

NV



July 12, 2023

New Mexico Oil Conservation Division

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

Re: Second Quarter 2023 – SVE System Update

San Juan 28-6 #31
Rio Arriba County, New Mexico
Hilcorp Energy Company
NMOCD Incident Number: NVF1816655680

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Second Quarter 2023 – SVE System Update* report summarizing the soil vapor extraction (SVE) system performance at the San Juan 28-6 #31 natural gas production well (Site) located in Unit M, Section 28, Township 28 North, Range 6 West in Rio Arriba County, New Mexico (Figure 1). Specifically, this report summarizes Site activities performed in April, May, and June of 2023 to the New Mexico Oil Conservation Division (NMOCD).

SVE SYSTEM SPECIFICATIONS

The current SVE system consists of a three-phase, 3 horsepower (HP) Ametek Rotron Model EN656 regenerative blower capable of producing 100 standard cubic feet per minute (scfm) of flow and 50 inches of water column (IWC). In total, 19 SVE wells are installed at the site at varying depth intervals in order to induce air flow through the impacted zones in the subsurface. SVE well locations are presented on Figure 2. Additionally, the power for the SVE system was converted from generator to a permanent power drop on April 20, 2022. Specifically, the voltage capacity of the power drop at the Site was increased in order to run the SVE system and negate the need for a generator to power the system. This was determined to be necessary based on reliability issues with the generators used at the Site.

SECOND QUARTER 2023 ACTIVITIES

During the second quarter of 2023, Ensolum and Hilcorp personnel performed bi-weekly operation and maintenance (O&M) visits to ensure the system was operating as designed and to perform any required maintenance. Field notes taken during O&M visits are presented in Appendix A. Between March 8 and June 22, 2023, the SVE system operated for 2,533 hours for a runtime efficiency of 99.6 percent (%). Table 1 presents the SVE system operational hours and percent runtime. Appendix B presents photographs of the runtime meter for calculating the second quarter runtime efficiency. During the second quarter 2023, all zones were operating with 15 of the 20 wells operational. SVE wells SVE-6, SVE-7S, SVE-7D, SVE-9, and SVE-15 have been turned off based on the low photoionization detector (PID) readings collected during previous sampling events and in order to achieve higher flow and vacuum rates in the other operating wells.

An air sample for the second quarter 2023 was collected on June 22, 2023. The second quarter 2023 emissions sample was collected from the sample port located between the SVE piping manifold

(collected from the total combined air flow from all active wells) and the SVE blower using a high vacuum air sampler. Prior to collection, the emissions sample was field screened with a PID for organic vapor monitoring (OVM). The emissions sample was collected directly into two 1-Liter Tedlar® bags and submitted to Hall Environmental Analysis Laboratory (Hall), located in Albuquerque, New Mexico, for analysis of total volatile petroleum hydrocarbons (TVPH, also referred to as total petroleum hydrocarbons – gasoline range organics (TPH-GRO)) following United States Environmental Protection Agency (EPA) Method 8015D, volatile organic compounds (VOCs) following EPA Method 8260B, and fixed gas analysis of oxygen and carbon dioxide following Gas Processor Association (GPA) Method 2261. Table 2 presents a summary of analytical data collected during this and previous sampling events, with the full laboratory analytical report included in Appendix C.

Emission sample data and measured stack flow rates are used to estimate total mass recovered and total emissions generated by the SVE systems (Table 3). Based on these estimates, a total of 20,343 pounds (10.2 tons) of TVPH have been removed by the system to date.

RECOMMENDATIONS

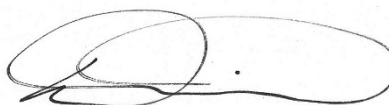
Bi-weekly O&M visits will continue to be performed by Ensolum and/or Hilcorp personnel to ensure that the SVE system is operating within normal working ranges (i.e., temperature, pressure, and vacuum). Deviations from regular operations will be noted on field logs and included in the following quarterly report. Hilcorp will continue operating the SVE until asymptotic emissions are observed. At that time, an evaluation of residual petroleum hydrocarbons will be assessed and further recommendations for remedial actions, if any, will be provided to NMOCD.

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

Sincerely,
Ensolum, LLC



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shyde@ensolum.com



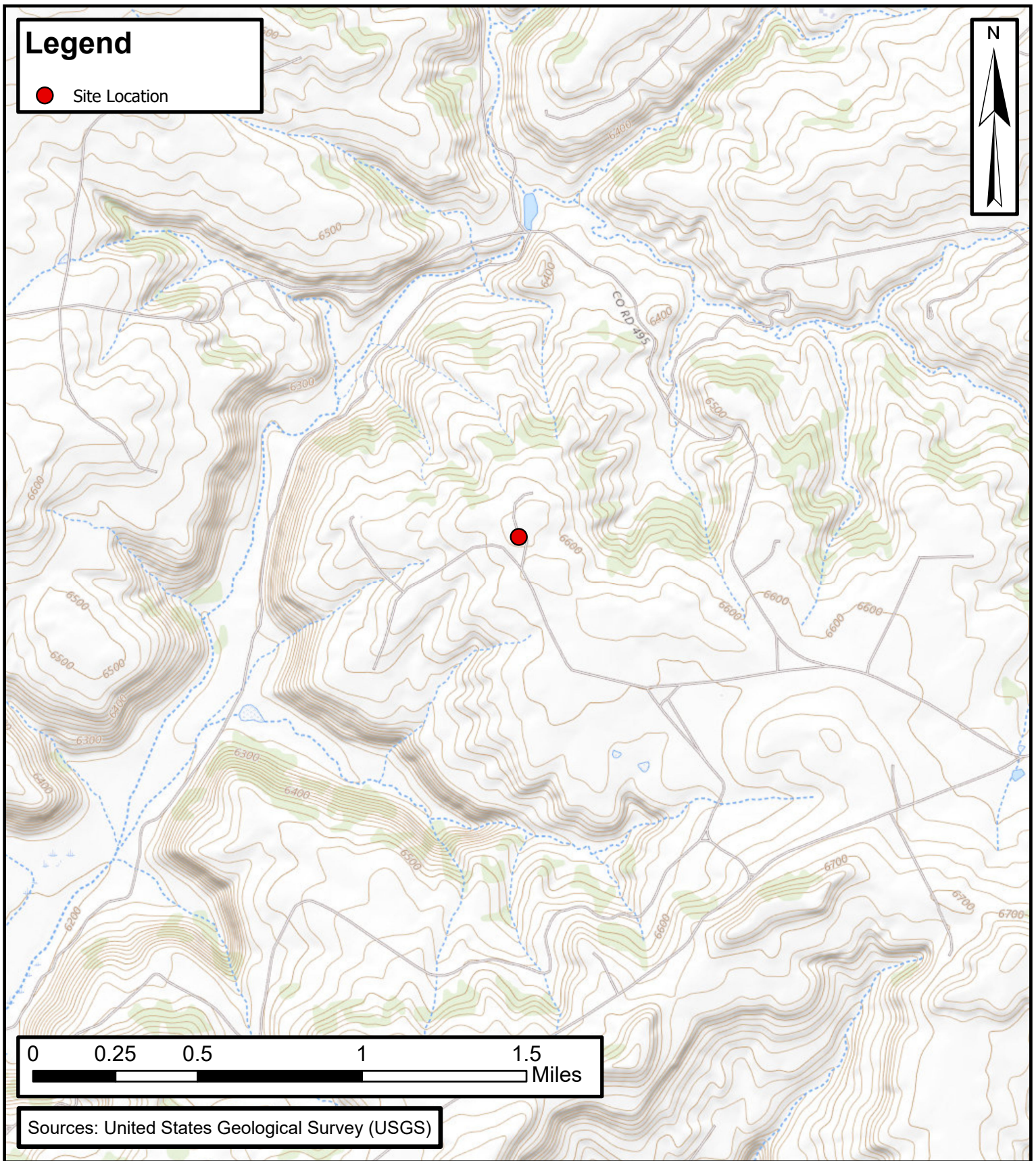
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Attachments:

Figure 1	Site Location
Figure 2	SVE System Configuration
Table 1	Soil Vapor Extraction System Runtime Calculations
Table 2	Soil Vapor Extraction System Air Analytical Results
Table 3	Soil Vapor Extraction System Mass Removal and Emissions
Appendix A	Field Notes
Appendix B	Project Photographs
Appendix C	Laboratory Analytical Reports



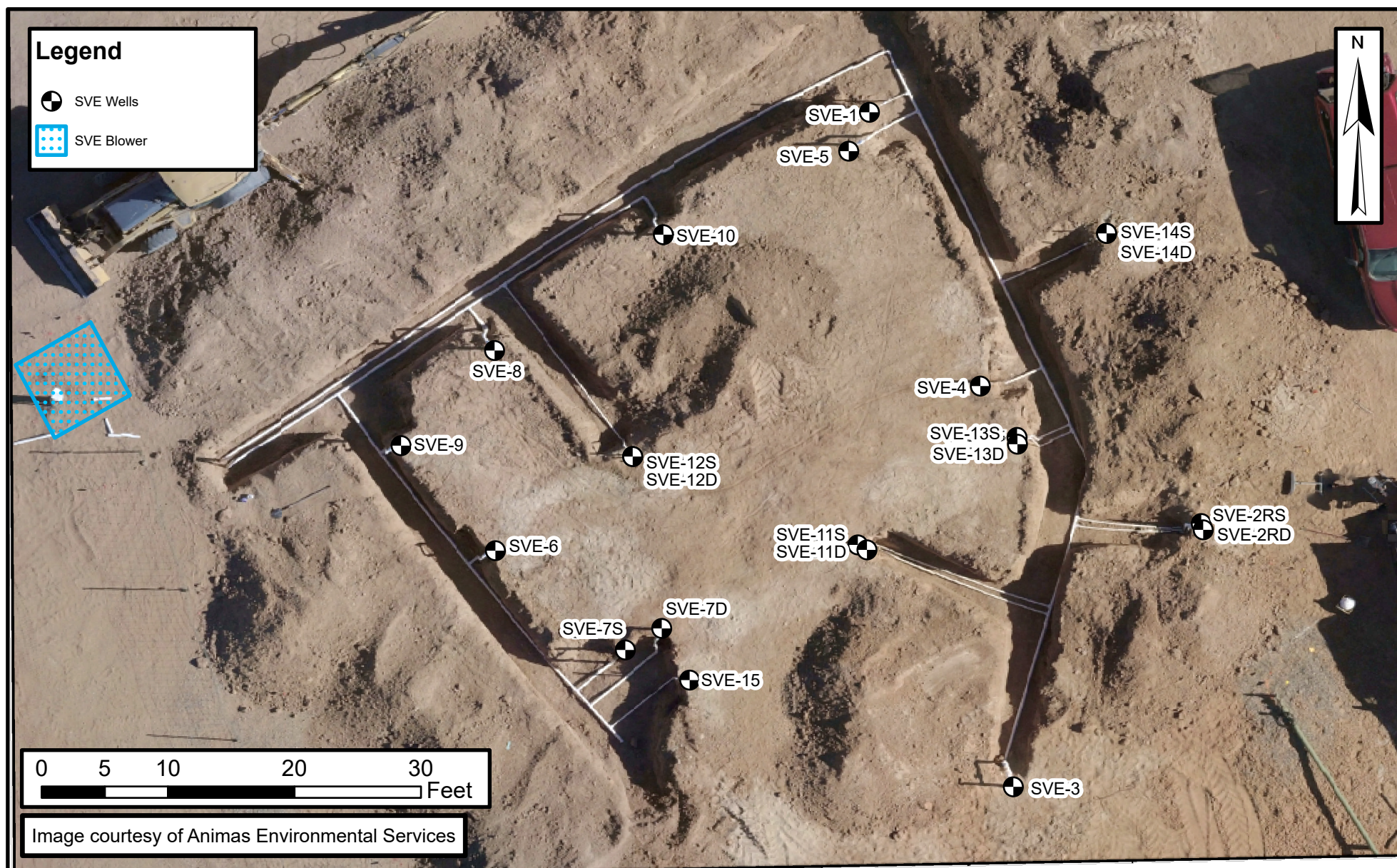
FIGURES



Site Location Map

San Juan 28-6 #31
Hilcorp Energy Company
36.6277°N, -107.4781°W
Rio Arriba County, NM

FIGURE
1



SVE System Configuration

San Juan 28-6 #31
Hilcorp Energy Company
36.6277° N, -107.4781° W
Rio Arriba County, NM

FIGURE
2



TABLES



TABLE 1
SOIL VAPOR EXTRACTION SYSTEM RUNTIME CALCULATIONS
San Juan 28-6 #31
Hilcorp Energy Company
Rio Arriba County, New Mexico

Date	SVE Runtime Hours	Delta Hours	Days	% Runtime
3/8/2023	9,471	--	--	--
6/22/2023	12,004	2,533	106	99.6%



TABLE 2
SOIL VAPOR EXTRACTION SYSTEM EMISSIONS ANALYTICAL RESULTS
 San Juan 28-6 #31
 Hilcorp Energy Company
 Rio Arriba County, New Mexico

Date	Sample Identification	Operating SVE Zones	PID (ppm)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TVPH/GRO (µg/L)	Oxygen (%)	Carbon Dioxide (%)
9/20/2021	Pilot Test	All Zones	1,287	720	1,600	15	320	250,000	17.87%	2.05%
9/28/2021	Influent A+B	All Zones	736	240	720	27	350	53,000	---	---
10/21/2021	Influent A+B	All Zones	615	60	170	6.7	74	13,000	---	---
11/5/2021	Leg A Deep	Leg A Deep	1,177	620	1,700	29	390	72,000	---	---
12/16/2021	Leg A Deep	Leg A Deep	1,398	470	950	11	190	96,000	21.00%	0.83%
12/16/2021	Leg A Shallow	Leg A Shallow	298	10	32	1.1	19	2,300	22.00%	0.12%
1/6/2022	Leg A Shallow	Leg A Shallow	283	12	34	1.2	15	2,500	22.13%	0.13%
1/6/2022	Leg B-1	Leg B-1	158	2.3	10	<0.50	6.7	1,100	21.97%	0.10%
3/24/2022	Influent All Wells	All Zones	604	48	92	1.2	19	6,300	22.10%	0.18%
6/13/2022	Influent All Wells	All Zones	414	30	89	<2.0	29	4,600	21.57%	0.25%
9/30/2022	Influent 9-30	All Zones	410	19	65	2.1	26	3,700	21.57%	0.28%
12/6/2022	SVE-1	All Zones	284	85	220	<5.0	58	22,000	21.69%	0.23%
3/8/2023	SVE-1	All Zones	381	13	54	<5.0	16	52	21.66%	0.19%
6/22/2023	SVE-1	All Zones	356	8.4	39	1.2	17	3,000	21.66%	0.20%

Notes:

GRO: gasoline range hydrocarbons

µg/L: microgram per liter

PID: photoionization detector

ppm: parts per million

TVPH: total volatile petroleum hydrocarbons

%: percent

--: not sampled/analyzed

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



TABLE 3
SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS

San Juan 28-6 #31
Hilcorp Energy Company
Rio Arriba County, New Mexico

Flow and Laboratory Analysis

Date	PID (ppm)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TVPH (µg/L)
9/28/2021	736	240	720	27	350	53,000
10/21/2021	615	60	170	6.7	74	13,000
11/5/2021	1,177	620	1,700	29	390	72,000
12/16/2021	298	10	32	1.1	19	2,300
1/6/2022	158	2.3	10	0.50	6.7	1,100
3/24/2022	604	48	92	1.2	19	6,300
6/13/2022	414	30	89	2.0	29	4,600
9/30/2022 (1)	410	19	65	2.1	26	3,700
12/6/2022	284	85	220	5.0	58	22,000
3/8/2023	381	13	54	5.0	16	52
6/22/2023	356	8.4	39	1.2	17	3,000
Average	494	103	290	7.3	91	16,459

Vapor Extraction Summary

Date	Flow Rate (cfm)	Total System Flow (cf)	Delta Flow (cf)	Benzene (lb/hr)	Toluene (lb/hr)	Ethylbenzene (lb/hr)	Total Xylenes (lb/hr)	TVPH (lb/hr)
9/28/2021	60	17,280	17,280	0.054	0.16	0.0061	0.079	12
10/21/2021	50	1,648,680	1,631,400	0.028	0.083	0.0032	0.040	6.2
11/5/2021	8	1,864,392	215,712	0.010	0.028	0.00053	0.0069	1.3
12/16/2021	12	2,496,696	632,304	0.014	0.039	0.00068	0.0092	1.7
1/6/2022	32	3,352,056	855,360	0.00072	0.0025	0.000096	0.0015	0.20
3/24/2022	12	4,610,688	1,258,632	0.0011	0.0023	0.000038	0.00058	0.17
6/13/2022	61	11,659,482	7,048,794	0.0089	0.021	0.00037	0.0055	1.2
9/19/2022 (1)	52	18,819,882	7,160,400	0.0048	0.015	0.00040	0.0053	0.81
12/6/2022	55	24,971,082	6,151,200	0.011	0.029	0.00073	0.0086	2.6
3/8/2023	50	31,583,082	6,612,000	0.0092	0.0256	0.0009	0.0069	2.0619
6/22/2023	55	39,941,982	8,358,900	0.0022	0.0096	0.0006	0.0034	0.3139
Average				0.013	0.038	0.001	0.015	2.586

Flow and Laboratory Analysis

Date	Total Operational Hours (2)	Delta Hours	Benzene (pounds)	Toluene (pounds)	Ethylbenzene (pounds)	Total Xylenes (pounds)	TVPH (pounds)	TVPH (tons)
9/28/2021	5	5	0.26	0.78	0.029	0.4	57	0.029
10/21/2021	549	544	15	45	1.7	21.6	3,356	1.7
11/9/2021 (3)	998	449	4.6	13	0.24	3.1	571	0.29
12/16/2021	1,876	878	12	34	0.59	8.1	1,464	0.73
1/6/2022	2,322	446	0.32	1.1	0.043	0.7	91	0.045
3/24/2022	4,070	1,748	2.0	4.0	0.067	1.0	290	0.15
6/13/2022	5,996	1,926	17	40	0.70	11	2,395	1.2
9/19/2022 (1)	8,291	2,295	11	34	0.9	12	1,852	0.93
12/6/2022	10,155	1,864	20	55	1.4	16	4,927	2.5
3/8/2023	12,359	2,204	20	56	2	15	4,544	2.3
6/22/2023	14,892	2,533	6	24	2	9	795	0.4
Total Mass Recovery to Date			109	307	9.3	98	20,343	10.2

Notes:

(1): an emissions air sample was recollected on 9/30/2022 due to air-collection errors during the 9/19/2022 site visit. Flow rates collected during the 9/19/2022 visit are used for emissions calculations

(2): total operational hours are a summation of runtime hours collected from several generators and blower runtime meters used between 9/28/2021 and 9/19/2022

(3): runtime hours collected during a site visit on 11/9/2021

cfm: cubic feet per minute

µg/L: micrograms per liter

lb/hr: pounds per hour

--: not sampled

PID: photoionization detector

ppm: parts per million

TVPH: total volatile petroleum hydrocarbons

gray: laboratory reporting limit used for calculating emissions



APPENDIX A

Field Notes

28-6 #31 SVE SYSTEM BIWEEKLY O&M FORM

DATE: 4-13
TIME ONSITE: _____

O&M PERSONNEL: B. Sinclair
TIME OFFSITE: _____

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: _____ KO TANK HIGH LEVEL _____

GENERATOR

Hours (take photo) _____
Hertz _____
Voltage _____
Battery Voltage _____
Oil Pressure _____
Oil Temp _____

SVE SYSTEM

	READING	TIME
Blower Hours (take photo)	10333	1125
Pre K/O Vacuum (IWC)	-35	
Post K/O Vacuum (IWC)	-29	
Pitot Tube 3" Flow (cfm)	50	
Leg A Rotameter (scfm)	27	
Leg B Rotameter (scfm)	25	
Inlet PID	354.1	
Exhaust Post GAC PID	396.1	
Liquid in K/O Sight Tube (Y/N)		
K/O Liquid Drained (gallons)		

HOUSEKEEPING Check

Generator Lubrication _____
Inline Filter Clean _____
Clean Wye Strainer _____

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID: _____

SAMPLE TIME: _____

Analytes: TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)

OPERATING WELLS _____

ZONES

Change in Well Operation: _____

LEG A DEEP

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-2RD		1067	
SVE-3		383.6	
SVE-5		1320	
SVE-11D		2254	
SVE-13D		2431	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		95.2	
SVE-2RS		684.3	
SVE-4		686.8	
SVE-11S		1221	
SVE-13S		2156	
SVE-14S		752.6	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D			
SVE-10		162.6	
SVE-12S		640.3	
SVE-15			

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-6			
SVE-7S			
SVE-8		31.4	
SVE-9			

COMMENTS/OTHER MAINTENANCE: _____

28-6 #31 SVE SYSTEM
BIWEEKLY O&M FORM

DATE: 4-25
TIME ONSITE: _____

O&M PERSONNEL: B Sinclair
TIME OFFSITE: _____

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: _____ KO TANK HIGH LEVEL

GENERATOR
Hours (take photo) _____
Hertz _____
Voltage _____
Battery Voltage _____
Oil Pressure _____
Oil Temp _____

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	10619	1054
Pre K/O Vacuum (IWC)	-34	
Post K/O Vacuum (IWC)	-28	
Pitot Tube 3" Flow (cfm)	55	
Leg A Rotameter (scfm)	27	
Leg B Rotameter (scfm)	29	
Inlet PID	417.4	
Exhaust Post GAC PID	574	
Liquid in K/O Sight Tube (Y/N)		
K/O Liquid Drained (gallons)		

HOUSEKEEPING Check
Generator Lubrication _____
Inline Filter Clean _____
Clean Wye Strainer _____

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID:	SAMPLE TIME:
Analytes: TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)	
OPERATING WELLS	

ZONES

Change in Well Operation: _____

LEG A DEEP

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-2RD		1894	
SVE-3		555.4	
SVE-5		1401	
SVE-11D		2253	
SVE-13D		2254	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		418.1	
SVE-2RS		1849	
SVE-4		406.4	
SVE-11S		1387	
SVE-13S		2003	
SVE-14S		2396	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D			
SVE-10		173.6	
SVE-12S		1296	
SVE-15			

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-6			
SVE-7S			
SVE-8		101.2	
SVE-9			

COMMENTS/OTHER MAINTENANCE: _____

**28-6 #31 SVE SYSTEM
BIWEEKLY O&M FORM**DATE: 5-9
TIME ONSITE: _____O&M PERSONNEL: B Sinclair
TIME OFFSITE: _____**SVE SYSTEM - MONTHLY O&M**

SVE ALARMS: _____ KO TANK HIGH LEVEL

GENERATORHours (take photo) _____
Hertz _____
Voltage _____
Battery Voltage _____
Oil Pressure _____
Oil Temp _____**SVE SYSTEM**Blower Hours (take photo) _____
Pre K/O Vacuum (IWC) _____
Post K/O Vacuum (IWC) _____
Pitot Tube 3" Flow (cfm) _____
Leg A Rotameter (scfm) _____
Leg B Rotameter (scfm) _____
Inlet PID _____
Exhaust Post GAC PID _____
Liquid in K/O Sight Tube (Y/N) _____
K/O Liquid Drained (gallons) _____

READING TIME

1095.0	1233
-31	
-23	
60	
29	
23	
313.2	
443.1	

HOUSEKEEPING CheckGenerator Lubrication _____
Inline Filter Clean _____
Clean Wye Strainer _____**SVE SYSTEM - QUARTERLY SAMPLING**

SAMPLE ID: _____

SAMPLE TIME: _____

Analytes: TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)

OPERATING WELLS _____

ZONES

Change in Well Operation: _____

LEG A DEEP

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-2RD		1610	
SVE-3		545.8	
SVE-5		1342	
SVE-11D		2134	
SVE-13D		2195	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		363.4	
SVE-2RS		1297	
SVE-4		326.6	
SVE-11S		1529	
SVE-13S		1969	
SVE-14S		735.6	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D			
SVE-10		166.7	
SVE-12S		592.6	
SVE-15			

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-6			
SVE-7S			
SVE-8		31.4	
SVE-9			

COMMENTS/OTHER MAINTENANCE: _____

Location SJ 28-G #31Date 5-23-23Project / Client HECEC, TRUCK, PID, VAC

1300 EC on site for bi-weekly

O&M

System on & running

Leg A & B Active

Pre KO VAC 32 IWC

Post KO VAC 26 IWC

FLOW 68 CFM

Wells SVE 8, SVE 12S, SVE 10, SVE 5, SVE 1

SVE 14, SVE 4, SVE 13S, SVE 13D

SVE 2RS, SVE 2RD, SVE 3, SVE 11S,

SVE 11D open

Leg A FLOW 28 SCFM

Leg B FLOW 22 SCFM

PID All open wells 598.6

Hours 11286 @ 1325

28-6 #31 SVE SYSTEM
BIWEEKLY O&M FORMDATE: 6-7
TIME ONSITE: _____O&M PERSONNEL: B Sinclair
TIME OFFSITE: _____

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: _____ KO TANK HIGH LEVEL

GENERATOR

Hours (take photo) _____

Hertz _____

Voltage _____

Battery Voltage _____

Oil Pressure _____

Oil Temp _____

SVE SYSTEM

Blower Hours (take photo) _____

Pre K/O Vacuum (IWC) _____

Post K/O Vacuum (IWC) _____

Pitot Tube 3" Flow (cfm) _____

Leg A Rotameter (scfm) _____

Leg B Rotameter (scfm) _____

Inlet PID _____

Exhaust Post GAC PID _____

Liquid in K/O Sight Tube (Y/N) _____

K/O Liquid Drained (gallons) _____

READING

TIME

11641

1129

-32

-25

60

28

22

332.9

641.2

HOUSEKEEPING Check

Generator Lubrication _____

Inline Filter Clean _____

Clean Wye Strainer _____

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID: _____

SAMPLE TIME: _____

Analytes: TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)

OPERATING WELLS _____

ZONES

Change in Well Operation: _____

LEG A DEEP

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-2RD		1747	
SVE-3		410.2	
SVE-5		1014	
SVE-11D		2045	
SVE-13D		1889	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		143.6	
SVE-2RS		1492	
SVE-4		300.1	
SVE-11S		650.2	
SVE-13S		1693	
SVE-14S		1017	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D			
SVE-10		158.3	
SVE-12S		1750	
SVE-15			

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-6			
SVE-7S			
SVE-8		31.3	
SVE-9			

COMMENTS/OTHER MAINTENANCE: _____

28-6 #31 SVE SYSTEM
BIWEEKLY O&M FORMDATE: 6-22
TIME ONSITE: _____O&M PERSONNEL: B Sinclair
TIME OFFSITE: _____

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: _____ KO TANK HIGH LEVEL

GENERATOR

Hours (take photo) _____
Hertz _____
Voltage _____
Battery Voltage _____
Oil Pressure _____
Oil Temp _____

SVE SYSTEM

Blower Hours (take photo) _____
Pre K/O Vacuum (IWC) _____
Post K/O Vacuum (IWC) _____
Pitot Tube 3" Flow (cfm) _____
Leg A Rotameter (scfm) _____
Leg B Rotameter (scfm) _____
Inlet PID _____
Exhaust Post GAC PID _____
Liquid in K/O Sight Tube (Y/N) _____
K/O Liquid Drained (gallons) _____

READING

TIME

HOUSEKEEPING Check

Generator Lubrication _____
Inline Filter Clean _____
Clean Wye Strainer _____

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID:

SAMPLE TIME:

Analytes: TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)

OPERATING WELLS

ZONES

Change in Well Operation: _____

LEG A DEEP

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-2RD		1421	
SVE-3		413.7	
SVE-5		1253	
SVE-11D		2092	
SVE-13D		1988	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		761	
SVE-2RS		1236	
SVE-4		395.4	
SVE-11S		1655	
SVE-13S		1795	
SVE-14S		811.5	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D			
SVE-10		165.9	
SVE-12S		920.3	
SVE-15			

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-6			
SVE-7S			
SVE-8		65.3	
SVE-9			

COMMENTS/OTHER MAINTENANCE: _____

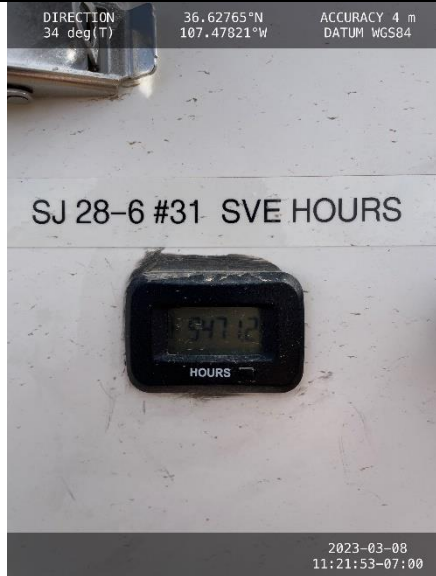
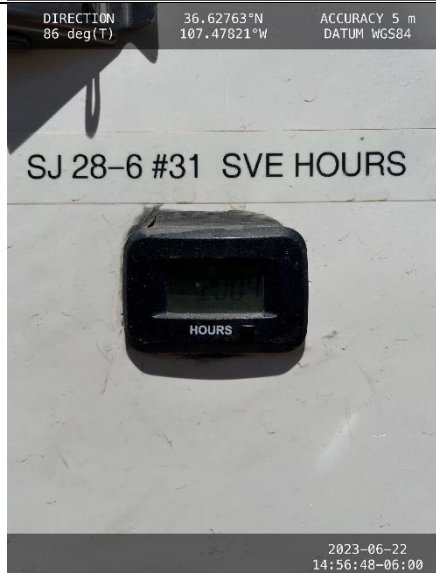
SAUNDERS
www.saunders-usa.com



APPENDIX B

Project Photographs

PROJECT PHOTOGRAPHS
San Juan 28-6 #31
San Juan County, New Mexico
Hilcorp Energy Company

Photograph 1 Runtime meter taken on March 8, 2023 at 11:21 AM Hours = 9,471.2	
Photograph 2 Runtime meter taken on June 22, 2023 at 2:56 PM Hours = 12,004	



APPENDIX C

Laboratory Analytical Reports



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

July 11, 2023

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

RE: SJ 28 6 31

OrderNo.: 2306C81

Dear Samantha Grabert:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/24/2023 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued June 29, 2023.

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. 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. All samples are reported as received unless otherwise indicated.

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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2306C81

Date Reported: 7/11/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: SVE-1

Project: SJ 28 6 31

Collection Date: 6/22/2023 3:15:00 PM

Lab ID: 2306C81-001

Matrix: AIR

Received Date: 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	3000	25		µg/L	5	6/26/2023 1:25:05 PM
Surr: BFB	266	15-412		%Rec	5	6/26/2023 1:25:05 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	8.4	0.50		µg/L	5	7/5/2023 2:38:44 PM
Toluene	39	0.50		µg/L	5	7/5/2023 2:38:44 PM
Ethylbenzene	1.2	0.50		µg/L	5	7/5/2023 2:38:44 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,3,5-Trimethylbenzene	0.75	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,2-Dichloroethane (EDC)	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,2-Dibromoethane (EDB)	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Naphthalene	ND	1.0		µg/L	5	7/5/2023 2:38:44 PM
1-Methylnaphthalene	ND	2.0		µg/L	5	7/5/2023 2:38:44 PM
2-Methylnaphthalene	ND	2.0		µg/L	5	7/5/2023 2:38:44 PM
Acetone	ND	5.0		µg/L	5	7/5/2023 2:38:44 PM
Bromobenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Bromodichloromethane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Bromoform	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Bromomethane	ND	1.0		µg/L	5	7/5/2023 2:38:44 PM
2-Butanone	ND	5.0		µg/L	5	7/5/2023 2:38:44 PM
Carbon disulfide	ND	5.0		µg/L	5	7/5/2023 2:38:44 PM
Carbon tetrachloride	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Chlorobenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Chloroethane	ND	1.0		µg/L	5	7/5/2023 2:38:44 PM
Chloroform	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Chloromethane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
2-Chlorotoluene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
4-Chlorotoluene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
cis-1,2-DCE	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
cis-1,3-Dichloropropene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,2-Dibromo-3-chloropropane	ND	1.0		µg/L	5	7/5/2023 2:38:44 PM
Dibromochloromethane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Dibromomethane	ND	1.0		µg/L	5	7/5/2023 2:38:44 PM
1,2-Dichlorobenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,3-Dichlorobenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,4-Dichlorobenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Dichlorodifluoromethane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,1-Dichloroethane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,1-Dichloroethene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM

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

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

Page 1 of 2

Analytical Report

Lab Order 2306C81

Date Reported: 7/11/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: SVE-1

Project: SJ 28 6 31

Collection Date: 6/22/2023 3:15:00 PM

Lab ID: 2306C81-001

Matrix: AIR

Received Date: 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,2-Dichloropropane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,3-Dichloropropane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
2,2-Dichloropropane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,1-Dichloropropene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Hexachlorobutadiene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
2-Hexanone	ND	5.0		µg/L	5	7/5/2023 2:38:44 PM
Isopropylbenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
4-Isopropyltoluene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
4-Methyl-2-pentanone	ND	5.0		µg/L	5	7/5/2023 2:38:44 PM
Methylene chloride	ND	1.5		µg/L	5	7/5/2023 2:38:44 PM
n-Butylbenzene	ND	1.5		µg/L	5	7/5/2023 2:38:44 PM
n-Propylbenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
sec-Butylbenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Styrene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
tert-Butylbenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Tetrachloroethene (PCE)	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
trans-1,2-DCE	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
trans-1,3-Dichloropropene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,1,1-Trichloroethane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,1,2-Trichloroethane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Trichloroethene (TCE)	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Trichlorofluoromethane	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
1,2,3-Trichloropropane	ND	1.0		µg/L	5	7/5/2023 2:38:44 PM
Vinyl chloride	ND	0.50		µg/L	5	7/5/2023 2:38:44 PM
Xylenes, Total	17	0.75		µg/L	5	7/5/2023 2:38:44 PM
Surr: Dibromofluoromethane	76.8	70-130		%Rec	5	7/5/2023 2:38:44 PM
Surr: 1,2-Dichloroethane-d4	83.5	70-130		%Rec	5	7/5/2023 2:38:44 PM
Surr: Toluene-d8	104	70-130		%Rec	5	7/5/2023 2:38:44 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	5	7/5/2023 2:38:44 PM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.

B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Page 2 of 2



ANALYTICAL SUMMARY REPORT

June 28, 2023

Hall Environmental

4901 Hawkins St NE Ste D

Albuquerque, NM 87109-4372

Work Order: B23062205

Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 6/27/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23062205-001	2306C81-001B, SVE-1	06/22/23 15:15	06/27/23	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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www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23062205-001
Client Sample ID: 2306C81-001B, SVE-1

Report Date: 06/28/23
Collection Date: 06/22/23 15:15
Date Received: 06/27/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.66	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
Nitrogen	78.08	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
Carbon Dioxide	0.20	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
Methane	<0.01	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
Ethane	<0.01	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
Propane	<0.01	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
Hexanes plus	0.06	Mol %		0.01		GPA 2261-95	06/28/23 07:06 / ikc
Propane	< 0.001	gpm		0.001		GPA 2261-95	06/28/23 07:06 / ikc
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	06/28/23 07:06 / ikc
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	06/28/23 07:06 / ikc
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	06/28/23 07:06 / ikc
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	06/28/23 07:06 / ikc
Hexanes plus	0.025	gpm		0.001		GPA 2261-95	06/28/23 07:06 / ikc
GPM Total	0.025	gpm		0.001		GPA 2261-95	06/28/23 07:06 / ikc
GPM Pentanes plus	0.025	gpm		0.001		GPA 2261-95	06/28/23 07:06 / ikc
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	3			1		GPA 2261-95	06/28/23 07:06 / ikc
Net BTU per cu ft @ std cond. (LHV)	3			1		GPA 2261-95	06/28/23 07:06 / ikc
Pseudo-critical Pressure, psia	545			1		GPA 2261-95	06/28/23 07:06 / ikc
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	06/28/23 07:06 / ikc
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	06/28/23 07:06 / ikc
Air, %	98.94			0.01		GPA 2261-95	06/28/23 07:06 / ikc

- The analysis was not corrected for air.

COMMENTS

- 06/28/23 07:06 / 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)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental

Work Order: B23062205

Report Date: 06/28/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: GPA 2261-95										Batch: R404488
Lab ID: LCS062723	11	Laboratory Control Sample		Run: GCNGA-B_230627A			06/27/23 11:57			
Oxygen		0.60	Mol %	0.01	120	70	130			
Nitrogen		5.92	Mol %	0.01	99	70	130			
Carbon Dioxide		0.99	Mol %	0.01	100	70	130			
Methane		74.4	Mol %	0.01	100	70	130			
Ethane		6.00	Mol %	0.01	100	70	130			
Propane		5.34	Mol %	0.01	108	70	130			
Isobutane		1.98	Mol %	0.01	99	70	130			
n-Butane		1.99	Mol %	0.01	99	70	130			
Isopentane		1.00	Mol %	0.01	100	70	130			
n-Pentane		1.00	Mol %	0.01	100	70	130			
Hexanes plus		0.78	Mol %	0.01	98	70	130			
Lab ID: B23062211-001ADUP	12	Sample Duplicate		Run: GCNGA-B_230627A			06/27/23 14:25			
Oxygen		17.0	Mol %	0.01				0.2	20	
Nitrogen		79.0	Mol %	0.01				0.0	20	
Carbon Dioxide		3.64	Mol %	0.01				0.3	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		0.39	Mol %	0.01				2.6	20	
Lab ID: LCS062823	11	Laboratory Control Sample		Run: GCNGA-B_230627A			06/28/23 09:16			
Oxygen		0.60	Mol %	0.01	120	70	130			
Nitrogen		5.94	Mol %	0.01	99	70	130			
Carbon Dioxide		0.99	Mol %	0.01	100	70	130			
Methane		74.4	Mol %	0.01	100	70	130			
Ethane		5.95	Mol %	0.01	99	70	130			
Propane		5.52	Mol %	0.01	112	70	130			
Isobutane		1.97	Mol %	0.01	98	70	130			
n-Butane		1.97	Mol %	0.01	98	70	130			
Isopentane		0.96	Mol %	0.01	96	70	130			
n-Pentane		0.97	Mol %	0.01	97	70	130			
Hexanes plus		0.76	Mol %	0.01	95	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



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Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Hall Environmental

B23062205

Login completed by: Yvonna E. Smith

Date Received: 6/27/2023

Reviewed by: darcy

Received by: lel

Reviewed Date: 6/28/2023

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	17.8°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

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



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 CONTRACTOR		Energy Labs - Billings		COMPANY:	Energy Laboratories		PHONE:	(406) 869-6253		FAX:	(406) 252-6069	
ADDRESS:		1120 South 27th Street										
CITY, STATE, ZIP		Billings, MT 59107										
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	ANALYTICAL COMMENTS						
1	2306C81-001B	SVE-1	TEDLAR	Air	6/22/2023 3:15:00 PM	1 ***3-DAY TAT** Natural Gas Analysis, O2, CO2 <i>Next Day</i> <i>one 6/22/23</i> <i>B230602205</i>						

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:	Time:	Received By:	Date:	Time:	REPORT TRANSMITTAL DESIRED:	
	6/24/2023	9:39 AM				<input type="checkbox"/> HARD COPY (extra cost)	<input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Temp of samples	Attempt to Cool?
TAT:	Standard <input type="checkbox"/>	RUSH <input checked="" type="checkbox"/>	Next BD <input type="checkbox"/>	2nd BD <input type="checkbox"/>	3rd BD <input type="checkbox"/>	Comments:	



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: 2306C81

RcptNo: 1

Received By: Tracy Casarrubias 6/24/2023 7:45:00 AM

Completed By: Tracy Casarrubias 6/24/2023 9:36:08 AM

Reviewed By: *Jun 6/26/23*

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: *TMC 6/24/23*

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 6/24/23

16. Additional remarks:

17. Cooler Information

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

Chain-of-Custody Record

Client: Hilcorp

Mailing Address:

Phone #:

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

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)Turn-Around Time:
☒ Standard ☒ Rush 6-27
Project Name:Project #: SJ 296 Unit 31

Project Manager:

Samantha Grabert

Sampler: Brandon SinclairOn Ice: ☐ Yes ☒ No# of Coolers: 1Cooler Temp (Including CF): N/A (°C)

Container Type and #

2 Tedlar

Preservative Type

HEAL No.

2306081

001

Date Time Matrix Sample Name

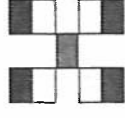
6-22 1515 air SVE-1

Date: 6-23 Time:Relinquished by: MSReceived by: Cann Date: 6/24/23 Time: 7:05

Date: Time:

Relinquished by: Via: Date: Time:

Remarks:

HALL ENVIRONMENTAL
ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX / MTBE / TMB's (8021)

TPH:8015D(GRO / DRO / MRO)

8081 Pesticides/8082 PCB's

EDB (Method 504.1)

PAHs by 8310 or 8270SIMS

RCRA 8 Metals

Cl, F, Br, NO₃, NO₂, PO₄, SO₄

8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)

8015 TVPH

Fixed gases O₂ & CO₂

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 240042

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 240042
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Accepted for the record. See app ID 275065 for most updated status.	10/27/2023