	--
PH02 @ 2'	2/8/2024	2	1,785	--	--	--	--	--	--	--	--	--	--	--	--
PH02 @ 4'	2/8/2024	4	633	--	--	--	--	--	--	--	--	--	--	--	--
PH02 @ 6'	2/8/2024	6	172	--	--	--	--	--	--	--	--	--	--	--	--
PH02 @ 7'	2/8/2024	7	43.3	--	--	--	--	--	--	--	--	--	--	--	--
PH03 @ 0.5'	2/8/2024	0.5	11.5	--	--	--	--	--	--	--	--	--	--	--	--
PH03 @ 2'	2/8/2024	2	19	--	--	--	--	--	--	--	--	--	--	--	--
PH03 @ 4'	2/8/2024	4	303	--	--	--	--	--	--	--	--	--	--	--	--
PH03 @ 6'	2/8/2024	6	1,836	--	--	--	--	--	--	--	--	--	--	--	--
PH03 @ 8'	2/8/2024	8	1,988	--	--	--	--	--	--	--	--	--	--	--	--
PH04 @ 0.5'	2/8/2024	0.5	11.2	--	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.3	<46	<9.3	<46	120
PH04 @ 2'	2/8/2024	2	6	--	--	--	--	--	--	--	--	--	--	--	--
PH04 @ 4'	2/8/2024	4	2	--	--	--	--	--	--	--	--	--	--	--	--
PH04 @ 6'	2/8/2024	6	5.9	--	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.5	<47	<9.5	<47	260
PH05 @ 0.5'	2/8/2024	0.5	69.5	--	<0.023	<0.046	<0.046	<0.092	<0.092	<4.6	<9.7	<49	<9.7	<49	<60
PH05 @ 2'	2/8/2024	2	95.0	--	<0.025	<0.049	<0.049	0.12	0.12	<4.9	<9.6	<48	<9.6	<48	<60
PH06 @ 0.5'	2/8/2024	0.5	23.6	--	--	--	--	--	--	--	--	--	--	--	--
PH06 @ 2'	2/8/2024	2	51.1	--	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<9.8	<49	<9.8	<49	76
PH06 @ 4'	2/8/2024	4	253	--	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<9.7	<48	<9.7	<48	67
PH07 @ 0.5'	2/8/2024	0.5	1.5	--	--	--	--	--	--	--	--	--	--	--	--
PH07 @ 2'	2/8/2024	2	1.7	--	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.3	<46	<9.3	<46	<60
PH07 @ 4'	2/8/2024	4	0.9	--	--	--	--	--	--	--	--	--	--	--	--
PH07 @ 6'	2/8/2024	6	1,492	--	<0.024	<0.049	0.64	7.40	8.04	220	580	<48	800	800	190
PH08 @ 0.5'	2/8/2024	0.5	1.9	--	--	--	--	--	--	--	--	--	--	--	--
PH08 @ 2'	2/8/2024	2	1.8	--	--	--	--	--	--	--	--	--	--	--	--
PH08 @ 4'	2/8/2024	4	3.2	--	--	--	--	--	--	--	--	--	--	--	--
PH08 @ 6'	2/8/2024	6	8.1	--	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	14	<49	14	14	<60
PH08 @ 8'	2/8/2024	8	69.1	--	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<9.6	<48	<9.6	<48	<60

**Notes:**

--: not sampled for laboratory analysis

bgs: Below ground surface

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

mg/kg: Milligrams per kilogram

NE: Not established

NMOCD: New Mexico Oil Conservation Division

PID: Photoionization detector

ppm: Parts per million

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)

': Feet

**Bold:** Indicates result exceeds NMOCD closure standards



## APPENDIX A

### NMOSE Point of Diversion Summary

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# New Mexico Office of the State Engineer

## Water Right Summary


[get image list](#)

**WR File Number:** SJ 04544      **Subbasin:** SJM2      **Cross Reference:** -  
**Primary Purpose:** MON MONITORING WELL  
**Primary Status:** PMT PERMIT  
**Total Acres:**      **Subfile:** -      **Header:** -  
**Total Diversion:** 0      **Cause/Case:** -  
**Owner:** HILCORP ENERGY COMPANY  
**Contact:** STUART, HYDE, ENSOLUM, LLC

### Documents on File

	Trn #	Doc	File/Act	Status		Transaction Desc.	From/ To	Acres	Diversion	Consumptive
				1	2					
	<a href="#">737573</a>	<a href="#">EXPL</a>	<a href="#">2022-08-18</a>	PMT	APR	SJ-04544-POD1-6	T	0	0	

### Current Points of Diversion

POD Number	Well Tag	Source	Q		(NAD83 UTM in meters)		X	Y	Other Location Desc
			64Q16Q4	Sec Tw	Rng				
<a href="#">SJ 04544 POD1</a>			03	29N	10W		243080	4071002	MW30
<a href="#">SJ 04544 POD2</a>			03	29N	10W		243055	4071002	MW31
<a href="#">SJ 04544 POD3</a>			03	29N	10W		243053	4070941	MW32
<a href="#">SJ 04544 POD4</a>			03	29N	10W		243127	4070908	MW33
<a href="#">SJ 04544 POD5</a>			03	29N	10W		243127	4070908	MW34
<a href="#">SJ 04544 POD6</a>			3	3	03	29N 10W	243153	4070968	MW-35

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

3/4/24 1:32 PM

WATER RIGHT SUMMARY



## APPENDIX B

### Agency Sampling Notification

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**From:** [OCDOnline@state.nm.us](mailto:OCDOnline@state.nm.us)  
**To:** [Stuart Hyde](#)  
**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 308712  
**Date:** Monday, January 29, 2024 7:25:27 AM

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[ \*\*EXTERNAL EMAIL\*\* ]

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

The OCD has received the submitted *Notification for (Final) Sampling of a Release* (C-141N), for incident ID (n#) nAPP2335018887.

The sampling event is expected to take place:

**When:** 01/31/2024 @ 09:00

**Where:** H-03-29N-10W 1980 FNL 990 FEL (36.7559738,-107.8665085)

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

**Additional Instructions:** Site coordinates: 36.75592, 107.86604

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

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

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

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



## APPENDIX C

### Photographic Log

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**Photographic Log**  
Hilcorp Energy Company  
Hare 16  
nAPP2335018887



Photograph: 1                      Date: 2/8/2024  
Description: Hare 16 Well Pad  
View: West



Photograph: 2                      Date: 2/8/2024  
Description: Soil staining under BGT  
View: West



Photograph: 3                      Date: 2/8/2024  
Description: Pothole PH01 next to BGT  
View: North



Photograph: 4                      Date: 2/8/2024  
Description: Backfilling activities  
View: West



## APPENDIX D

### Laboratory Analytical Reports

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Environment Testing

Eurofins Environment Testing South  
Central, LLC  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

February 20, 2024

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

RE: Hare 16

OrderNo.: 2402484

Dear Samantha Grabert:

Eurofins Environment Testing South Central, LLC received 16 sample(s) on 2/9/2024 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109



Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2402484

Date Reported: 2/20/2024

CLIENT: HILCORP ENERGY

Client Sample ID: PH01@8'

Project: Hare 16

Collection Date: 2/8/2024 10:10:00 AM

Lab ID: 2402484-002

Matrix: SOIL

Received Date: 2/9/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	200	9.7		mg/Kg	1	2/14/2024 1:15:53 AM
Motor Oil Range Organics (MRO)	83	49		mg/Kg	1	2/14/2024 1:15:53 AM
Surr: DNOP	98.0	61.2-134		%Rec	1	2/14/2024 1:15:53 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	14	4.9		mg/Kg	1	2/14/2024 5:51:47 PM
Surr: BFB	195	15-244		%Rec	1	2/14/2024 5:51:47 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	2/14/2024 5:51:47 PM
Toluene	ND	0.049		mg/Kg	1	2/14/2024 5:51:47 PM
Ethylbenzene	ND	0.049		mg/Kg	1	2/14/2024 5:51:47 PM
Xylenes, Total	0.28	0.098		mg/Kg	1	2/14/2024 5:51:47 PM
Surr: 4-Bromofluorobenzene	110	39.1-146		%Rec	1	2/14/2024 5:51:47 PM
EPA METHOD 300.0: ANIONS						Analyst: RBC
Chloride	250	60		mg/Kg	20	2/14/2024 12:26:47 AM

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2402484

Date Reported: 2/20/2024

CLIENT: HILCORP ENERGY

Client Sample ID: PH04@0.5'

Project: Hare 16

Collection Date: 2/8/2024 12:37:00 PM

Lab ID: 2402484-007

Matrix: SOIL

Received Date: 2/9/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	2/14/2024 1:26:16 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/14/2024 1:26:16 AM
Surr: DNOP	99.0	61.2-134		%Rec	1	2/14/2024 1:26:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/14/2024 6:15:53 PM
Surr: BFB	110	15-244		%Rec	1	2/14/2024 6:15:53 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	2/14/2024 6:15:53 PM
Toluene	ND	0.050		mg/Kg	1	2/14/2024 6:15:53 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/14/2024 6:15:53 PM
Xylenes, Total	ND	0.10		mg/Kg	1	2/14/2024 6:15:53 PM
Surr: 4-Bromofluorobenzene	109	39.1-146		%Rec	1	2/14/2024 6:15:53 PM
EPA METHOD 300.0: ANIONS						Analyst: RBC
Chloride	120	60		mg/Kg	20	2/14/2024 12:41:57 AM

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2402484

Date Reported: 2/20/2024

CLIENT: HILCORP ENERGY

Client Sample ID: PH04@6'

Project: Hare 16

Collection Date: 2/8/2024 1:00:00 PM

Lab ID: 2402484-008

Matrix: SOIL

Received Date: 2/9/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	2/14/2024 1:36:37 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/14/2024 1:36:37 AM
Surr: DNOP	98.3	61.2-134		%Rec	1	2/14/2024 1:36:37 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/14/2024 6:39:53 PM
Surr: BFB	108	15-244		%Rec	1	2/14/2024 6:39:53 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	2/14/2024 6:39:53 PM
Toluene	ND	0.050		mg/Kg	1	2/14/2024 6:39:53 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/14/2024 6:39:53 PM
Xylenes, Total	ND	0.099		mg/Kg	1	2/14/2024 6:39:53 PM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	2/14/2024 6:39:53 PM
EPA METHOD 300.0: ANIONS						Analyst: RBC
Chloride	260	61		mg/Kg	20	2/14/2024 12:57:07 AM

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2402484

Date Reported: 2/20/2024

CLIENT: HILCORP ENERGY

Client Sample ID: PH05@0.5'

Project: Hare 16

Collection Date: 2/8/2024 1:10:00 PM

Lab ID: 2402484-009

Matrix: SOIL

Received Date: 2/9/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	2/14/2024 1:46:56 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/14/2024 1:46:56 AM
Surr: DNOP	98.6	61.2-134		%Rec	1	2/14/2024 1:46:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/14/2024 7:03:47 PM
Surr: BFB	105	15-244		%Rec	1	2/14/2024 7:03:47 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	2/14/2024 7:03:47 PM
Toluene	ND	0.046		mg/Kg	1	2/14/2024 7:03:47 PM
Ethylbenzene	ND	0.046		mg/Kg	1	2/14/2024 7:03:47 PM
Xylenes, Total	ND	0.092		mg/Kg	1	2/14/2024 7:03:47 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	2/14/2024 7:03:47 PM
EPA METHOD 300.0: ANIONS						Analyst: RBC
Chloride	ND	60		mg/Kg	20	2/14/2024 1:12:16 AM

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

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

CLIENT: HILCORP ENERGY

Client Sample ID: PH05@2'

Project: Hare 16

Collection Date: 2/8/2024 1:30:00 PM

Lab ID: 2402484-010

Matrix: SOIL

Received Date: 2/9/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	2/14/2024 1:57:15 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/14/2024 1:57:15 AM
Surr: DNOP	93.2	61.2-134		%Rec	1	2/14/2024 1:57:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/14/2024 7:27:39 PM
Surr: BFB	110	15-244		%Rec	1	2/14/2024 7:27:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	2/14/2024 7:27:39 PM
Toluene	ND	0.049		mg/Kg	1	2/14/2024 7:27:39 PM
Ethylbenzene	ND	0.049		mg/Kg	1	2/14/2024 7:27:39 PM
Xylenes, Total	0.12	0.099		mg/Kg	1	2/14/2024 7:27:39 PM
Surr: 4-Bromofluorobenzene	108	39.1-146		%Rec	1	2/14/2024 7:27:39 PM
EPA METHOD 300.0: ANIONS						Analyst: RBC
Chloride	ND	60		mg/Kg	20	2/14/2024 1:57:44 AM

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2402484

Date Reported: 2/20/2024

CLIENT: HILCORP ENERGY

Client Sample ID: PH06@2'

Project: Hare 16

Collection Date: 2/8/2024 1:50:00 PM

Lab ID: 2402484-011

Matrix: SOIL

Received Date: 2/9/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/14/2024 2:07:33 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/14/2024 2:07:33 AM
Surr: DNOP	95.9	61.2-134		%Rec	1	2/14/2024 2:07:33 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/14/2024 7:51:28 PM
Surr: BFB	106	15-244		%Rec	1	2/14/2024 7:51:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	2/14/2024 7:51:28 PM
Toluene	ND	0.047		mg/Kg	1	2/14/2024 7:51:28 PM
Ethylbenzene	ND	0.047		mg/Kg	1	2/14/2024 7:51:28 PM
Xylenes, Total	ND	0.094		mg/Kg	1	2/14/2024 7:51:28 PM
Surr: 4-Bromofluorobenzene	106	39.1-146		%Rec	1	2/14/2024 7:51:28 PM
EPA METHOD 300.0: ANIONS						Analyst: RBC
Chloride	76	60		mg/Kg	20	2/14/2024 2:12:53 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2402484

Date Reported: 2/20/2024

CLIENT: HILCORP ENERGY

Client Sample ID: PH06@4'

Project: Hare 16

Collection Date: 2/8/2024 2:00:00 PM

Lab ID: 2402484-012

Matrix: SOIL

Received Date: 2/9/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	2/14/2024 2:17:52 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/14/2024 2:17:52 AM
Surr: DNOP	97.0	61.2-134		%Rec	1	2/14/2024 2:17:52 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/14/2024 8:15:17 PM
Surr: BFB	103	15-244		%Rec	1	2/14/2024 8:15:17 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	2/14/2024 8:15:17 PM
Toluene	ND	0.049		mg/Kg	1	2/14/2024 8:15:17 PM
Ethylbenzene	ND	0.049		mg/Kg	1	2/14/2024 8:15:17 PM
Xylenes, Total	ND	0.098		mg/Kg	1	2/14/2024 8:15:17 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	2/14/2024 8:15:17 PM
EPA METHOD 300.0: ANIONS						Analyst: RBC
Chloride	67	60		mg/Kg	20	2/14/2024 2:42:24 AM

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

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

## Analytical Report

Lab Order 2402484

Date Reported: 2/20/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: PH07@2'

Project: Hare 16

Collection Date: 2/8/2024 2:05:00 PM

Lab ID: 2402484-013

Matrix: SOIL

Received Date: 2/9/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	2/14/2024 2:38:26 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/14/2024 2:38:26 AM
Surr: DNOP	100	61.2-134		%Rec	1	2/14/2024 2:38:26 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/14/2024 8:39:00 PM
Surr: BFB	104	15-244		%Rec	1	2/14/2024 8:39:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	2/14/2024 8:39:00 PM
Toluene	ND	0.050		mg/Kg	1	2/14/2024 8:39:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/14/2024 8:39:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	2/14/2024 8:39:00 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	2/14/2024 8:39:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	ND	60		mg/Kg	20	2/14/2024 2:55:15 AM

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2402484

Date Reported: 2/20/2024

CLIENT: HILCORP ENERGY

Client Sample ID: PH07@6'

Project: Hare 16

Collection Date: 2/8/2024 2:15:00 PM

Lab ID: 2402484-014

Matrix: SOIL

Received Date: 2/9/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	580	9.6		mg/Kg	1	2/14/2024 2:48:58 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/14/2024 2:48:58 AM
Surr: DNOP	98.8	61.2-134		%Rec	1	2/14/2024 2:48:58 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	220	4.9		mg/Kg	1	2/14/2024 9:02:39 PM
Surr: BFB	1320	15-244	S	%Rec	1	2/14/2024 9:02:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	2/14/2024 9:02:39 PM
Toluene	ND	0.049		mg/Kg	1	2/14/2024 9:02:39 PM
Ethylbenzene	0.64	0.049		mg/Kg	1	2/14/2024 9:02:39 PM
Xylenes, Total	7.4	0.098		mg/Kg	1	2/14/2024 9:02:39 PM
Surr: 4-Bromofluorobenzene	152	39.1-146	S	%Rec	1	2/14/2024 9:02:39 PM
EPA METHOD 300.0: ANIONS						Analyst: RBC
Chloride	190	60		mg/Kg	20	2/14/2024 3:08:07 AM

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

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

CLIENT: HILCORP ENERGY

Client Sample ID: PH08@6'

Project: Hare 16

Collection Date: 2/8/2024 2:21:00 PM

Lab ID: 2402484-015

Matrix: SOIL

Received Date: 2/9/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	14	9.7		mg/Kg	1	2/14/2024 2:59:19 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/14/2024 2:59:19 AM
Surr: DNOP	111	61.2-134		%Rec	1	2/14/2024 2:59:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/15/2024 12:57:28 PM
Surr: BFB	106	15-244		%Rec	1	2/15/2024 12:57:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	2/14/2024 9:26:21 PM
Toluene	ND	0.047		mg/Kg	1	2/14/2024 9:26:21 PM
Ethylbenzene	ND	0.047		mg/Kg	1	2/14/2024 9:26:21 PM
Xylenes, Total	ND	0.095		mg/Kg	1	2/14/2024 9:26:21 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	2/14/2024 9:26:21 PM
EPA METHOD 300.0: ANIONS						Analyst: RBC
Chloride	ND	60		mg/Kg	20	2/14/2024 3:20:59 AM

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2402484

Date Reported: 2/20/2024

CLIENT: HILCORP ENERGY

Client Sample ID: PH08@8'

Project: Hare 16

Collection Date: 2/8/2024 2:40:00 PM

Lab ID: 2402484-016

Matrix: SOIL

Received Date: 2/9/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JKU
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	2/15/2024 7:54:34 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/15/2024 7:54:34 PM
Surr: DNOP	86.5	61.2-134		%Rec	1	2/15/2024 7:54:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/15/2024 11:00:27 PM
Surr: BFB	102	15-244		%Rec	1	2/15/2024 11:00:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	2/15/2024 11:00:27 PM
Toluene	ND	0.049		mg/Kg	1	2/15/2024 11:00:27 PM
Ethylbenzene	ND	0.049		mg/Kg	1	2/15/2024 11:00:27 PM
Xylenes, Total	ND	0.098		mg/Kg	1	2/15/2024 11:00:27 PM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	2/15/2024 11:00:27 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	ND	60		mg/Kg	20	2/15/2024 8:42:35 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2402484

20-Feb-24

Client: HILCORP ENERGY

Project: Hare 16

Sample ID: <b>MB-80440</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>80440</b>		RunNo: <b>103069</b>							
Prep Date: <b>2/13/2024</b>	Analysis Date: <b>2/13/2024</b>		SeqNo: <b>3810349</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-80440</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>80440</b>		RunNo: <b>103069</b>							
Prep Date: <b>2/13/2024</b>	Analysis Date: <b>2/13/2024</b>		SeqNo: <b>3810350</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Sample ID: <b>MB-80433</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>80433</b>		RunNo: <b>103075</b>							
Prep Date: <b>2/13/2024</b>	Analysis Date: <b>2/13/2024</b>		SeqNo: <b>3810703</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-80433</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>80433</b>		RunNo: <b>103075</b>							
Prep Date: <b>2/13/2024</b>	Analysis Date: <b>2/13/2024</b>		SeqNo: <b>3810704</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.0	90	110			

Sample ID: <b>MB-80484</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>80484</b>		RunNo: <b>103135</b>							
Prep Date: <b>2/15/2024</b>	Analysis Date: <b>2/15/2024</b>		SeqNo: <b>3813484</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-80484</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>80484</b>		RunNo: <b>103135</b>							
Prep Date: <b>2/15/2024</b>	Analysis Date: <b>2/15/2024</b>		SeqNo: <b>3813485</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	90	110			

### Qualifiers:

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2402484

20-Feb-24

Client: HILCORP ENERGY

Project: Hare 16

Sample ID: <b>LCS-80388</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>80388</b>		RunNo: <b>103064</b>							
Prep Date: <b>2/12/2024</b>	Analysis Date: <b>2/13/2024</b>		SeqNo: <b>3810050</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	107	59.7	135			
Surr: DNOP	6.1		5.000		122	61.2	134			

Sample ID: <b>MB-80388</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>80388</b>		RunNo: <b>103064</b>							
Prep Date: <b>2/12/2024</b>	Analysis Date: <b>2/13/2024</b>		SeqNo: <b>3810053</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		117	61.2	134			

Sample ID: <b>MB-80459</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>80459</b>		RunNo: <b>103130</b>							
Prep Date: <b>2/14/2024</b>	Analysis Date: <b>2/15/2024</b>		SeqNo: <b>3813157</b>		Units: <b>mg/Kg</b>					
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	8.5		10.00		85.4	61.2	134			

Sample ID: <b>LCS-80459</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>80459</b>		RunNo: <b>103130</b>							
Prep Date: <b>2/14/2024</b>	Analysis Date: <b>2/15/2024</b>		SeqNo: <b>3813158</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.4	59.7	135			
Surr: DNOP	4.8		5.000		96.6	61.2	134			

### Qualifiers:

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2402484

20-Feb-24

Client: HILCORP ENERGY

Project: Hare 16

Sample ID: <b>ics-80374</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>80374</b>			RunNo: <b>103076</b>						
Prep Date: <b>2/9/2024</b>	Analysis Date: <b>2/14/2024</b>			SeqNo: <b>3810761</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	70	130			
Surr: BFB	2100		1000		206	15	244			

Sample ID: <b>ics-80418</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>80418</b>			RunNo: <b>103076</b>						
Prep Date: <b>2/13/2024</b>	Analysis Date: <b>2/14/2024</b>			SeqNo: <b>3810762</b>		Units: <b>%Rec</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2200		1000		217	15	244			

Sample ID: <b>mb-80374</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>80374</b>			RunNo: <b>103076</b>						
Prep Date: <b>2/9/2024</b>	Analysis Date: <b>2/14/2024</b>			SeqNo: <b>3810763</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	15	244			

Sample ID: <b>mb-80418</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>80418</b>			RunNo: <b>103076</b>						
Prep Date: <b>2/13/2024</b>	Analysis Date: <b>2/14/2024</b>			SeqNo: <b>3810764</b>		Units: <b>%Rec</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		105	15	244			

Sample ID: <b>ics-80443</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>80443</b>			RunNo: <b>103126</b>						
Prep Date: <b>2/14/2024</b>	Analysis Date: <b>2/15/2024</b>			SeqNo: <b>3812745</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	70	130			
Surr: BFB	2300		1000		228	15	244			

Sample ID: <b>mb-80443</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>80443</b>			RunNo: <b>103126</b>						
Prep Date: <b>2/14/2024</b>	Analysis Date: <b>2/15/2024</b>			SeqNo: <b>3812746</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		115	15	244			

### Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2402484

20-Feb-24

Client: HILCORP ENERGY  
Project: Hare 16

Sample ID: LCS-80374	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 80374	RunNo: 103076								
Prep Date: 2/9/2024	Analysis Date: 2/14/2024	SeqNo: 3810768	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.0	70	130			
Toluene	0.98	0.050	1.000	0	98.4	70	130			
Ethylbenzene	1.0	0.050	1.000	0	99.8	70	130			
Xylenes, Total	3.0	0.10	3.000	0	101	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	39.1	146			

Sample ID: mb-80374	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 80374	RunNo: 103076								
Prep Date: 2/9/2024	Analysis Date: 2/14/2024	SeqNo: 3810769	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	39.1	146			

Sample ID: LCS-80443	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 80443	RunNo: 103126								
Prep Date: 2/14/2024	Analysis Date: 2/15/2024	SeqNo: 3812791	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.8	70	130			
Toluene	0.98	0.050	1.000	0	98.4	70	130			
Ethylbenzene	1.0	0.050	1.000	0	100	70	130			
Xylenes, Total	3.1	0.10	3.000	0	102	70	130			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	39.1	146			

Sample ID: mb-80443	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 80443	RunNo: 103126								
Prep Date: 2/14/2024	Analysis Date: 2/15/2024	SeqNo: 3812793	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		105	39.1	146			

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit



Environment Testin

Eurofins Environment Testing South  
Central, LLC4901 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: 2402484

RcptNo: 1

Received By: Tracy Casarrubias

2/9/2024 6:35:00 AM

Completed By: Tracy Casarrubias

2/9/2024 7:22:40 AM

Reviewed By:

JA 2-9-24

Chain of Custody

1. Is Chain of Custody complete?

Yes ☐No ☒Not Present ☐

2. How was the sample delivered?

CourierLog In

3. Was an attempt made to cool the samples?

Yes ☒No ☐NA ☐4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ 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?

Yes ☒No ☐

(Note discrepancies on chain of custody)

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?

Yes ☒No ☐

(If no, notify customer for authorization.)

# of preserved  
bottles checked  
for pH:

(&lt;2 or &gt;12 unless noted)

Adjusted?

Checked by: Jn 2/9/24

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?

Yes ☐No ☐NA ☒

Person Notified:

Date:

By Whom:

Via:

☐ eMail☐ Phone☐ Fax☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

Mailing address and phone number are missing on COC- TMC 2/9/24

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes	Yogi		





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

QUESTIONS

Action 346128

QUESTIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID:	372171
	Action Number:	346128
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2335018887
Incident Name	NAPP2335018887 HARE 16 @ 30-045-08749
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-045-08749] HARE #016

Location of Release Source	
Please answer all the questions in this group.	
Site Name	HARE 16
Date Release Discovered	12/15/2023
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion   Tank (Any)   Produced Water   Released: 60 BBL   Recovered: 52 BBL   Lost: 8 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	On 12/15/2023 at approximately 10:00 am (MT), a Hilcorp operator discovered a 60-bbl produced water release at the Hare 16 (API No. 30-045-08749) in San Juan County, NM (36.75592, -107.86604). Surface ownership at the site is BLM surface/BLM mineral. Upon discovery, the operator observed fluids outside of the 95-bbl BGT within the unlined cellar. A water truck was called in immediately and was able to recover approximately 52 bbls. Although none of the fluids migrated horizontally outside of the cellar and secondary containment, approximately eight (8) bbls of fluid could not be recovered by the water truck and soaked into the underlying soils. At this time, the primary cause is corrosion which caused a hole to form on the bottom near the load line. The BGT was taken out of service for inspection and re-coating. Both of those actions were completed as of this C-141 submittal.

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

QUESTIONS, Page 2

Action 346128

**QUESTIONS (continued)**

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID:	372171
	Action Number:	346128
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	<b>No, according to supplied volumes this does not appear to be a "gas only" report.</b>
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	<b>Yes</b>
Reasons why this would be considered a submission for a notification of a major release	<b>From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.</b>
<i>With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.</i>	

**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	<b>True</b>
The impacted area has been secured to protect human health and the environment	<b>True</b>
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	<b>False</b>
All free liquids and recoverable materials have been removed and managed appropriately	<b>True</b>
If all the actions described above have not been undertaken, explain why	<b>Both the cellar and secondary containment prevented any fluids from migrating off the pad surface. However, due to the cellar being unlined, approximately 8 bbls of fluid soaked into the underlying soils and could not be contained.</b>

*Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.*

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

I hereby agree and sign off to the above statement	<b>Name: Stuart Hyde</b> <b>Title: Senior Geologist</b> <b>Email: shyde@ensolum.com</b> <b>Date: 05/21/2024</b>
--	--

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QUESTIONS, Page 3

Action 346128

**QUESTIONS (continued)**

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID:	372171
	Action Number:	346128
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS****Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 300 and 500 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between ½ and 1 (mi.)
A wetland	Between 300 and 500 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	None
A 100-year floodplain	Between ½ and 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

**Remediation Plan**

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

**Soil Contamination Sampling:** (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	260
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	800
GRO+DRO (EPA SW-846 Method 8015M)	800
BTEX (EPA SW-846 Method 8021B or 8260B)	8
Benzene (EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	02/08/2024
On what date will (or did) the final sampling or liner inspection occur	02/08/2024
On what date will (or was) the remediation complete(d)	02/08/2024
What is the estimated surface area (in square feet) that will be reclaimed	0
What is the estimated volume (in cubic yards) that will be reclaimed	0
What is the estimated surface area (in square feet) that will be remediated	0
What is the estimated volume (in cubic yards) that will be remediated	0

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

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Action 346128

**QUESTIONS (continued)**

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID:	372171
	Action Number:	346128
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS****Remediation Plan (continued)**

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

**This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:**

(Select all answers below that apply.)

(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	No
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	Yes
Other Non-listed Remedial Process. Please specify	Based on the soil sampling activities and analytical results described above, petroleum hydrocarbon and/or chloride contaminants were not detected in any of the samples collected at the Site above the NMOCD Table I Closure Criteria. COC concentrations within the top 4 feet of soil also met the reclamation requirement.

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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

I hereby agree and sign off to the above statement	Name: Stuart Hyde Title: Senior Geologist Email: shyde@ensolum.com Date: 05/21/2024
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The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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**District II**  
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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**  
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QUESTIONS, Page 5  
  
Action 346128

**QUESTIONS (continued)**

Operator:  HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID:	372171
	Action Number:	346128
	Action Type:	
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

**QUESTIONS**

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

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QUESTIONS, Page 6

Action 346128

**QUESTIONS (continued)**

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID:	372171
	Action Number:	346128
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Sampling Event Information</b>	
Last sampling notification (C-141N) recorded	311355
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	02/08/2024
What was the (estimated) number of samples that were to be gathered	20
What was the sampling surface area in square feet	30000

**Remediation Closure Request**

*Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.*

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	0
What was the total volume (cubic yards) remediated	0
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	0
What was the total volume (in cubic yards) reclaimed	0
Summarize any additional remediation activities not included by answers (above)	Based on the soil sampling activities and analytical results described above, petroleum hydrocarbon and/or chloride contaminants were not detected in any of the samples collected at the Site above the NMOCD Table I Closure Criteria. COC concentrations within the top 4 feet of soil also met the reclamation requirement.

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Stuart Hyde Title: Senior Geologist Email: shyde@ensolum.com Date: 05/21/2024
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Action 346128

QUESTIONS (continued)

Operator:  HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID:  372171
	Action Number:  346128
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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CONDITIONS  
  
Action 346128

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 346128
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	6/10/2024