TIMBERWOLF ENVIRONMENTAL

1115 Welsh Ave., Suite B
College Station, Texas 77840
979.324.2139
www.teamtimberwolf.com

REVIEWED
By Nelson Velez at 2:57 pm, May 10, 2023

1. Continue further actions as stated in report.
2. Submit next quarterly report by July 31, 2023.

April 14, 2023

Mr. Nelson Velez, Environmental Specialist – Advanced
New Mexico Oil Conservation Division – District 3
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: Status Report – 1st Quarter 2023
Fifield 5 No. 1 (SE ¼, SW ¼, Sec. 5, T29N, R11W)
Hilcorp Energy Company
San Juan County, New Mexico
OCD Incident No.: NVF1718155324

Dear Mr. Velez:

On behalf of Hilcorp Energy Company (Hilcorp), Timberwolf Environmental, LLC (Timberwolf) presents this report to document activities conducted during the 1st quarter of 2023 (1Q23) at the Fifield 5 No. 1 (Site). The Site is a plugged well site, located in northeast San Juan County, New Mexico (Figures 1 through 3).

Environmental Setting and Site Geology

The area immediately surrounding the Site consists of sparse vegetative cover comprised primarily of scrub brush. Area topography consists of ridges divided by shallow valleys with intermittent streams that flow south into the San Juan River. The Site is situated east of an unnamed mesa; average elevation at the Site is approximately 5,786 feet (ft) above mean sea level. The nearest water way is an unnamed intermittent stream located approximately 1,350 ft west of the Site. The intermittent stream empties into the San Juan River, approximately 3.4 miles south of the Site.

According to the U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS), the Site soil consists of the Gypsiorthids-Badland-Stumble complex, 5 to 30 percent slopes. The surface layer consists of sandy loam, underlain by lithic bedrock encountered between 16 to 20 inches below ground surface (bgs). Native salinity of the soil is very slightly saline to slightly saline (2.0 to 4.0 millimhos per centimeter (mmhos/cm)).

Site History

Release Event

The Fifield 5 No. 1 well has been plugged and all surface equipment removed from the Site; however, Hilcorp's Hali Meador #005R is located immediately west of the Site and remains active. Historically, the Site has consisted of a well head, line heater, and separator with associated below-grade tank (BGT) for produced water, sales meter, and tank battery comprised of one above-ground storage tank (AST) and one BGT. On or about 06/01/17, removal and closure of the BGT revealed historical

contamination beneath the BGT. All surface equipment was removed, and the well was plugged and abandoned.

Investigation and Site Characterization

Initial assessment efforts were conducted by Rule Engineering, LLC (Rule), a subcontractor of ConocoPhillips Company (ConocoPhillips). Hilcorp acquired the property in 2017 and Rule conducted additional assessments in 2018. All findings by Rule Engineering are documented in Timberwolf's *Site Characterization and Remedial Action Plan*, dated February 28, 2019. The initial assessment identified the following constituents of concern (COCs): benzene, toluene, ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH).

On 03/20/19, additional borings were installed at the Site to delineate petroleum hydrocarbon impacts vertically and horizontally in soil. All findings are documented in the Timberwolf's *Site Characterization Report and Remedial Action Plan,* dated June 14, 2019.

Remediation – SVE System

In 2019, Hilcorp installed a soil vapor extraction (SVE) system to treat impacted soil related to historical pit tank releases. The SVE system is comprised of 18 SVE wells, 6 vent wells, and an SVE trailer (housing: control valves, flow and vacuum gauges, manifolds, fluid-air separator, automated controls, and a vacuum pump). The system remained inoperative while awaiting a power source.

In September 2021, Hilcorp installed a power source for the SVE system. The power source is a skid-mounted gas-fired motor with a pully and belt drive apparatus to transfer power to a vacuum pump. The new vacuum pump was plumbed into the existing SVE trailer; the automation system was by-passed so that all legs remain open.

Work conducted at this Site is documented in the following reports:

- *Site Characterization and Remedial Action Plan*, dated 02/28/19
- *Site Characterization and Remedial Action Plan*, dated 07/14/19
- *Status Report – 1st Quarter 2020,* dated 09/20/21
- *Status Report – 2nd Quarter 2020,* dated 09/27/21
- *Status Report – 3rd Quarter 2020,* dated 09/27/21
- *Status Report – 4th Quarter 2020,* dated 09/27/21
- *Status Report – 1st Quarter 2021,* dated 09/27/21
- *Status Report – 2nd Quarter 2021,* dated 09/27/21
- *Status Report – 3rd Quarter 2021,* dated 11/01/21
- *Status Report – 4th Quarter 2021,* dated 01/29/22
- *Status Report – 1st Quarter 2022,* dated 04/15/22
- *Status Report – 2nd Quarter 2022,* dated 07/14/22
- *Status Report – 3rd Quarter 2022,* dated 10/14/22
- *Status Report – 4th Quarter 2022,* dated 01/13/23

SVE System Operations

The SVE system is equipped with four independent legs (i.e., Leg 1, Leg 2, Leg 3, and Leg 4). Leg 1 provides vacuum to the shallow wells and Legs 2, 3, and 4 provide vacuum extraction to the deep SVE wells. The automation panel is currently by-passed, and the system has run with all legs open; however, damage to certain parts of the manifold has necessitated the shut-in of Legs 2 and 4.

Water and condensate are recovered with a moisture separator, which is fitted with a 1-inch PVC pipe to transfer fluids to an open-top tank fitted with bird netting. No water or condensate was recovered during 1Q23. SVE system runtime for 1Q23 is documented in Table 1 below.

Table 1. System Runtime – 1Q23

Date	Hour Meter
01/11/23	43.8
01/23/23	330
02/03/23	591
02/22/23	1,042
03/09/23	1,405
03/23/23	1,738
Total Runtime	**1,738**

As noted in the previous report (i.e., *Status Report – 4th Quarter 2022),* an hour meter failure was observed on 12/24/22 and was replaced on 01/09/23. System runtime recorded on the new hour meter between installation and 03/23/23 was 1,738 hours; the available hours during this period were 1,751; therefore, yielding a runtime percentage (%) of 99.3 for that time. Cygnet remote monitoring data also reveals continuous operation throughout the quarter. Photographs of relevant meter readings are documented in the attached Photographic Log.

During 1Q23, Hilcorp personnel conducted six (6) operational checks and four (4) maintenance events concurrently; six (6) operation and maintenance (O&M) events in total. Maintenance included hour meter replacement, repair of leaking conduit, and repair of two SVE legs. A field log of O&M events and maintenance performed is provided in the Attached Table A-1.

Collection and Analysis of Quarterly Soil-Gas Sample

On 03/09/23, a composite soil-gas sample was collected from SVE Legs 1 and 3 using a single Tedlar® bag. The Tedlar® bag was connected to the SVE trailer sampling port, which is situated downstream of the 4-leg manifold and upstream of the air-water separator. The sampling port valve was opened to purge air within the tubing between the sampling port and Tedlar® bag. After purging, the Tedlar® bag valve was opened to collect the air sample.

The soil-gas sample (i.e., SVE-1) was transported to Hall Environmental and Analytical Laboratory (HEAL) in Albuquerque, New Mexico. HEAL analyzed the sample for volatile organic compounds (VOCs) and subcontracted other gas analyses to Energy Laboratories in Billings, Montana. All sample transfers were conducted under proper chain-of-custody protocol.

The sample was analyzed for VOCs using EPA Method 8260B, Organic Compounds (GC) by GPA 2261-95, and Gasoline Range Organics by EPA Method 8015D. The laboratory report and chain-of-custody documents are attached.

Laboratory results of constituents that exceeded laboratory detection limits are presented in Table 2; analytical results of all constituents are presented in the Attached Table A-2.

Table 2. Quarterly Soil-Gas Analysis – 03/09/23

Constituents	SVE-1
Volatile Organic Compounds, mg/m^3	
Benzene	1.6
Ethylbenzene	0.63
Toluene	12
Total Xylenes	7.6
TPH (GC/MS) Low Fraction (i.e., GRO)	400
Organic Compounds, Mol %	
Oxygen	21.83
Carbon Dioxide	0.07

mg/m^3 – milligrams per cubic meter
Mol % – mole percent
TPH – total petroleum hydrocarbons
GRO – gasoline range organics

Mass Removal

Timberwolf used the laboratory results from the soil-gas analysis (as reported in Table 2), flow rates, and runtimes to calculate constituent mass removal. Mass removal of GRO, BTEX, and associated recovered volumes for 1Q23 are presented in Table 3 below.

Table 3. Mass Removal and Associated Volume – 1Q23

Constituent	Mass Removal (kg)[1]	Total Mass Removed (lbs)[2]	Recovered Volume (bbl)
Benzene	0.26	0.57	NC
Toluene	1.93	4.24	0.02
Ethylbenzene	0.10	0.22	NC
Xylene	1.22	2.69	0.01
GRO	64.3	141.4	0.52

[1]Calculation = minutes ran * CFM * Concentration (mg/m^3) * 1 M^3/35.3147 ft^3 *1g/1000 mg * 1 kg/1000 g
[2]Calculation = [Mass Removal] * 2.2 lbs/kg
GRO = from TPH (GC/MS) Low Fraction (i.e., gasoline range organics)
kg – kilograms
lbs – pounds
bbl – barrel
NC – not calculated

Assumptions:

- API Gravity = 52
- Concentrations of VOCs in soil-gas vapors have remained static throughout the quarter
- Runtime calculations based on hour meter readings and Cygnet data for 1Q23.

Summary

System runtime during 1Q23 was 99.3% based on hour meter readings between 01/09/23 and 03/23/23. Cygnet remote monitoring system confirms operation throughout the quarter.

During 1Q23, no water and/or condensate were recovered. Mass removal calculations indicated the following recovery during the quarter:

- 0.52 bbl of GRO
- 0.57 lbs of benzene
- 4.24 lbs of toluene
- 0.22 lbs of ethylbenzene
- 2.69 lbs of xylene

Further Actions – 2nd Quarter 2023

During 2Q23, the following activities are planned for the Site:

- Conduct bi-weekly Site O&M to ensure proper system function and drain any water/condensate accumulation in the moisture separator as needed
- Collect a quarterly soil-gas sample for laboratory analysis
- Repair manifold to make Legs 2 and 4 operational
- Prepare a 2Q23 status report

If you have any questions regarding this report, please call us at (979) 324-2139.

Sincerely,
Timberwolf Environmental, LLC

Kevin Cole
Project Manager

Jim Foster
President

Attachments: Figures
Attached Tables
Photographic Log
Laboratory Report and Chain-of-Custody Documents

cc: Kate Kaufman, Hilcorp Energy Company

Figures

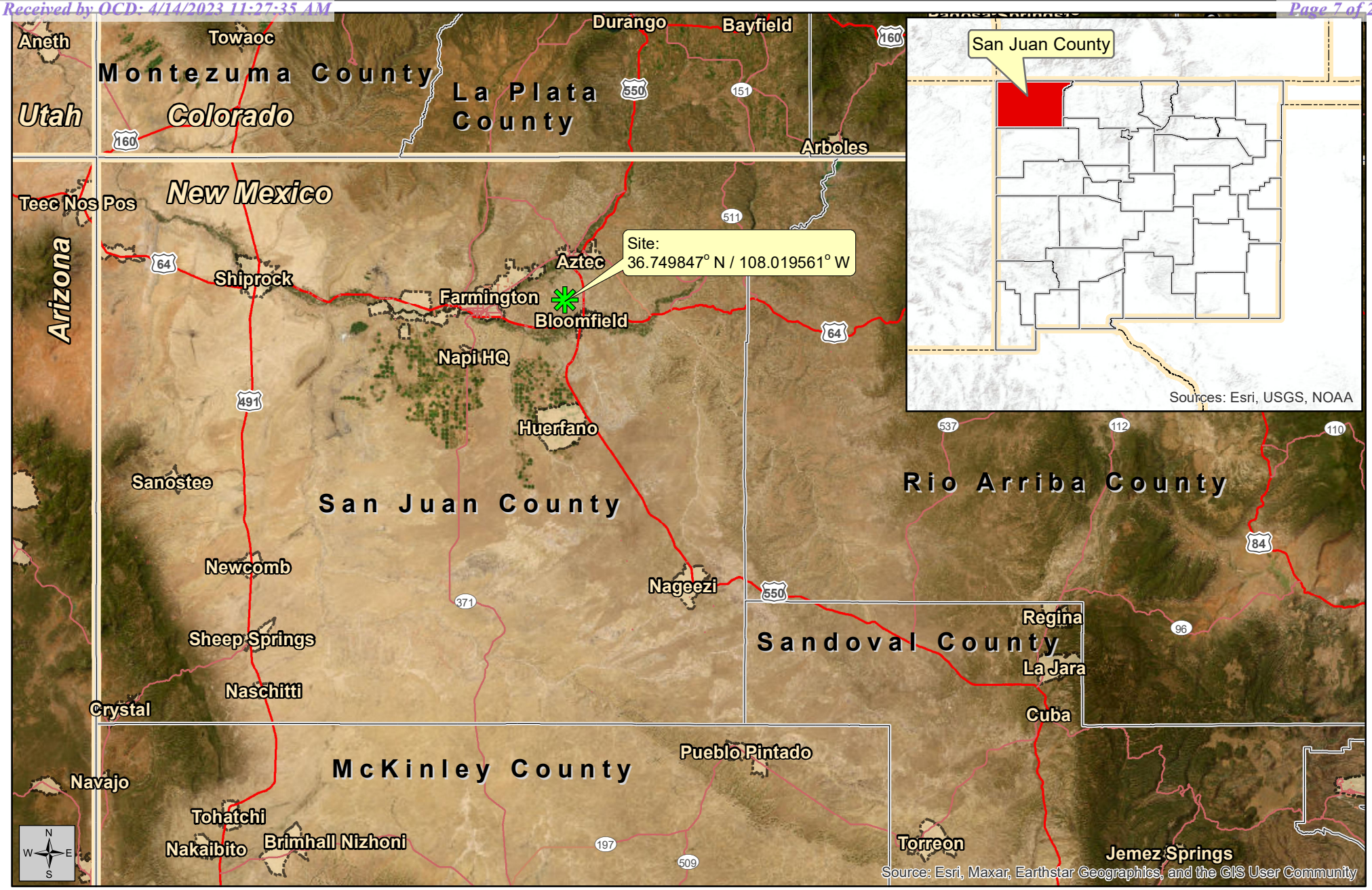


Figure 1 **Site Location Map**	**Status Report - 1st Quarter 2023**	**January 27, 2023**
TIMBERWOLF ENVIRONMENTAL	1:1,250,000 0 20 40 60 80 100 120 Miles **Fifield 5 No. 1 (OCD Incident No. NVF1718155324)** **Hilcorp Energy Company** **San Juan County, New Mexico**	Site
Created By: Brett Berno TE Project No.: HEC-190009	Datum: NAD83 Imagery Source: ESRI Vector Source: ESRI and TE	

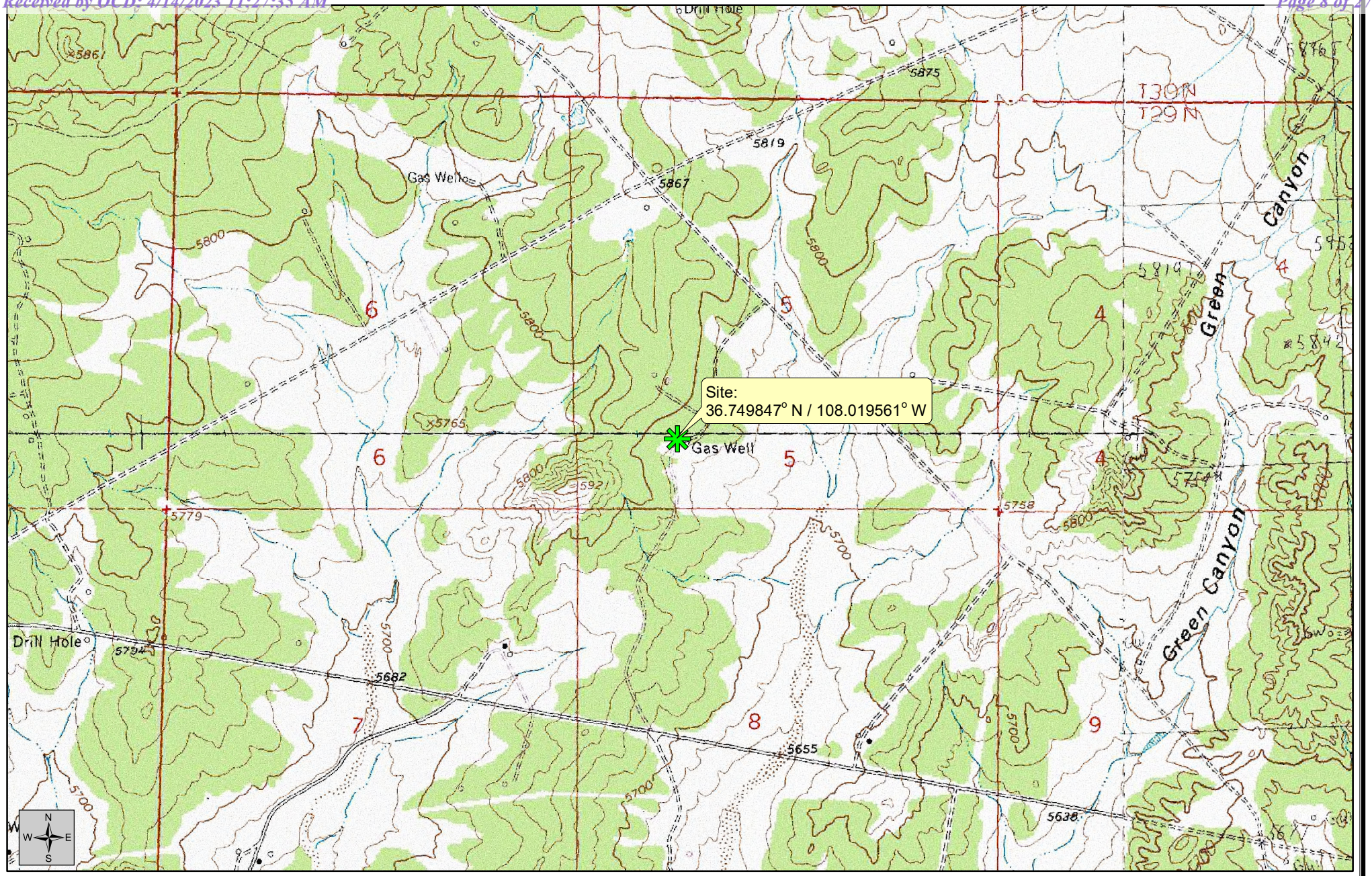


Figure 2 **Topographic Map**	**Status Report - 1st Quarter 2023**	**January 27, 2023**
TIMBERWOLF ENVIRONMENTAL Created By: Brett Berno TE Project No.: HEC-190009	1:24,000 0 0.5 1 1.5 2 Miles **Fifield 5 No. 1 (OCD Incident No. NVF1718155324)** **Hilcorp Energy Company** **San Juan County, New Mexico**	Datum: NAD83 Imagery Source: USGS Quads: Aztec, Bloomfield, Flora Vista, Horn Canyon Vector Source: TE Site

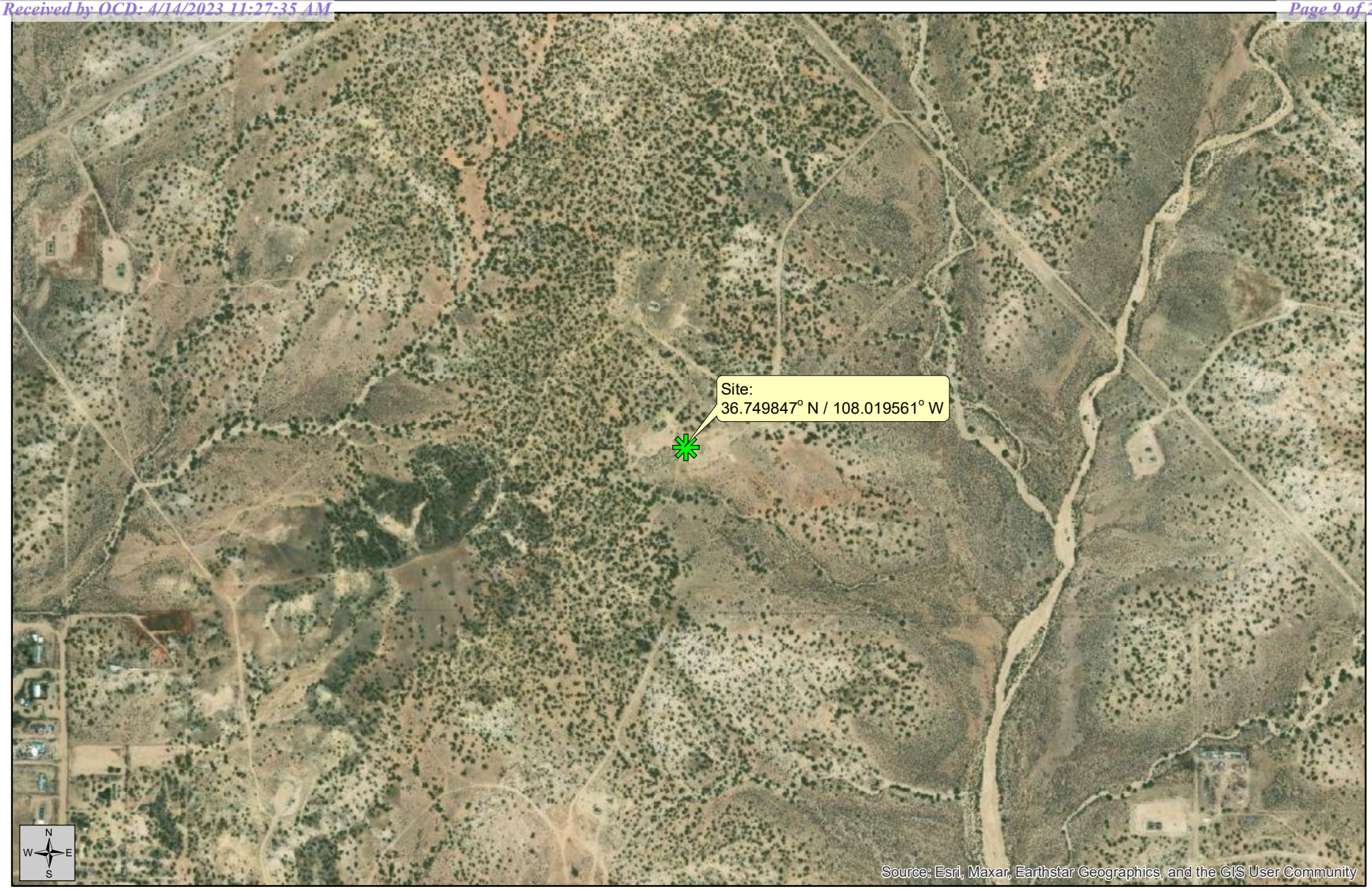


Figure 3
Aerial Map

Status Report - 1st Quarter 2023

January 27, 2023

TIMBERWOLF ENVIRONMENTAL

1:10,000

0 0.25 0.5 0.75 1 Miles

Fifield 5 No. 1 (OCD Incident No. NVF1718155324)
Hilcorp Energy Company
San Juan County, New Mexico

Created By:
Brett Berno
TE Project No.: HEC-190009

Datum: NAD83
Imagery Source: ESRI
Vector Source: TE

Site

Attached Tables

Table A-1. Operation and Maintenance Events
Status Report - 1st Quarter 2023
Fifield 5 No. 1 (OCD Incident No. NVF1718155324)
San Juan County, New Mexico

Date	Hour Meter (hrs)	Water/Condenstate Recovered (gal)	Maintenance Performed
01/11/23	43.8	0.00	• Brandon Sinclair with Hilcorp performed SVE system O&M checks. • Hilcorp personnel sealed leaking wells inside trailer (leg 1). • New hour meter installed (01/09/23).
01/23/23	330	0.00	• Brandon Sinclair with Hilcorp performed SVE system O&M checks. • Hilcorp personnel sealed leaking conduit inside trailer (leg 1).
02/03/23	591	0.00	• Brandon Sinclair with Hilcorp performed SVE system O&M checks.
02/22/23	1,042	0.00	• Brandon Sinclair with Hilcorp performed SVE system O&M checks. • Hilcorp personnel observed PVC damage on leg 2. • Hilcorp personnel called maintenance crew to address PVC issue.
03/09/23	1,405	0.00	• Brandon Sinclair with Hilcorp performed SVE system O&M checks. • Leg 2 PVC damage repaired.
03/23/23	1,738	0.00	• Brandon Sinclair with Hilcorp performed SVE system O&M checks. • Hilcorp personnel observed PVC damage on leg 1 behind trailer. • Hilcorp personnel switched off leg 1 and contacted maintenance for repair.

gal – gallons

hrs – hours

NC – not collected due to hour meter failure

Table A-2. Soil-Gas Analysis - 03/09/23
Status Report - 1st Quarter 2023
Fifield 5 No. 1 (OCD Incident No. NVF1718155324)
San Juan County, New Mexico

Volatiles	SVE ($\mu g/m^3$)
Acetone	< 5,000
Benzene	1,600
Bromodichloromethane	< 500
Bromoform	< 500
Bromomethane	< 1,000
Carbon disulfide	< 5,000
Carbon tetrachloride	< 500
Chlorobenzene	< 500
Chloroethane	< 1,000
Chloroform	< 500
Chloromethane	< 500
2-Chlorotoluene	< 500
Cyclohexane	--
Dibromochloromethane	< 500
1,2-Dibromoethane	< 500
1,2-Dichlorobenzene	< 500
1,3-Dichlorobenzene	< 500
1,4-Dichlorobenzene	< 500
1,2-Dichloroethane	< 500
1,1-Dichloroethane	< 500
1,1-Dichloroethene	< 500
cis-1,2-Dichloroethene	< 500
trans-1,2-Dichloroethene	< 500
1,2-Dichloropropane	< 500
cis-1,3-Dichloropropene	< 500
trans-1,3-Dichloropropene	< 500
Ethylbenzene	630
Trichlorofluoromethane	< 500
Dichlorodifluoromethane	< 500
Heptane	--
Hexachloro-1,3-butadiene	< 500
n-Hexane	--
Isopropylbenzene	< 500
Methylene Chloride	< 1,500
2-Butanone (MEK)	< 5,000
4-Methyl-2-pentanone (MIBK)	< 5,000
MTBE	< 500
Naphthalene	< 1,000
Styrene	< 500
1,1,2,2-Tetrachloroethane	< 500
Toluene	12,000

Table A-2. Soil-Gas Analysis - 03/09/23
Status Report - 1st Quarter 2023
Fifield 5 No. 1 (OCD Incident No. NVF1718155324)
San Juan County, New Mexico

Volatiles	SVE ($\mu g/m^3$)
1,2,4-Trichlorobenzene	< 500
1,1,1-Trichloroethane	< 500
1,1,2-Trichloroethane	< 500
1,2,4-Trimethylbenzene	< 500
1,3,5-Trimethylbenzene	< 500
2,2,4-Trimethylpentane	--
Vinyl chloride	< 500
Total Xylenes	7,600
TPH (GC/MS) Low Fraction	400,000
Methyl Cyclohexane	--
Oxygen	21.83 (Mol %)
Carbon Dioxide	0.07 (Mol %)

$\mu g/m^3$ – Micrograms per cubic meter (unless otherwise noted)

-- – Analyte not reported

Mol % – mole percent

Photographic Log

TIMBERWOLF ENVIRONMENTAL

1115 Welsh Ave., Suite B
College Station, TX 77840
979.324.2139
www.teamtimberwolf.com

PHOTOGRAPHIC LOG

Project No.:	HEC-190009	**Client:**	Hilcorp Energy Company
Project Name:	Fifield 5 No. 1	**Site Location:**	San Juan County, New Mexico
Task Description:	Status Report – 1st Quarter 2023	**Date:**	January – March, 2023

Photo No.: 1

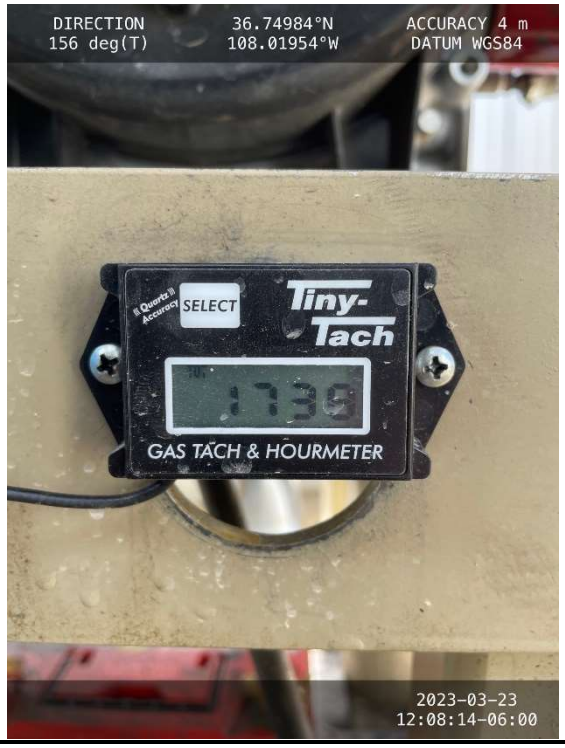
Direction: N/A

Comments: View of hour meter on 01/11/23.

Photo No.: 2

Direction: N/A

Comments: View of hour meter on 03/23/23.



Laboratory Report and Chain-of-Custody Documents

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

March 27, 2023

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

RE: Fifield 5 1 OrderNo.: 2303592

Dear Kate Kaufman:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/10/2023 for the analyses presented in the following report.

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

Please don't hesitate to contact HEAL for any additional information or clarifications.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2303592**
Date Reported: **3/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: SVE-1
Project: Fifield 5 1
Collection Date: 3/9/2023 12:45:00 PM
Lab ID: 2303592-001 **Matrix:** AIR **Received Date:** 3/10/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	1.6	0.50		µg/L	5	3/16/2023 6:31:00 PM
Toluene	12	0.50		µg/L	5	3/16/2023 6:31:00 PM
Ethylbenzene	0.63	0.50		µg/L	5	3/16/2023 6:31:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,2-Dichloroethane (EDC)	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,2-Dibromoethane (EDB)	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Naphthalene	ND	1.0		µg/L	5	3/16/2023 6:31:00 PM
1-Methylnaphthalene	ND	2.0		µg/L	5	3/16/2023 6:31:00 PM
2-Methylnaphthalene	ND	2.0		µg/L	5	3/16/2023 6:31:00 PM
Acetone	ND	5.0		µg/L	5	3/16/2023 6:31:00 PM
Bromobenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Bromodichloromethane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Bromoform	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Bromomethane	ND	1.0		µg/L	5	3/16/2023 6:31:00 PM
2-Butanone	ND	5.0		µg/L	5	3/16/2023 6:31:00 PM
Carbon disulfide	ND	5.0		µg/L	5	3/16/2023 6:31:00 PM
Carbon tetrachloride	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Chlorobenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Chloroethane	ND	1.0		µg/L	5	3/16/2023 6:31:00 PM
Chloroform	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Chloromethane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
2-Chlorotoluene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
4-Chlorotoluene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
cis-1,2-DCE	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
cis-1,3-Dichloropropene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,2-Dibromo-3-chloropropane	ND	1.0		µg/L	5	3/16/2023 6:31:00 PM
Dibromochloromethane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Dibromomethane	ND	1.0		µg/L	5	3/16/2023 6:31:00 PM
1,2-Dichlorobenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,3-Dichlorobenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,4-Dichlorobenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Dichlorodifluoromethane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,1-Dichloroethane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,1-Dichloroethene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,2-Dichloropropane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,3-Dichloropropane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
2,2-Dichloropropane	ND	0.50		µg/L	5	3/16/2023 6:31:00 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 **2303592**
Date Reported: **3/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: SVE-1
Project: Fifield 5 1
Collection Date: 3/9/2023 12:45:00 PM
Lab ID: 2303592-001 **Matrix:** AIR **Received Date:** 3/10/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,1-Dichloropropene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Hexachlorobutadiene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
2-Hexanone	ND	5.0		µg/L	5	3/16/2023 6:31:00 PM
Isopropylbenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
4-Isopropyltoluene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
4-Methyl-2-pentanone	ND	5.0		µg/L	5	3/16/2023 6:31:00 PM
Methylene chloride	ND	1.5		µg/L	5	3/16/2023 6:31:00 PM
n-Butylbenzene	ND	1.5		µg/L	5	3/16/2023 6:31:00 PM
n-Propylbenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
sec-Butylbenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Styrene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
tert-Butylbenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Tetrachloroethene (PCE)	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
trans-1,2-DCE	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
trans-1,3-Dichloropropene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,1,1-Trichloroethane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,1,2-Trichloroethane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Trichloroethene (TCE)	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Trichlorofluoromethane	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
1,2,3-Trichloropropane	ND	1.0		µg/L	5	3/16/2023 6:31:00 PM
Vinyl chloride	ND	0.50		µg/L	5	3/16/2023 6:31:00 PM
Xylenes, Total	7.6	0.75		µg/L	5	3/16/2023 6:31:00 PM
Surr: Dibromofluoromethane	89.3	70-130		%Rec	5	3/16/2023 6:31:00 PM
Surr: 1,2-Dichloroethane-d4	86.3	70-130		%Rec	5	3/16/2023 6:31:00 PM
Surr: Toluene-d8	103	70-130		%Rec	5	3/16/2023 6:31:00 PM
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	5	3/16/2023 6:31:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	400	25		µg/L	5	3/16/2023 6:31:00 PM
Surr: BFB	97.1	70-130		%Rec	5	3/16/2023 6:31:00 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.

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ANALYTICAL SUMMARY REPORT

March 24, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23030906 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 3/14/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23030906-001	2303592-001B, SVE-1	03/09/23 12:45	03/14/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23030906-001
Client Sample ID: 2303592-001B, SVE-1

Report Date: 03/24/23
Collection Date: 03/09/23 12:45
DateReceived: 03/14/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.83	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
Nitrogen	77.95	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
Carbon Dioxide	0.07	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
Methane	<0.01	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
Ethane	<0.01	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
Propane	<0.01	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
Hexanes plus	0.15	Mol %		0.01		GPA 2261-95	03/15/23 09:26 / ikc
Propane	< 0.001	gpm		0.001		GPA 2261-95	03/15/23 09:26 / ikc
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	03/15/23 09:26 / ikc
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	03/15/23 09:26 / ikc
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	03/15/23 09:26 / ikc
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	03/15/23 09:26 / ikc
Hexanes plus	0.063	gpm		0.001		GPA 2261-95	03/15/23 09:26 / ikc
GPM Total	0.063	gpm		0.001		GPA 2261-95	03/15/23 09:26 / ikc
GPM Pentanes plus	0.063	gpm		0.001		GPA 2261-95	03/15/23 09:26 / ikc
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	7			1		GPA 2261-95	03/15/23 09:26 / ikc
Net BTU per cu ft @ std cond. (LHV)	7			1		GPA 2261-95	03/15/23 09:26 / ikc
Pseudo-critical Pressure, psia	545			1		GPA 2261-95	03/15/23 09:26 / ikc
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	03/15/23 09:26 / ikc
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	03/15/23 09:26 / ikc
Air, %	99.76			0.01		GPA 2261-95	03/15/23 09:26 / ikc
- The analysis was not corrected for air.							
COMMENTS							
-						-	03/15/23 09:26 / ikc

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.
- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.
- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.
- Standard conditions: 60 F & 14.73 psi on a dry basis.

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B23030906 **Report Date:** 03/24/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R398983
Lab ID: **B23030934-001ADUP**	12	Sample Duplicate				Run: GCNGA-B_230315A				03/15/23 12:58
Oxygen		21.2	Mol %	0.01				0	20	
Nitrogen		78.2	Mol %	0.01				0.0	20	
Carbon Dioxide		0.55	Mol %	0.01				0.0	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		<0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		<0.01	Mol %	0.01					20	
Lab ID: **LCS031523**	11	Laboratory Control Sample				Run: GCNGA-B_230315A				03/15/23 13:25
Oxygen		0.61	Mol %	0.01	122	70	130			
Nitrogen		5.94	Mol %	0.01	99	70	130			
Carbon Dioxide		0.99	Mol %	0.01	100	70	130			
Methane		74.9	Mol %	0.01	100	70	130			
Ethane		5.95	Mol %	0.01	99	70	130			
Propane		4.94	Mol %	0.01	100	70	130			
Isobutane		1.95	Mol %	0.01	97	70	130			
n-Butane		1.95	Mol %	0.01	97	70	130			
Isopentane		0.99	Mol %	0.01	99	70	130			
n-Pentane		0.99	Mol %	0.01	99	70	130			
Hexanes plus		0.80	Mol %	0.01	100	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

B23030906

Login completed by:	Leslie S. Cadreau	Date Received:	3/14/2023
Reviewed by:	gmccartney	Received by:	tae
Reviewed Date:	3/17/2023	Carrier name:	FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	12.8°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

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

SUB CONTRATOR: Energy Labs -Billings	COMPANY: Energy Laboratories	PHONE: (406) 869-6253	FAX: (406) 252-6069
ADDRESS: 1120 South 27th Street		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: Billings, MT 59107			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2303592-001B	SVE-1	TEDLAR	Air	3/9/2023 12:45:00 PM	1	FIXED GASES B230309006

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 3/10/2023	Time: 8:52 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: Gabriela Edwards	Date: 3.14.23	Time: 0945

TAT: Standard ☐ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples ____ ℃ Attempt to Cool ? ____
Comments: ____

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: 2303592 RcptNo: 1

Received By: Tracy Casarrubias 3/10/2023 7:10:00 AM

Completed By: Tracy Casarrubias 3/10/2023 8:49:38 AM

Reviewed By: JM 3/10/23

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 ☐ JM 3/10/23
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: KRA 3.10.23

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:

17. **Cooler Information**

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

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

Project Name: Fifield S #1

Project #:

Project Manager: Kate Kaufman

Sampler: Brandon Sinclair

On Ice: ☐ Yes ☒ No

# of Coolers: 1

Cooler Temp(including CF): N/A (°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. 2303592	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)	8015 TVPH	Fixed gases O2&CO2
3-9	1245	air	SVE-1	2 Tedlar		001								✓			✓	✓

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
3/9/23	1545		[illegible]	Courier	3/9/23	1545
3/9/23	1804		[illegible]	Courier	3/10/23	7:10

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.

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

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

CONDITIONS

Action 207926

CONDITIONS

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	372171
	Action Number: 207926
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	1. Continue further actions as stated in report. 2. Submit next quarterly report by July 31, 2023.	5/10/2023