ENSOLUM

February 13, 2024

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

Re: Remediation Work Plan
San Juan 29-5 Unit 24
Hilcorp Energy Company
NMOCD Incident No: nAPP2330638542

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Remediation Work Plan* (Work Plan) for a release at the San Juan 29-5 Unit 24 natural gas production well (Site). The Site is located on private land in Rio Arriba County, New Mexico, Unit B, Section 17, Township 29 North, Range 5 West (Figure 1). This proposed Work Plan includes a summary of delineation activities performed at the Site and the proposed remediation of impacted soil originating from the release of crude oil (condensate) and produced water.

SITE BACKGROUND

On October 20, 2023, Hilcorp discovered a release of 4.5 barrels (bbls) of crude oil (condensate) and 3.11 bbls of produced water at the Site. Upon inspection, corrosion holes were discovered at the bottom of the condensate aboveground storage tank (AST). The released fluids pooled immediately around the AST and stayed within the secondary containment. No released fluids were recovered. Hilcorp reported the release to the New Mexico Oil Conservation Division (NMOCD) on a *Release Notification Form C-141* on November 2, 2023. The NMOCD has assigned the Site Incident Number nAPP2330638542.

SITE CHARACTERIZATION

The Site is located on private land in Rio Arriba County, New Mexico. 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). This information is further discussed below.

GEOLOGY AND HYDROGEOLOGY

The Site is located in Tertiary (Eocene) age San Jose Formation and is underlain by the Nacimiento Geologic Formation. In the report titled "*Hydrogeology and Water Resources of San Juan Basin, New Mexico*" (Stone, et. al., 1983), the San Jose Formation is composed of interbedded sandstones and mudstones and varies in thickness from less than 200 feet to about 2,700 feet. The hydrologic properties of the San Jose Formation are largely untested. Where sufficient yield is present, the primary use of water from this Formation is for domestic and/or livestock supply.

POTENTIAL SENSITIVE RECEPTORS

Potential nearby receptors were assessed through desktop reviews of United States Geological Survey (USGS) topographic maps, Federal Emergency Management Administration (FEMA) Geographic Information System (GIS) maps, New Mexico Office of the State Engineer (NMOSE) database, aerial photographs, and Site-specific observations.

The nearest surface water feature is a dry stock pond 930 feet to the west southwest of the Site (Figure 2). Of note, a dashed blue line is present on the USGS 7.5-minute quadrangle maps for this area (solid blue line indicated on Figures 1 and 3). Ensolum personnel performed a Site walk during field activities to assess for the presence of a water feature or dry wash with a defined bed and bank within 300 feet of the Site that may be considered a "significant watercourse" as defined in 19.15.17.7 NMAC. Photographs 1 through 4 (presented in Appendix A) were taken along the pathway of the USGS identified water feature and show a watercourse with a defined bed and bank is not present within 300 feet of the Site. Based on the Site reconnaissance, the significant watercourse as identified by a defined bed and bank begins at the stock pond located 930 feet west of the Site.

The nearest water well to the Site is located approximately 7,781 feet southeast of the Site (NMOSE permit SJ-03592); however, depth to water information is not provided in the NMOSE database. The nearest water well to the Site with depth to water information is NMOSE well SJ-03593-POD1 (Appendix B), located approximately 9,668 feet southeast of the Site. This well indicates the groundwater is approximately 300 feet below ground surface (bgs). The Site is greater than 200 feet from any lakebed, sinkhole, or playa lake, and greater than 300 feet from any wetland. 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 not designated as high potential karst by the Bureau of Land Management). Schools, hospitals, institutions, churches, and/or other occupied permanent residence or structures are not located within 300 feet of the Site. A Site receptor map is shown on Figure 1.

SITE CLOSURE CRITERIA

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

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

DELINEATION AND SOIL SAMPLING ACTIVITIES

Upon discovery of the release, Hilcorp personnel conducted initial delineation activities on October 25 and November 1, 2023. Sampling locations S-1 through S-4 were advanced within the secondary containment berm. Samples were submitted to Eurofins Environment Testing (Eurofins) in Albuquerque, New Mexico and analyzed for TPH following Environmental Protection Agency (EPA) Method 8015M/D, BTEX following EPA Method 8021B, and chloride following EPA Method 300.0. Analytical results indicated that concentrations of GRO+DRO and TPH exceeded

the applicable NMOCD Closure Criteria at depths up to 12 feet bgs in sampling locations S-1 and S-4.

Based on the initial laboratory analytical results, Ensolum conducted additional delineation activities in December 2023 and advanced five additional potholes at the Site (PH01 through PH05). During delineation activities, Ensolum personnel logged soil lithology and field screened for the presence of volatile organic compounds (VOCs) using a calibrated photoionization detector (PID). Soil descriptions were noted in the field book and are attached as Appendix C. Photographs taken during delineation activities are also provided in Appendix A.

During the December 2023 sampling activities, two soil samples were collected from each pothole in order to delineate the vertical impacts at the Site: one at the depth interval indicating the greatest TPH concentration based on PID field screening results and a second soil sample collected at the terminus of each pothole. Soil samples were collected directly into laboratory-provided jars and immediately placed on ice. Samples were submitted to Eurofins for analysis of BTEX, TPH, and chloride by the same methods described above. GRO+DRO and TPH concentrations exceeding the NMOCD Closure Criteria were encountered in one soil sample collected at a depth of 11 to 12 feet bgs from pothole PH01. BTEX, TPH, and/or chloride were either not detected above laboratory reporting limits or were not detected above the applicable Closure Criteria in any other analyzed samples. A summary of analytical results are presented on Figure 4 and summarized in Table 1. Complete laboratory reports are attached in Appendix D.

REMEDIATION WORK PLAN

Based on the soil sampling results described above, it is estimated impacted soil is present at the Site between the ground surface to a depth of approximately 15 feet bgs. Analytical results also indicate impacted soil is likely limited to areas within and immediately surrounding the secondary containment berm with an approximate areal extent of 900 square feet. Based on these estimates, approximately 500 cubic yards of impacted soil are present at the Site.

Hilcorp proposes to excavate impacted soil at the Site to achieve NMOCD Closure Criteria. Soil will be excavated and transported off-Site for disposal at the Envirotech Landfarm located in San Juan County, New Mexico. Following removal of the impacted soil, 5-point composite soil samples will be collected at least every 200 square feet from the floor and sidewalls of the excavation. 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. Based on previous analytical results and no prior Closure Criteria exceedances of BTEX or chloride, Hilcorp is requesting that soil samples only be analyzed for TPH following EPA Method 8015M/D during confirmation sampling.

Hilcorp will complete the excavation and soil sampling activities within 90 days of the date of approval of this Work Plan by the NMOCD. A *Closure Request* will be submitted within 30 days of receipt of final laboratory analytical results.

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

Sincerely,
Ensolum, LLC

Stuart Hyde, PG
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:	Field Verified Site Receptors
Figure 3:	Photograph Locations
Figure 4:	Delineation Soil Sample Results
Table 1:	Delineation Soil Sample Analytical Results
Appendix A:	Photographic Log
Appendix B:	NMOSE Point of Diversion Summary
Appendix C:	Field Notes
Appendix D:	Laboratory Analytical Reports

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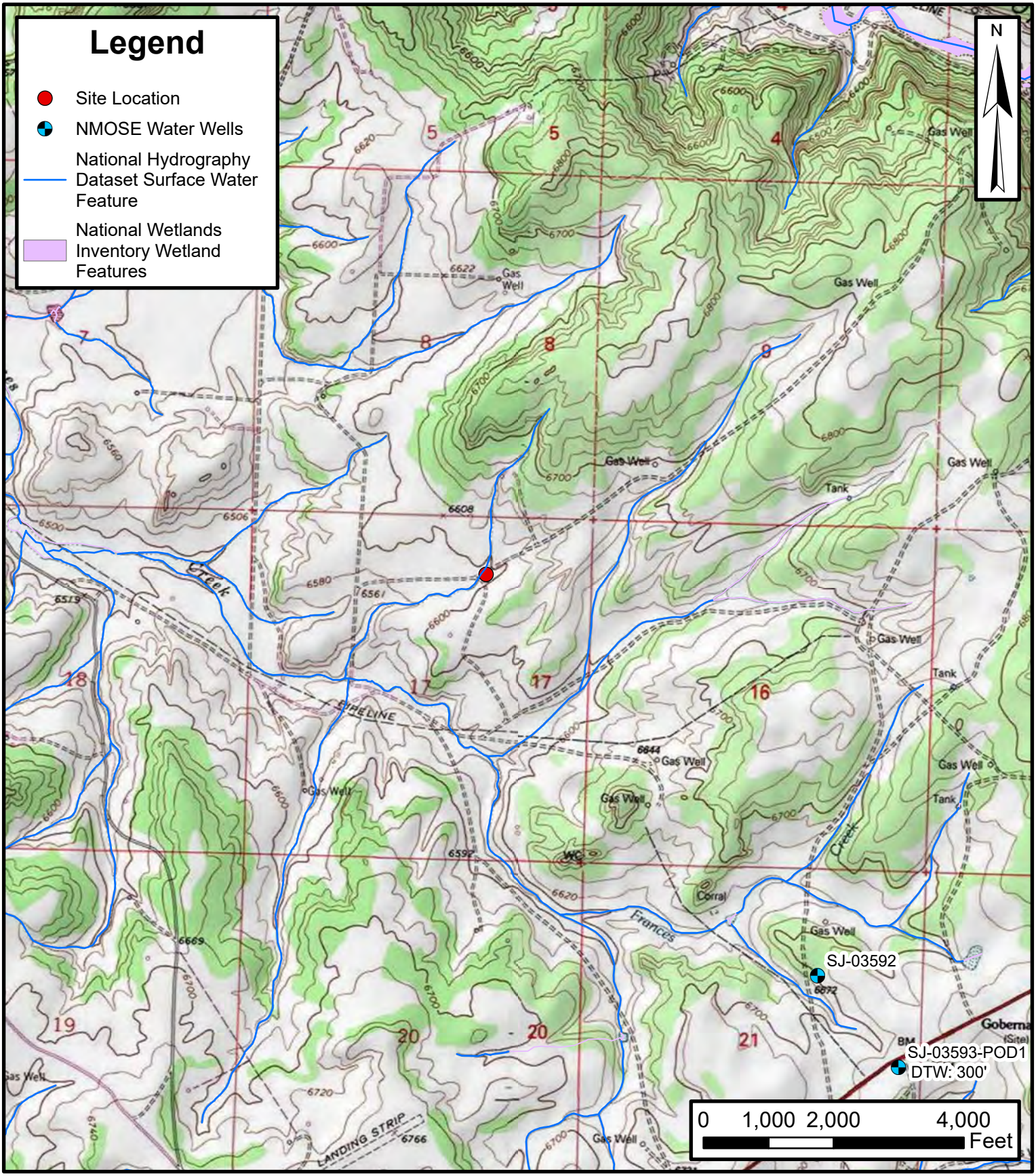
FIGURES



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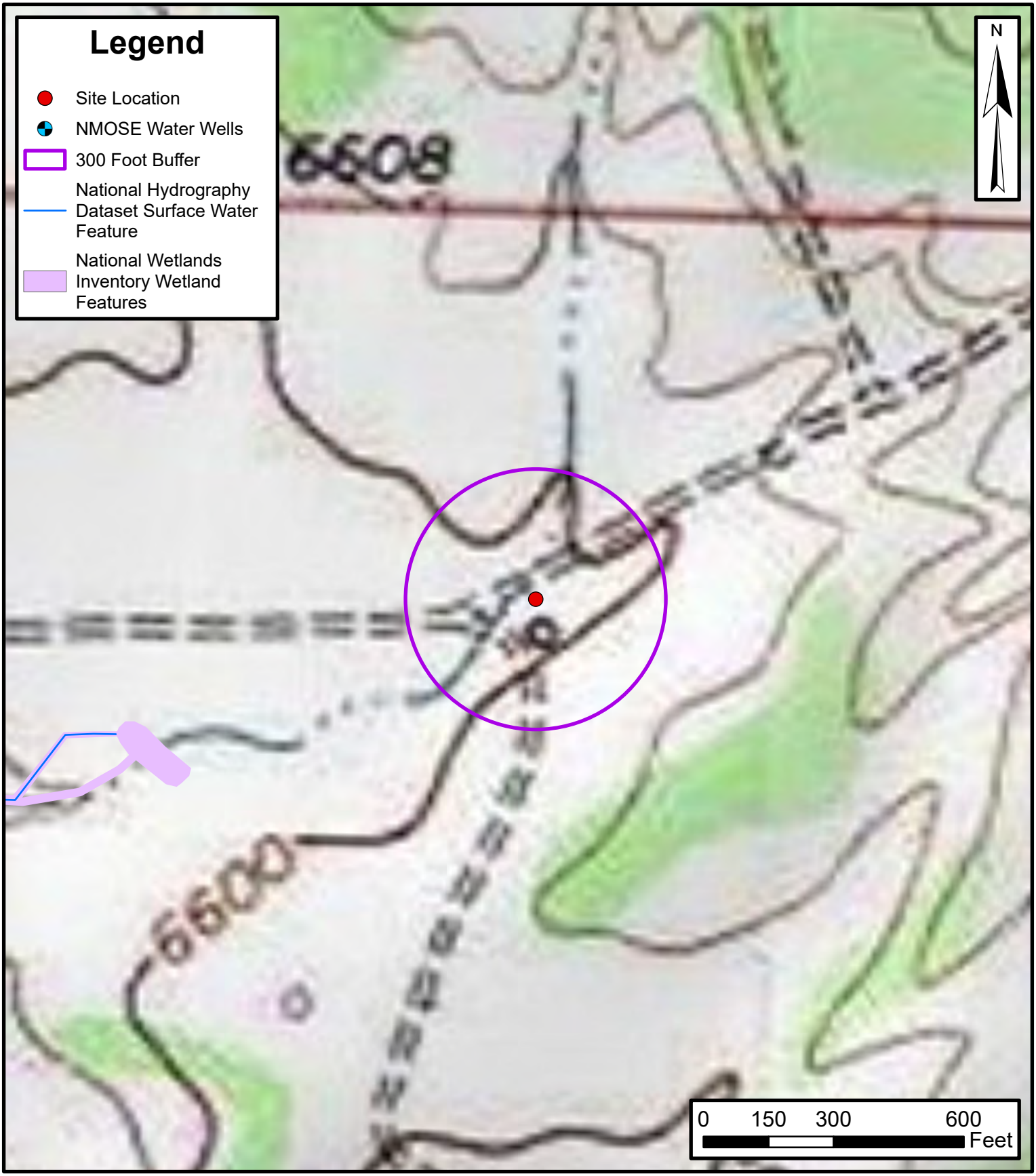
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

San Juan 29-5 Unit 24
Hilcorp Energy Company

36.730450, -107.376274
Rio Arriba County, New Mexico

FIGURE
1



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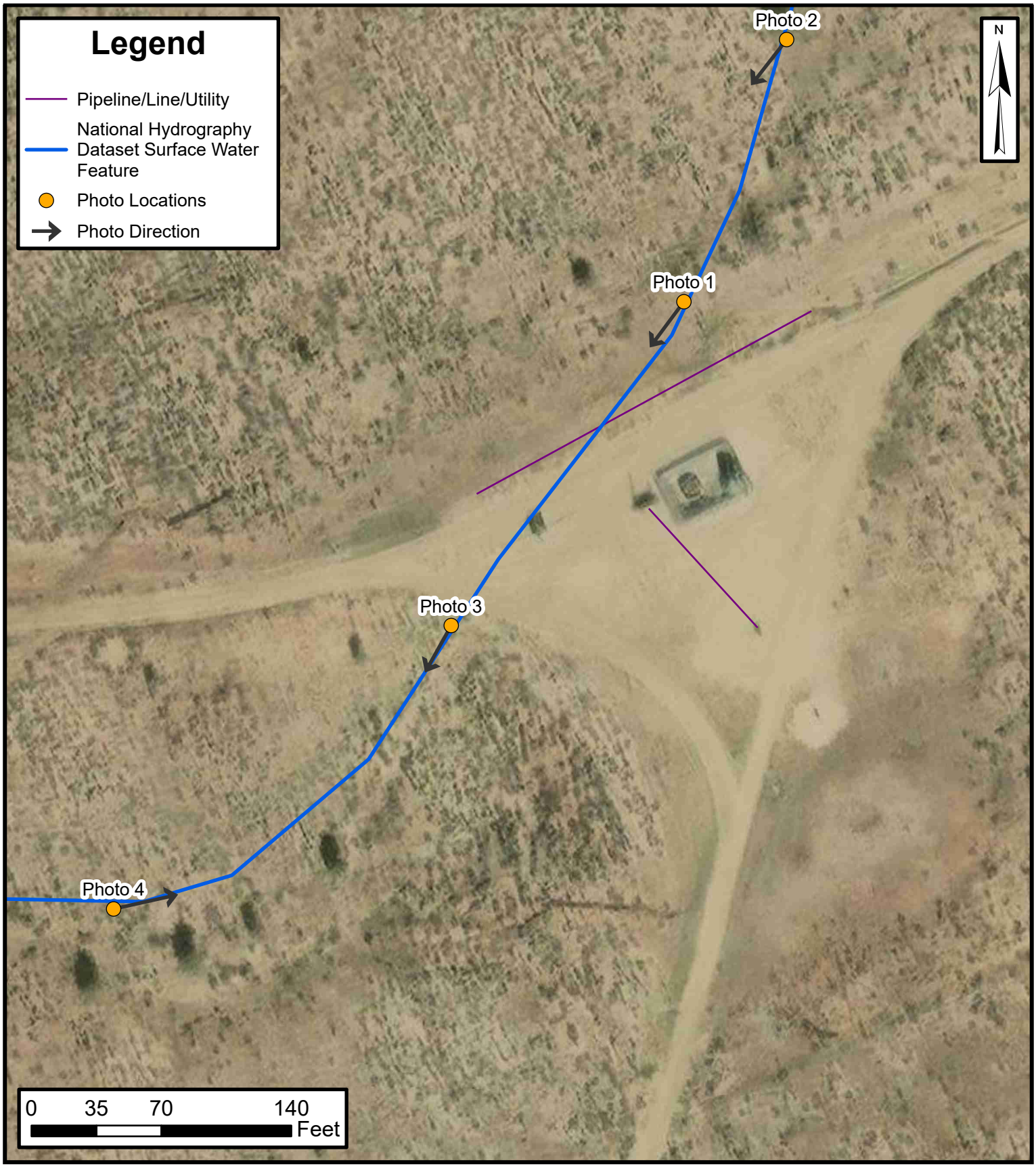
Field Verified Site Receptors

San Juan 29-5 Unit 24
Hilcorp Energy Company

36.730450, -107.376274
Rio Arriba County, New Mexico

FIGURE
2



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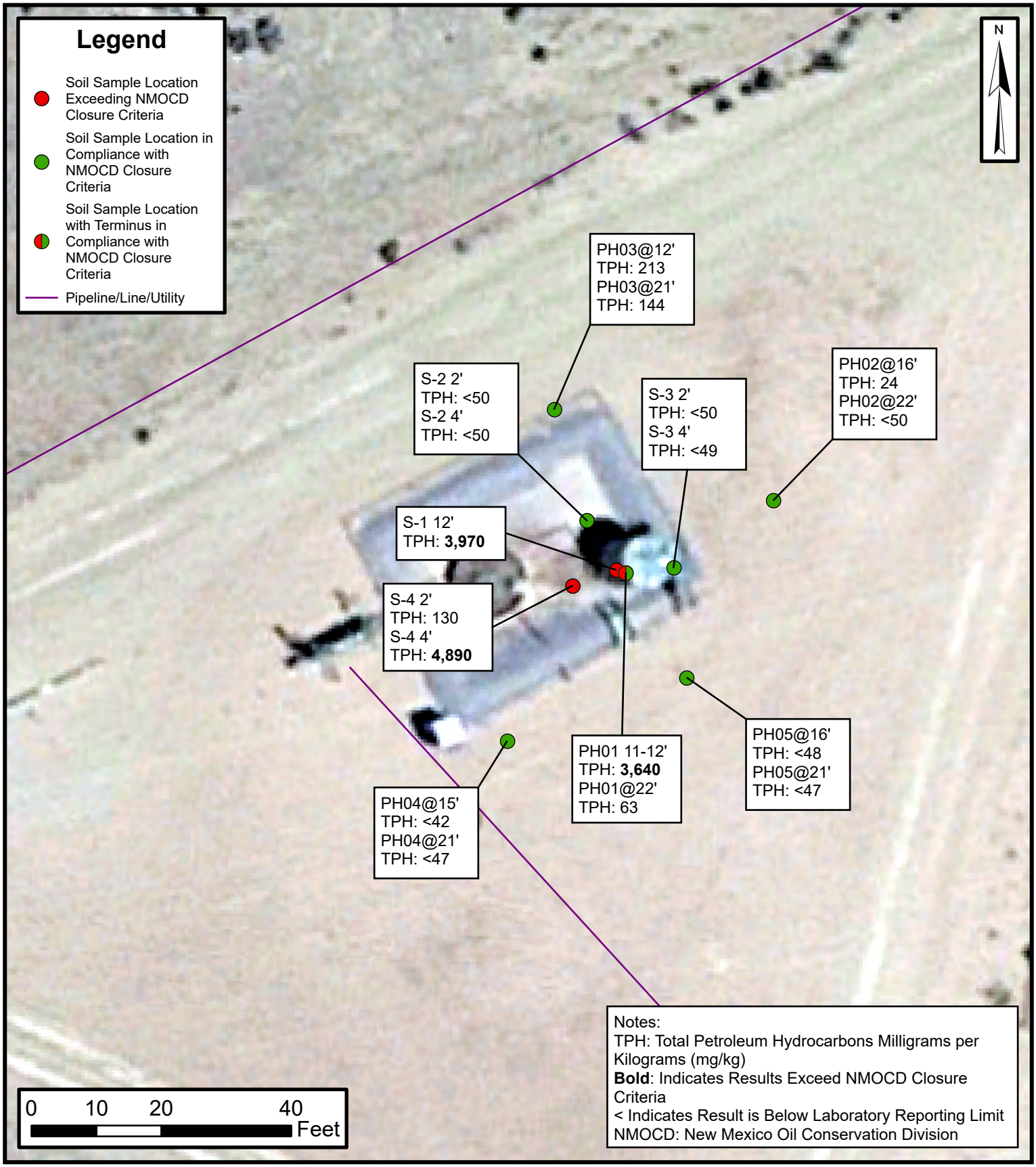
Photograph Locations

San Juan 29-5 Unit 24
Hilcorp Energy Company

36.730450, -107.376274
Rio Arriba County, New Mexico

FIGURE
3

Sources: Environmental Systems Research Institute, Maxar, Microsoft, United States Geological Survey (USGS)



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Delineation Soil Sample Results

San Juan 29-5 Unit 24
Hilcorp Energy Company

36.730450, -107.376274
Rio Arriba County, New Mexico

FIGURE
4

Sources: Google Earth

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TABLES

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TABLE 1
DELINEATION SOIL SAMPLE ANALYTICAL RESULTS
San Juan 29-5 Unit 24
Hilcorp Energy Company
Rio Arriba County, New Mexico

Sample ID	Date	Depth (feet)	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)
NMOCD Closure Criteria for Soils Impacted by a Release			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
S-1 12'	10/25/2023	12	<0.024	<0.048	0.53	20	20.53	370	3,600	<490	**3,970**	**3,970**	<60
S-2 2'	11/1/2023	2	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	<9.9	<50	<9.9	<50	<60
S-2 4'	11/1/2023	4	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<10	<50	<10	<50	<59
S-3 2'	11/1/2023	2	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.9	<50	<9.9	<50	<60
S-3 4'	11/1/2023	4	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.9	<49	<9.9	<49	<60
S-4 2'	11/1/2023	2	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	130	<49	130	130	73
S-4 4'	11/1/2023	4	<0.12	<0.25	1.1	28	29.1	790	4,100	<930	**4,890**	**4,890**	68
PH01 11-12	12/11/2023	11-12	<0.11	<0.23	0.73	16	16.73	840	2,800	<480	**3,640**	**3,640**	<61
PH01@22	12/20/2023	22	<0.023	<0.046	<0.046	<0.093	<0.093	6.8	56	<46	63	63	<60
PH02@16	12/20/2023	16	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	24	<48	24	24	<60
PH02@22	12/20/2023	22	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	<10	<50	<10	<50	<60
PH03@12	12/20/2023	12	<0.025	<0.050	<0.050	<0.099	<0.099	23	190	<47	213	213	<60
PH03@21	12/20/2023	21	<0.024	<0.047	<0.047	<0.094	<0.094	14	130	<50	144	144	<60
PH04@15	12/20/2023	15	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<8.4	<42	<8.4	<42	<60
PH04@21	12/20/2023	21	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	<9.4	<47	<9.4	<47	<60
PH05@16	12/20/2023	16	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.7	<48	<9.7	<48	<60
PH05@21	12/20/2023	21	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	<9.4	<47	<9.4	<47	<61

Notes:

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

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APPENDIX A

Photographic Log

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Photographic Log
Hilcorp Energy Company
San Juan 29-5 Unit 24
Rio Arriba County, New Mexico

Photograph: 1 Date: 1/3/2024
Description: USGS "Blue line" north of pad
View: Southwest

Photograph: 2 Date: 1/3/2024
Description: USGS "Blue line" north of pad
View: Southwest

Photograph: 3 Date: 1/3/2024
Description: USGS "Blue line" southwest of pad
View: Southwest

Photograph: 4 Date: 1/3/2024
Description: USGS "Blue line" southwest of pad
View: Northeast

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Photographic Log
Hilcorp Energy Company
San Juan 29-5 Unit 24
Rio Arriba County, New Mexico

Photograph: 5 Date: 12/20/2023
Description: Pothole PH01
View: North

Photograph: 6 Date: 12/20/2023
Description: Pothole PH02
View: North-northwest

Photograph: 7 Date: 12/20/2023
Description: Pothole PH04
View: West

Photograph: 8 Date: 12/20/2023
Description: Pothole PH05
View: North

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APPENDIX B

NMOSE Point of Diversion Summary

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	SJ 03593 POD1	4	2	4	21	29N	05E	289638	4065294

Driller License: 717 **Driller Company:** WESTERN WATER WELLS

Driller Name: HOOD, TERRY (LD)

Drill Start Date:	04/12/2009	**Drill Finish Date:**	04/14/2009	**Plug Date:**	
Log File Date:	04/16/2009	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	5 GPM
Casing Size:	4.50	**Depth Well:**	455 feet	**Depth Water:**	300 feet

Water Bearing Stratifications:	Top	Bottom	Description
	300	365	Sandstone/Gravel/Conglomerate
	395	445	Sandstone/Gravel/Conglomerate

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APPENDIX C

Field Notes

44

Location SJ 29-5 #24 Date 12/11/23

Project / Client Hilcorp

RH, Truck/tools, PID, Hand Auger, Sample Kit

13:15 - RH on Site to Sample @ ~12' from pothole (w/hand auger) & attempt to hand auger past 4' where Brandon was getting refusal

Hand auger near "S-4" = HA01
0-2' - mostly silty clay w/ some sand
2-4 - silty clay more clay w/ depth
4-6 - some sand visible, mostly medium plasticity clay w/ some silt & some fine-med. sand visible
strong odor
@6' = 965
@7' = 925
-No refusal encountered, stopped @ 7' bgs
PH 11-12 = 254 Time: 14:05
- reddish soil - compact silt & fine sand
slt odor, no staining

14:30 RH off site

Location San Juan 29-5 Un 24 Date 12-20

Project / Client Hilcorp

2m, PID, sample kit

905 onsite for pothole delineation
- JSA signed, tailgate meeting
Brian + Randy from Keystone Oil Field Services onsite w/ Hitachi 250LC excavator
- PID calibrated w/ 100 ppm isobutylene
- Start w/ widening previous pothole under where AST was, estimated depth before was ~12 feet
- dug down to ~17' → 1,100 ppm

	PID reading
PH01@17' - red/brown silt w/clay	→ 1,100 ppm
PH01@22' - red/brown silt w/clay	→ 600 ppm
PH02@5' - brown fn sand/silt	→ 9.8 ppm
PH02@10' - brown fn sand/silt	→ 10.1 ppm
PH02@13' - red/brown silt w/clay	→ 4.6 ppm
PH02@16' - red/brown silt w/clay	→ 465 ppm
PH02@19' - red/brown silt w/clay	→ 13.5 ppm
PH02@22' - red/brown silt w/clay	→ 4.8 ppm
PH03@6' - brown fn sand/silt	→ 2.7 ppm
PH03@9' - brown fn sand/silt	→ 2.3 ppm
PH03@12' - red-brown silt w/clay	→ 910 ppm
PH03@16' - red-brown silt w/clay	→ 451 ppm
PH03@21' - red brown silt w/clay	→ 516 ppm

→ continued

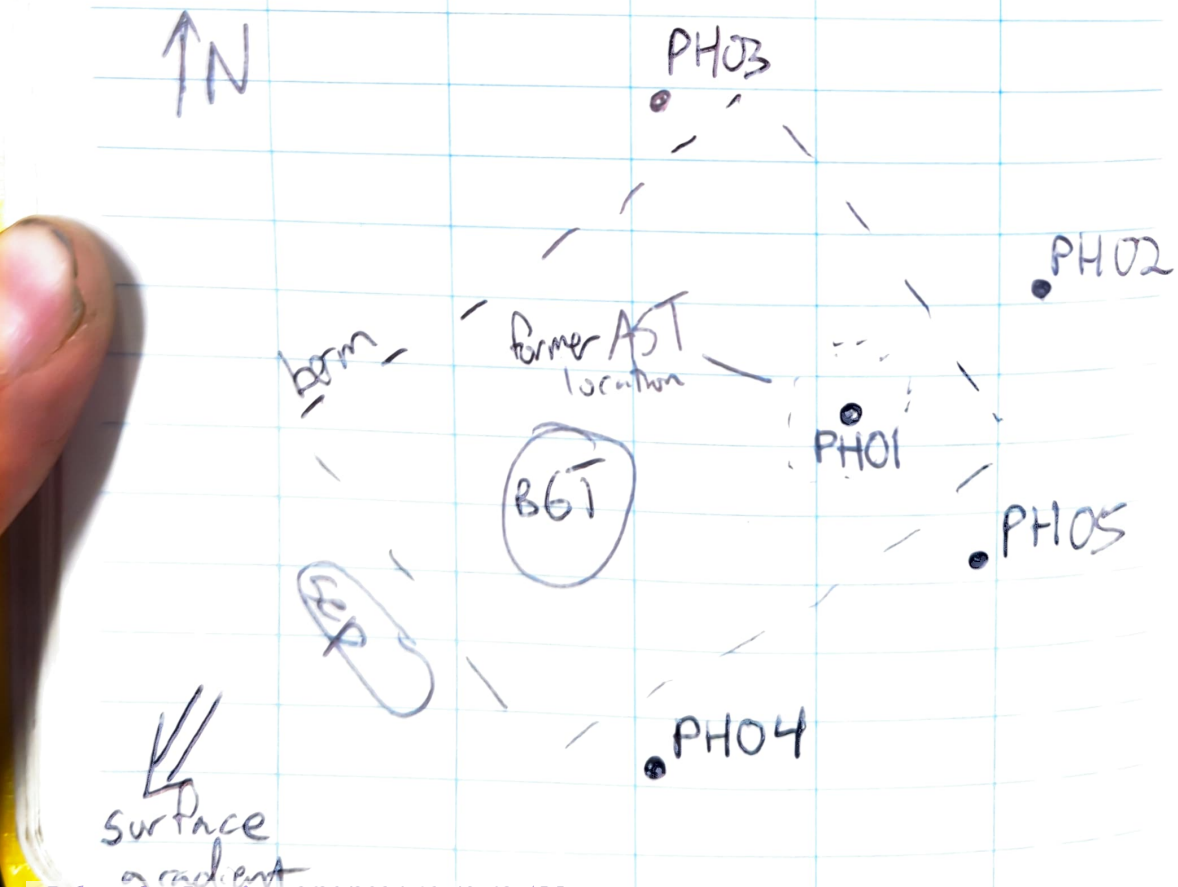
52

Location San Juan 29-5 Un 24 Date 12-20

Project / Client

→ continued

	PID reading
PH04 @ 6' - grey fn sand w/ silt	2.5 ppm
PH04 @ 9' - red-brown silt w/ clay	2.7 ppm
PH04 @ 12' - red-brown silt w/ clay	15.4 ppm
PH04 @ 15' - red-brown silt w/ clay	395 ppm
PH04 @ 21' - red-brown silt w/ clay	1006 ppm
PH05 @ 6' - brown fn sand / silt	8.7 ppm
PH05 @ 9' - red-brown silt w/ clay	4.5 ppm
PH05 @ 12' - red-brown silt w/ clay	1.5 ppm
PH05 @ 16' - red-brown silt w/ clay	17.0 ppm
PH05 @ 20' - red-brown silt w/ clay	2.8 ppm



Location San Juan 29 5 0, 24 Date 12-20

Project / Client

→ continued

Samples →

name	time	PID (ppm)
PH01@22'	930	600
PH02@16	955	465
PH02@22	1000	4.8
PH03@12	1080	910
PH03@21	1035	516
PH04@15	1115	395
PH04@21	1120	1006
PH05@16	1140	17.0
PH05@21	1145	2.8

Keystone leaving at 1230
- holes all backfilled

ZM leaving at 1255

ZM

Rito in the Rain

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APPENDIX D

Laboratory Analytical Reports

eurofins | Environment Testing

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

November 09, 2023

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

RE: SJ 29 5 Unit 24 OrderNo.: 2310C99

Dear Kate Kaufman:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 10/27/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2310C99**
Date Reported: **11/9/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: S-1 12'
Project: SJ 29 5 Unit 24
Collection Date: 10/25/2023 12:00:00 PM
Lab ID: 2310C99-001 **Matrix:** SOIL **Received Date:** 10/27/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	3600	97		mg/Kg	10	11/2/2023 10:03:18 AM
Motor Oil Range Organics (MRO)	ND	490	D	mg/Kg	10	11/2/2023 10:03:18 AM
Surr: DNOP	0	69-147	S	%Rec	10	11/2/2023 10:03:18 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	370	4.8		mg/Kg	1	11/3/2023 12:03:58 AM
Surr: BFB	1950	15-244	S	%Rec	1	11/3/2023 12:03:58 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/3/2023 12:03:58 AM
Toluene	ND	0.048		mg/Kg	1	11/3/2023 12:03:58 AM
Ethylbenzene	0.53	0.048		mg/Kg	1	11/3/2023 12:03:58 AM
Xylenes, Total	20	0.48		mg/Kg	5	11/3/2023 9:16:18 AM
Surr: 4-Bromofluorobenzene	290	39.1-146	S	%Rec	1	11/3/2023 12:03:58 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	11/1/2023 7:09:18 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical 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#: **2310C99**

09-Nov-23

Client: HILCORP ENERGY

Project: SJ 29 5 Unit 24

Sample ID: **MB-78503**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **78503**	RunNo: **100902**
Prep Date: **11/1/2023**	Analysis Date: **11/1/2023**	SeqNo: **3702714** Units: **mg/Kg**

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

Sample ID: **LCS-78503**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **78503**	RunNo: **100902**
Prep Date: **11/1/2023**	Analysis Date: **11/1/2023**	SeqNo: **3702715** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.7	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#: **2310C99**

09-Nov-23

Client: HILCORP ENERGY

Project: SJ 29 5 Unit 24

Sample ID: **LCS-78476**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78476**	RunNo: **100868**
Prep Date: **10/31/2023**	Analysis Date: **11/1/2023**	SeqNo: **3701935** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.8	61.9	130			
Surr: DNOP	6.0		5.000		120	69	147			

Sample ID: **MB-78476**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78476**	RunNo: **100868**
Prep Date: **10/31/2023**	Analysis Date: **11/1/2023**	SeqNo: **3701938** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		119	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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#: **2310C99**

09-Nov-23

Client: HILCORP ENERGY

Project: SJ 29 5 Unit 24

Sample ID: **lcs-78470**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **78470**	RunNo: **100917**
Prep Date: **10/31/2023**	Analysis Date: **11/2/2023**	SeqNo: **3703685** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.6	70	130			
Surr: BFB	1900		1000		195	15	244			

Sample ID: **mb-78470**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **78470**	RunNo: **100917**
Prep Date: **10/31/2023**	Analysis Date: **11/2/2023**	SeqNo: **3703686** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		91.8	15	244			

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#: **2310C99**

09-Nov-23

Client: HILCORP ENERGY

Project: SJ 29 5 Unit 24

Sample ID: **LCS-78470**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **78470**	RunNo: **100917**
Prep Date: **10/31/2023**	Analysis Date: **11/2/2023**	SeqNo: **3703716** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	83.7	70	130			
Toluene	0.88	0.050	1.000	0	87.8	70	130			
Ethylbenzene	0.89	0.050	1.000	0	88.7	70	130			
Xylenes, Total	2.7	0.10	3.000	0	89.6	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	39.1	146			

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

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		97.3	39.1	146			

Sample ID: **2310c99-001ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-1 12'**	Batch ID: **78470**	RunNo: **100917**
Prep Date: **10/31/2023**	Analysis Date: **11/3/2023**	SeqNo: **3703719** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.74	0.024	0.9569	0	76.9	70	130			
Toluene	0.80	0.048	0.9569	0	84.1	70	130			
Ethylbenzene	1.4	0.048	0.9569	0.5252	88.1	70	130			
Xylenes, Total	22	0.096	2.871	19.52	83.9	70	130			E
Surr: 4-Bromofluorobenzene	2.8		0.9569		288	39.1	146			S

Sample ID: **2310c99-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-1 12'**	Batch ID: **78470**	RunNo: **100917**
Prep Date: **10/31/2023**	Analysis Date: **11/3/2023**	SeqNo: **3703720** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.73	0.024	0.9569	0	76.2	70	130	0.901	20	
Toluene	0.80	0.048	0.9569	0	83.5	70	130	0.656	20	
Ethylbenzene	1.4	0.048	0.9569	0.5252	87.5	70	130	0.407	20	
Xylenes, Total	22	0.096	2.871	19.52	94.7	70	130	1.41	20	E
Surr: 4-Bromofluorobenzene	2.8		0.9569		290	39.1	146	0	0	S

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: 2310C99 RcptNo: 1

Received By: Cheyenne Cason 10/27/2023 7:30:00 AM

Completed By: Cheyenne Cason 10/27/2023 9:51:12 AM

Reviewed By: TN 10/27/23

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: SCM 10/27/23

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: No client address or phone number listed on COC - CMC 10/27/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes	Morty		
2	4.2	Good	Yes	Morty		

Chain-of-Custody Record

Client: Hilcorp

Mailing Address:

Phone #:

email or Fax#: brandon.sinclair@hilcorp.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard (5 day) ☐ Rush

Project Name: SJ 29-5 Unit 24

Project #:

Project Manager: Kate Kaufman

Sampler: Brandon Sinclair

On Ice: ☑ Yes ☐ No Mark

# of Coolers: 2 2.6-0.2=2.4

Cooler Temp(including CF): 4.4-0.2=4.2 (°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. 2310C99	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)
10-25	1200	soil	S-1 12'	4oz jar	cool	001	✓	✓					✓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
10/24/23 ~~10-25~~	1315				10/26/23	1315
10/24/23	1836					

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
					10/27/23	0730

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.

eurofins | Environment Testing

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

November 15, 2023

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

RE: SJ 29 5 Unit 24 OrderNo.: 2311089

Dear Kate Kaufman:

Eurofins Environment Testing South Central, LLC received 6 sample(s) on 11/2/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2311089**
Date Reported: **11/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: S-2 2'
Project: SJ 29 5 Unit 24
Collection Date: 11/1/2023 11:30:00 AM
Lab ID: 2311089-001 **Matrix:** SOIL **Received Date:** 11/2/2023 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/8/2023 5:32:41 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/8/2023 5:32:41 PM
Surr: DNOP	104	69-147		%Rec	1	11/8/2023 5:32:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/10/2023 4:05:00 PM
Surr: BFB	102	15-244		%Rec	1	11/10/2023 4:05:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	11/10/2023 4:05:00 PM
Toluene	ND	0.048		mg/Kg	1	11/10/2023 4:05:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/10/2023 4:05:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	11/10/2023 4:05:00 PM
Surr: 4-Bromofluorobenzene	97.5	39.1-146		%Rec	1	11/10/2023 4:05:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	11/8/2023 7:39:15 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2311089**
Date Reported: **11/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: S-2 4'
Project: SJ 29 5 Unit 24
Collection Date: 11/1/2023 12:00:00 PM
Lab ID: 2311089-002 **Matrix:** SOIL **Received Date:** 11/2/2023 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/8/2023 5:43:14 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/8/2023 5:43:14 PM
Surr: DNOP	105	69-147		%Rec	1	11/8/2023 5:43:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/10/2023 4:48:00 PM
Surr: BFB	103	15-244		%Rec	1	11/10/2023 4:48:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	11/10/2023 4:48:00 PM
Toluene	ND	0.049		mg/Kg	1	11/10/2023 4:48:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/10/2023 4:48:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/10/2023 4:48:00 PM
Surr: 4-Bromofluorobenzene	97.0	39.1-146		%Rec	1	11/10/2023 4:48:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	59		mg/Kg	20	11/8/2023 7:51:40 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 **2311089**
Date Reported: **11/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: S-3 2'
Project: SJ 29 5 Unit 24
Collection Date: 11/1/2023 12:30:00 PM
Lab ID: 2311089-003 **Matrix:** SOIL **Received Date:** 11/2/2023 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/8/2023 5:53:50 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/8/2023 5:53:50 PM
Surr: DNOP	103	69-147		%Rec	1	11/8/2023 5:53:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/10/2023 5:10:00 PM
Surr: BFB	103	15-244		%Rec	1	11/10/2023 5:10:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	11/10/2023 5:10:00 PM
Toluene	ND	0.048		mg/Kg	1	11/10/2023 5:10:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/10/2023 5:10:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/10/2023 5:10:00 PM
Surr: 4-Bromofluorobenzene	96.4	39.1-146		%Rec	1	11/10/2023 5:10:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	11/8/2023 8:04:04 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2311089**
Date Reported: **11/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: S-3 4'
Project: SJ 29 5 Unit 24
Collection Date: 11/1/2023 1:00:00 PM
Lab ID: 2311089-004 **Matrix:** SOIL **Received Date:** 11/2/2023 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/8/2023 6:04:26 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/8/2023 6:04:26 PM
Surr: DNOP	104	69-147		%Rec	1	11/8/2023 6:04:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/10/2023 5:32:00 PM
Surr: BFB	98.4	15-244		%Rec	1	11/10/2023 5:32:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	11/10/2023 5:32:00 PM
Toluene	ND	0.048		mg/Kg	1	11/10/2023 5:32:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/10/2023 5:32:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/10/2023 5:32:00 PM
Surr: 4-Bromofluorobenzene	93.6	39.1-146		%Rec	1	11/10/2023 5:32:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	11/8/2023 8:16:29 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2311089**
Date Reported: **11/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: S-4 2'
Project: SJ 29 5 Unit 24
Collection Date: 11/1/2023 1:30:00 PM
Lab ID: 2311089-005 **Matrix:** SOIL **Received Date:** 11/2/2023 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	130	9.9		mg/Kg	1	11/8/2023 6:15:04 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/8/2023 6:15:04 PM
Surr: DNOP	99.1	69-147		%Rec	1	11/8/2023 6:15:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/10/2023 5:53:00 PM
Surr: BFB	132	15-244		%Rec	1	11/10/2023 5:53:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	11/10/2023 5:53:00 PM
Toluene	ND	0.048		mg/Kg	1	11/10/2023 5:53:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/10/2023 5:53:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	11/10/2023 5:53:00 PM
Surr: 4-Bromofluorobenzene	100	39.1-146		%Rec	1	11/10/2023 5:53:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	73	60		mg/Kg	20	11/8/2023 8:28:54 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 **2311089**
Date Reported: **11/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: S-4 4'
Project: SJ 29 5 Unit 24
Collection Date: 11/1/2023 2:00:00 PM
Lab ID: 2311089-006 **Matrix:** SOIL **Received Date:** 11/2/2023 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	4100	190		mg/Kg	20	11/9/2023 1:55:46 PM
Motor Oil Range Organics (MRO)	ND	930	D	mg/Kg	20	11/9/2023 1:55:46 PM
Surr: DNOP	0	69-147	S	%Rec	20	11/9/2023 1:55:46 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	790	25		mg/Kg	5	11/10/2023 6:15:00 PM
Surr: BFB	309	15-244	S	%Rec	5	11/10/2023 6:15:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.12		mg/Kg	5	11/10/2023 6:15:00 PM
Toluene	ND	0.25		mg/Kg	5	11/10/2023 6:15:00 PM
Ethylbenzene	1.1	0.25		mg/Kg	5	11/10/2023 6:15:00 PM
Xylenes, Total	28	0.49		mg/Kg	5	11/10/2023 6:15:00 PM
Surr: 4-Bromofluorobenzene	137	39.1-146		%Rec	5	11/10/2023 6:15:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	68	60		mg/Kg	20	11/8/2023 8:41:18 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical 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#: **2311089**

15-Nov-23

Client: HILCORP ENERGY

Project: SJ 29 5 Unit 24

Sample ID: **MB-78651**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **78651**	RunNo: **101036**
Prep Date: **11/8/2023**	Analysis Date: **11/8/2023**	SeqNo: **3710197** Units: **mg/Kg**

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

Sample ID: **LCS-78651**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **78651**	RunNo: **101036**
Prep Date: **11/8/2023**	Analysis Date: **11/8/2023**	SeqNo: **3710198** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.0	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#: **2311089**

15-Nov-23

Client: HILCORP ENERGY

Project: SJ 29 5 Unit 24

Sample ID: **LCS-78618**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78618**	RunNo: **101067**
Prep Date: **11/7/2023**	Analysis Date: **11/8/2023**	SeqNo: **3710706** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	61.9	130			
Surr: DNOP	6.3		5.000		126	69	147			

Sample ID: **MB-78618**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78618**	RunNo: **101067**
Prep Date: **11/7/2023**	Analysis Date: **11/8/2023**	SeqNo: **3710708** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.8		10.00		97.8	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#: **2311089**

15-Nov-23

Client: HILCORP ENERGY

Project: SJ 29 5 Unit 24

Sample ID: **lcs-78602**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **78602**	RunNo: **101095**
Prep Date: **11/6/2023**	Analysis Date: **11/10/2023**	SeqNo: **3713006** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.3	70	130			
Surr: BFB	2200		1000		218	15	244			

Sample ID: **mb-78602**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **78602**	RunNo: **101095**
Prep Date: **11/6/2023**	Analysis Date: **11/10/2023**	SeqNo: **3713007** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		109	15	244			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311089**

15-Nov-23

Client: HILCORP ENERGY

Project: SJ 29 5 Unit 24

Sample ID: **lcs-78602**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **78602**	RunNo: **101095**
Prep Date: **11/6/2023**	Analysis Date: **11/10/2023**	SeqNo: **3713013** 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	103	70	130			
Toluene	1.0	0.050	1.000	0	102	70	130			
Ethylbenzene	1.0	0.050	1.000	0	104	70	130			
Xylenes, Total	3.1	0.10	3.000	0	104	70	130			
Surr: 4-Bromofluorobenzene	0.96		1.000		95.9	39.1	146			

Sample ID: **mb-78602**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **78602**	RunNo: **101095**
Prep Date: **11/6/2023**	Analysis Date: **11/10/2023**	SeqNo: **3713014** 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		101	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical 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: 2311089 RcptNo: 1

Received By: Tracy Casarrubias 11/2/2023 6:45:00 AM

Completed By: Tracy Casarrubias 11/2/2023 8:46:28 AM

Reviewed By: TM 11/2/23

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: SCM 11/2/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: Mailing address and phone number are missing on COC - TMC 11/2/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Hilcorp

Mailing Address:

Phone #:

email or Fax#: brandon.sinclair@hilcorp.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush 5 days

Project Name: SJ 29-5 Unit 24

Project #:

Project Manager: Kate Kaufman

Sampler: Brandon Sinclair

On Ice: ☑ Yes ☐ No 4 of 4

# of Coolers:

Cooler Temp (including CF): 1.6-0 = 1.6 (°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. 2311089	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)
11-1	1130	soil	S-2 2'	4 oz jar	cool	001	✓	✓					✓			
	1200		S-2 4'			002										
	1230		S-3 2'			003										
	1300		S-3 4'			004										
	1330		S-4 2'			005										
	1400		S-4 4'			006										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
11-1	1630				11/1/23	1630
11/1/23	1744			courier	11/2/23	6:45

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.

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

December 21, 2023

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

RE: SJ 29 5 24 OrderNo.: 2312620

Dear Kate Kaufman:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 12/12/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2312620**
Date Reported: **12/21/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH 11-12
Project: SJ 29 5 24
Collection Date: 12/11/2023 2:05:00 PM
Lab ID: 2312620-001 **Matrix:** SOIL **Received Date:** 12/12/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	2800	96		mg/Kg	10	12/12/2023 3:23:59 PM
Motor Oil Range Organics (MRO)	ND	480	D	mg/Kg	10	12/12/2023 3:23:59 PM
Surr: DNOP	0	69-147	S	%Rec	10	12/12/2023 3:23:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	840	230		mg/Kg	50	12/12/2023 3:23:31 PM
Surr: BFB	217	15-244		%Rec	50	12/12/2023 3:23:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.11		mg/Kg	5	12/12/2023 6:10:09 PM
Toluene	ND	0.23		mg/Kg	5	12/12/2023 6:10:09 PM
Ethylbenzene	0.73	0.23		mg/Kg	5	12/12/2023 6:10:09 PM
Xylenes, Total	16	0.45		mg/Kg	5	12/12/2023 6:10:09 PM
Surr: 4-Bromofluorobenzene	130	39.1-146		%Rec	5	12/12/2023 6:10:09 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	61		mg/Kg	20	12/12/2023 10:18:49 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#: **2312620**

21-Dec-23

Client: HILCORP ENERGY

Project: SJ 29 5 24

Sample ID: **MB-79333**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **79333**	RunNo: **101808**							
Prep Date: **12/12/2023**	Analysis Date: **12/12/2023**	SeqNo: **3752837**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-79333**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **79333**	RunNo: **101808**							
Prep Date: **12/12/2023**	Analysis Date: **12/12/2023**	SeqNo: **3752838**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.3	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#: **2312620**

21-Dec-23

Client: HILCORP ENERGY

Project: SJ 29 5 24

Sample ID: **MB-79307**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **79307**	RunNo: **101773**
Prep Date: **12/12/2023**	Analysis Date: **12/12/2023**	SeqNo: **3751175** 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		103	69	147			

Sample ID: **LCS-79307**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **79307**	RunNo: **101773**
Prep Date: **12/12/2023**	Analysis Date: **12/12/2023**	SeqNo: **3751176** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.9	61.9	130			
Surr: DNOP	4.7		5.000		93.8	69	147			

Sample ID: **MB-79325**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **79325**	RunNo: **101773**
Prep Date: **12/12/2023**	Analysis Date: **12/12/2023**	SeqNo: **3752191** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		99.8	69	147			

Sample ID: **LCS-79325**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **79325**	RunNo: **101773**
Prep Date: **12/12/2023**	Analysis Date: **12/12/2023**	SeqNo: **3752192** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		97.1	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#: **2312620**

21-Dec-23

Client: HILCORP ENERGY

Project: SJ 29 5 24

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GS101772**	RunNo: **101772**
Prep Date:	Analysis Date: **12/12/2023**	SeqNo: **3751172** 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	92.9	70	130			
Surr: BFB	2000		1000		201	15	244			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS101772**	RunNo: **101772**
Prep Date:	Analysis Date: **12/12/2023**	SeqNo: **3751231** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	15	244			

Sample ID: **lcs-79289**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **79289**	RunNo: **101772**
Prep Date: **12/11/2023**	Analysis Date: **12/12/2023**	SeqNo: **3751754** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2000		1000		202	15	244			

Sample ID: **mb-79289**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **79289**	RunNo: **101772**
Prep Date: **12/11/2023**	Analysis Date: **12/12/2023**	SeqNo: **3751755** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		101	15	244			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2312620**

21-Dec-23

Client: HILCORP ENERGY

Project: SJ 29 5 24

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **BS101772**	RunNo: **101772**
Prep Date:	Analysis Date: **12/12/2023**	SeqNo: **3751174** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.1	70	130			
Toluene	0.94	0.050	1.000	0	94.3	70	130			
Ethylbenzene	0.95	0.050	1.000	0	95.4	70	130			
Xylenes, Total	2.9	0.10	3.000	0	96.7	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	39.1	146			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **BS101772**	RunNo: **101772**
Prep Date:	Analysis Date: **12/12/2023**	SeqNo: **3751232** 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-79289**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **79289**	RunNo: **101772**
Prep Date: **12/11/2023**	Analysis Date: **12/12/2023**	SeqNo: **3751806** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		102	39.1	146			

Sample ID: **mb-79289**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **79289**	RunNo: **101772**
Prep Date: **12/11/2023**	Analysis Date: **12/12/2023**	SeqNo: **3751807** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		102	39.1	146			

Qualifiers:

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

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2312620 RcptNo: 1

Received By: Juan Rojas 12/12/2023 7:25:00 AM

Completed By: Juan Rojas 12/12/23

Reviewed By: JR 12-12-23

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: JR 12/12/23

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: _____

16. Additional remarks:

Client missing mailing address and phone number on COC. JR 12/12/23

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.3	Good	Yes	Yogi		

Chain-of-Custody Record

Client: H:lcorp

Attn: 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: Next day

☐ Standard ☒ Rush 12/13/23

Project Name: SJ 29-5 #24

Project #:

Project Manager: Stuart Hyde

Sampler: Reece Hanson

On Ice: ☒ Yes ☐ No

# of Coolers: 1 4091

Cooler Temp(Including CF): 0.3-0=0.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl^-, F^-, Br^-, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
						Analysis Request										
12/11/23	1405	Soil	PH 11-12	1, 4oz	Cool	2312670-001	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/11/23	1740				12/11/23	1740
12/11/23	1810			courier	12/12/23	7:25

Remarks: cc: shyde rhanson@ensolum.com

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

eurofins | Environment Testing

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

January 03, 2024

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

RE: San Juan 29 5 Unit 24 OrderNo.: 2312C15

Dear Kate Kaufman:

Eurofins Environment Testing South Central, LLC received 9 sample(s) on 12/21/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2312C15**
Date Reported: **1/3/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH01@22
Project: San Juan 29 5 Unit 24
Collection Date: 12/20/2023 9:30:00 AM
Lab ID: 2312C15-001 **Matrix:** SOIL **Received Date:** 12/21/2023 6:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	56	9.3		mg/Kg	1	12/28/2023 10:12:28 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/28/2023 10:12:28 AM
Surr: DNOP	92.8	69-147		%Rec	1	12/28/2023 10:12:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	6.8	4.6		mg/Kg	1	12/24/2023 10:31:31 PM
Surr: BFB	134	15-244		%Rec	1	12/24/2023 10:31:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	12/24/2023 10:31:31 PM
Toluene	ND	0.046		mg/Kg	1	12/24/2023 10:31:31 PM
Ethylbenzene	ND	0.046		mg/Kg	1	12/24/2023 10:31:31 PM
Xylenes, Total	ND	0.093		mg/Kg	1	12/24/2023 10:31:31 PM
Surr: 4-Bromofluorobenzene	95.0	39.1-146		%Rec	1	12/24/2023 10:31:31 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 1:57:44 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2312C15**
Date Reported: **1/3/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH02@16
Project: San Juan 29 5 Unit 24
Collection Date: 12/20/2023 9:35:00 AM
Lab ID: 2312C15-002 **Matrix:** SOIL **Received Date:** 12/21/2023 6:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	24	9.7		mg/Kg	1	12/28/2023 10:22:59 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/28/2023 10:22:59 AM
Surr: DNOP	93.9	69-147		%Rec	1	12/28/2023 10:22:59 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/24/2023 10:55:28 PM
Surr: BFB	108	15-244		%Rec	1	12/24/2023 10:55:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	12/24/2023 10:55:28 PM
Toluene	ND	0.046		mg/Kg	1	12/24/2023 10:55:28 PM
Ethylbenzene	ND	0.046		mg/Kg	1	12/24/2023 10:55:28 PM
Xylenes, Total	ND	0.093		mg/Kg	1	12/24/2023 10:55:28 PM
Surr: 4-Bromofluorobenzene	94.6	39.1-146		%Rec	1	12/24/2023 10:55:28 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 2:12:53 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 **2312C15**
Date Reported: **1/3/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH02@22
Project: San Juan 29 5 Unit 24
Collection Date: 12/20/2023 10:00:00 AM
Lab ID: 2312C15-003 **Matrix:** SOIL **Received Date:** 12/21/2023 6:40:00 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	12/28/2023 10:33:27 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/28/2023 10:33:27 AM
Surr: DNOP	95.6	69-147		%Rec	1	12/28/2023 10:33:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/24/2023 11:19:13 PM
Surr: BFB	95.3	15-244		%Rec	1	12/24/2023 11:19:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/24/2023 11:19:13 PM
Toluene	ND	0.048		mg/Kg	1	12/24/2023 11:19:13 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/24/2023 11:19:13 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/24/2023 11:19:13 PM
Surr: 4-Bromofluorobenzene	94.4	39.1-146		%Rec	1	12/24/2023 11:19:13 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 3:59:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2312C15**
Date Reported: **1/3/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH03@12
Project: San Juan 29 5 Unit 24
Collection Date: 12/20/2023 10:30:00 AM
Lab ID: 2312C15-004 **Matrix:** SOIL **Received Date:** 12/21/2023 6:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	190	9.3		mg/Kg	1	12/28/2023 10:44:02 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/28/2023 10:44:02 AM
Surr: DNOP	110	69-147		%Rec	1	12/28/2023 10:44:02 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	23	5.0		mg/Kg	1	12/24/2023 11:42:54 PM
Surr: BFB	248	15-244	S	%Rec	1	12/24/2023 11:42:54 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	12/24/2023 11:42:54 PM
Toluene	ND	0.050		mg/Kg	1	12/24/2023 11:42:54 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/24/2023 11:42:54 PM
Xylenes, Total	0.23	0.099		mg/Kg	1	12/24/2023 11:42:54 PM
Surr: 4-Bromofluorobenzene	99.2	39.1-146		%Rec	1	12/24/2023 11:42:54 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 4:14:10 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 **2312C15**
Date Reported: **1/3/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH03@21
Project: San Juan 29 5 Unit 24
Collection Date: 12/20/2023 10:35:00 AM
Lab ID: 2312C15-005 **Matrix:** SOIL **Received Date:** 12/21/2023 6:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	130	9.9		mg/Kg	1	12/28/2023 10:54:32 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/28/2023 10:54:32 AM
Surr: DNOP	94.5	69-147		%Rec	1	12/28/2023 10:54:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	14	4.7		mg/Kg	1	12/25/2023 12:06:29 AM
Surr: BFB	184	15-244		%Rec	1	12/25/2023 12:06:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/25/2023 12:06:29 AM
Toluene	ND	0.047		mg/Kg	1	12/25/2023 12:06:29 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/25/2023 12:06:29 AM
Xylenes, Total	0.16	0.094		mg/Kg	1	12/25/2023 12:06:29 AM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	12/25/2023 12:06:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 4:29:19 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2312C15**
Date Reported: **1/3/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH04@15
Project: San Juan 29 5 Unit 24
Collection Date: 12/20/2023 11:15:00 AM
Lab ID: 2312C15-006 **Matrix:** SOIL **Received Date:** 12/21/2023 6:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	12/28/2023 11:05:06 AM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	12/28/2023 11:05:06 AM
Surr: DNOP	97.2	69-147		%Rec	1	12/28/2023 11:05:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/25/2023 12:53:54 AM
Surr: BFB	101	15-244		%Rec	1	12/25/2023 12:53:54 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/25/2023 12:53:54 AM
Toluene	ND	0.048		mg/Kg	1	12/25/2023 12:53:54 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/25/2023 12:53:54 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/25/2023 12:53:54 AM
Surr: 4-Bromofluorobenzene	93.8	39.1-146		%Rec	1	12/25/2023 12:53:54 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 4:44:29 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2312C15**
Date Reported: **1/3/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH04@21
Project: San Juan 29 5 Unit 24
Collection Date: 12/20/2023 11:20:00 AM
Lab ID: 2312C15-007 **Matrix:** SOIL **Received Date:** 12/21/2023 6:40:00 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	12/28/2023 11:26:16 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/28/2023 11:26:16 AM
Surr: DNOP	94.8	69-147		%Rec	1	12/28/2023 11:26:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/25/2023 1:18:04 AM
Surr: BFB	103	15-244		%Rec	1	12/25/2023 1:18:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	12/25/2023 1:18:04 AM
Toluene	ND	0.046		mg/Kg	1	12/25/2023 1:18:04 AM
Ethylbenzene	ND	0.046		mg/Kg	1	12/25/2023 1:18:04 AM
Xylenes, Total	ND	0.093		mg/Kg	1	12/25/2023 1:18:04 AM
Surr: 4-Bromofluorobenzene	92.1	39.1-146		%Rec	1	12/25/2023 1:18:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 4:59:39 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 **2312C15**
Date Reported: **1/3/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH05@16
Project: San Juan 29 5 Unit 24
Collection Date: 12/20/2023 11:40:00 AM
Lab ID: 2312C15-008 **Matrix:** SOIL **Received Date:** 12/21/2023 6:40:00 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	12/28/2023 11:36:53 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/28/2023 11:36:53 AM
Surr: DNOP	92.6	69-147		%Rec	1	12/28/2023 11:36:53 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/25/2023 1:42:07 AM
Surr: BFB	94.6	15-244		%Rec	1	12/25/2023 1:42:07 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/25/2023 1:42:07 AM
Toluene	ND	0.048		mg/Kg	1	12/25/2023 1:42:07 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/25/2023 1:42:07 AM
Xylenes, Total	ND	0.096		mg/Kg	1	12/25/2023 1:42:07 AM
Surr: 4-Bromofluorobenzene	93.4	39.1-146		%Rec	1	12/25/2023 1:42:07 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 5:14:48 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 **2312C15**
Date Reported: **1/3/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH05@21
Project: San Juan 29 5 Unit 24
Collection Date: 12/20/2023 11:45:00 AM
Lab ID: 2312C15-009 **Matrix:** SOIL **Received Date:** 12/21/2023 6:40:00 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	12/28/2023 11:47:28 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/28/2023 11:47:28 AM
Surr: DNOP	90.9	69-147		%Rec	1	12/28/2023 11:47:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/25/2023 2:06:00 AM
Surr: BFB	94.0	15-244		%Rec	1	12/25/2023 2:06:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/25/2023 2:06:00 AM
Toluene	ND	0.047		mg/Kg	1	12/25/2023 2:06:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/25/2023 2:06:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	12/25/2023 2:06:00 AM
Surr: 4-Bromofluorobenzene	92.1	39.1-146		%Rec	1	12/25/2023 2:06:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	61		mg/Kg	20	12/28/2023 6:00:16 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#: **2312C15**

03-Jan-24

Client: HILCORP ENERGY

Project: San Juan 29 5 Unit 24

Sample ID: **MB-79647**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **79647**	RunNo: **102121**
Prep Date: **12/28/2023**	Analysis Date: **12/28/2023**	SeqNo: **3771754** Units: **mg/Kg**

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

Sample ID: **LCS-79647**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **79647**	RunNo: **102121**
Prep Date: **12/28/2023**	Analysis Date: **12/28/2023**	SeqNo: **3771755** Units: **mg/Kg**

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			

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#: **2312C15**

03-Jan-24

Client: HILCORP ENERGY

Project: San Juan 29 5 Unit 24

Sample ID: **LCS-79630**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **79630**	RunNo: **102126**
Prep Date: **12/28/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769422** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.4	61.9	130			
Surr: DNOP	4.6		5.000		92.8	69	147			

Sample ID: **MB-79630**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **79630**	RunNo: **102126**
Prep Date: **12/28/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769423** 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			

Sample ID: **LCS-79656**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **79656**	RunNo: **102126**
Prep Date: **12/28/2023**	Analysis Date: **12/28/2023**	SeqNo: **3770400** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.4		5.000		108	69	147			

Sample ID: **MB-79656**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **79656**	RunNo: **102126**
Prep Date: **12/28/2023**	Analysis Date: **12/28/2023**	SeqNo: **3770402** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.6		10.00		86.3	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#: **2312C15**

03-Jan-24

Client: HILCORP ENERGY

Project: San Juan 29 5 Unit 24

Sample ID: **lcs-79573**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **79573**	RunNo: **102079**
Prep Date: **12/22/2023**	Analysis Date: **12/24/2023**	SeqNo: **3767289** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.1	70	130			
Surr: BFB	2000		1000		204	15	244			

Sample ID: **mb-79573**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **79573**	RunNo: **102079**
Prep Date: **12/22/2023**	Analysis Date: **12/24/2023**	SeqNo: **3767290** 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	970		1000		97.3	15	244			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2312C15**

03-Jan-24

Client: HILCORP ENERGY

Project: San Juan 29 5 Unit 24

Sample ID: **LCS-79573**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **79573**	RunNo: **102079**
Prep Date: **12/22/2023**	Analysis Date: **12/24/2023**	SeqNo: **3767316** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.0	70	130			
Toluene	0.90	0.050	1.000	0	89.8	70	130			
Ethylbenzene	0.91	0.050	1.000	0	90.7	70	130			
Xylenes, Total	2.7	0.10	3.000	0	91.5	70	130			
Surr: 4-Bromofluorobenzene	0.98		1.000		98.0	39.1	146			

Sample ID: **mb-79573**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **79573**	RunNo: **102079**
Prep Date: **12/22/2023**	Analysis Date: **12/24/2023**	SeqNo: **3767317** 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		96.7	39.1	146			

Qualifiers:

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

eurofins | Environment Testing

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2312C15 RcptNo: 1

Received By: Tracy Casarrubias 12/21/2023 6:40:00 AM

Completed By: Tracy Casarrubias 12/21/2023 7:24:30 AM

Reviewed By: JH 12.21.23

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: JH 12/21/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☑ No ☐ NA ☑ TMC 12/21/23

Person Notified: Christine Walters Date: 12/21/23

By Whom: Tracy Casarrubias Via: ☑ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: Time discrepancy.

Client Instructions: Mailing address, phone number and Email/Fax are missing on COC- TMC 12/21/23

16. Additional remarks: Email sent. Let C.W. know we waited more forward with coc time if we dont hear back. TMC 12/21/23

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.3	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Hilcorp: Kate Kaufman

kkaufman@[redacted]hilcorp.com

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 3-day

☐ Standard ☒ Rush

Project Name: San Juan 29-5 Unit 24

Project #:

Project Manager: Stuart Hyde

shyde@ensolum.com

Sampler: Zach Myers

On Ice: ☒ Yes ☐ No 4 of 4

# of Coolers: 1

Cooler Temp(Including CF): 0.3 ±0 = 0.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2312015	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)
12-20	930	soil	PH01@22	4oz jar	cool	001	X	X					X			
	935		PH02@16			002										
	1000		PH02@22			003										
	1030		PH03@12			004										
	1035		PH03@21			005										
	1115		PH04@15			006										
	1120		PH04@21			007										
	1140		PH05@16			008										
↓	1145	↓	PH05@21	↓	↓	009	↓	↓					↓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/20/23	1420	Zach	[illegible]		12/20/23	1420
12/20/23	1730	[illegible]	[illegible]	courier	12/21/23	6:40

Remarks: cc: zmyers@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.

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

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

QUESTIONS

Action 314072

QUESTIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 314072
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2330638542**
Incident Name	**NAPP2330638542 SAN JUAN 29-5 UNIT 24 @ 30-039-07637**
Incident Type	**Release Other**
Incident Status	**Remediation Plan Received**
Incident Well	**[30-039-07637] SAN JUAN 29 5 UNIT #024**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	SAN JUAN 29-5 UNIT 24
Date Release Discovered	10/20/2023
Surface Owner	Private

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Corrosion | Production Tank | Crude Oil | Released: 5 BBL | Recovered: 0 BBL | Lost: 5 BBL.
Produced Water Released (bbls) Details	Cause: Corrosion | Production Tank | Produced Water | Released: 3 BBL | Recovered: 0 BBL | Lost: 3 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)	4.5 bbl oil & 3.11 bbl produced water release

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Santa Fe, NM 87505

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 314072
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

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

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

I hereby agree and sign off to the above statement	Name: Stuart Hyde Title: Senior Geologist Email: shyde@ensolum.com Date: 02/13/2024

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

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 314072
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	73
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	4890
GRO+DRO (EPA SW-846 Method 8015M)	4890
BTEX (EPA SW-846 Method 8021B or 8260B)	29.1
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	03/15/2024
On what date will (or did) the final sampling or liner inspection occur	04/01/2024
On what date will (or was) the remediation complete(d)	03/20/2024
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	900
What is the estimated volume (in cubic yards) that will be remediated	500
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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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
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Santa Fe, NM 87505

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 314072
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	ENVIROTECH LANDFARM #2 [fEEM0112336756]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Stuart Hyde Title: Senior Geologist Email: shyde@ensolum.com Date: 02/13/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 314072
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

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QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 314072
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	***{Unavailable.}***

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	No

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CONDITIONS

Action 314072

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 314072
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation plan is approved as written. Hilcorp has until May 20, 2024 to submit to OCD its appropriate or final remediation closure report.	2/20/2024