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1. Continue with O & M schedule.
2. Submit next quarterly report by January 15, 2024.

October 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: Third 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 *Third 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 July, August, and September 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.

THIRD QUARTER 2023 ACTIVITIES

During the third 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 June 22 and September 28, 2023, the SVE system operated for 2,339 hours for a runtime efficiency of 98.4 percent (%). Table 1 presents the SVE system operational hours and percent runtime. Appendix B presents photographs of the runtime meter for calculating the third quarter runtime efficiency. During the third quarter 2023, all zones were operating with 13 of the 19 wells operational. SVE wells SVE-6, SVE-7S, SVE-7D, SVE-8, 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 third quarter 2023 was collected on August 22, 2023. The third 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 21,291 pounds (11 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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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

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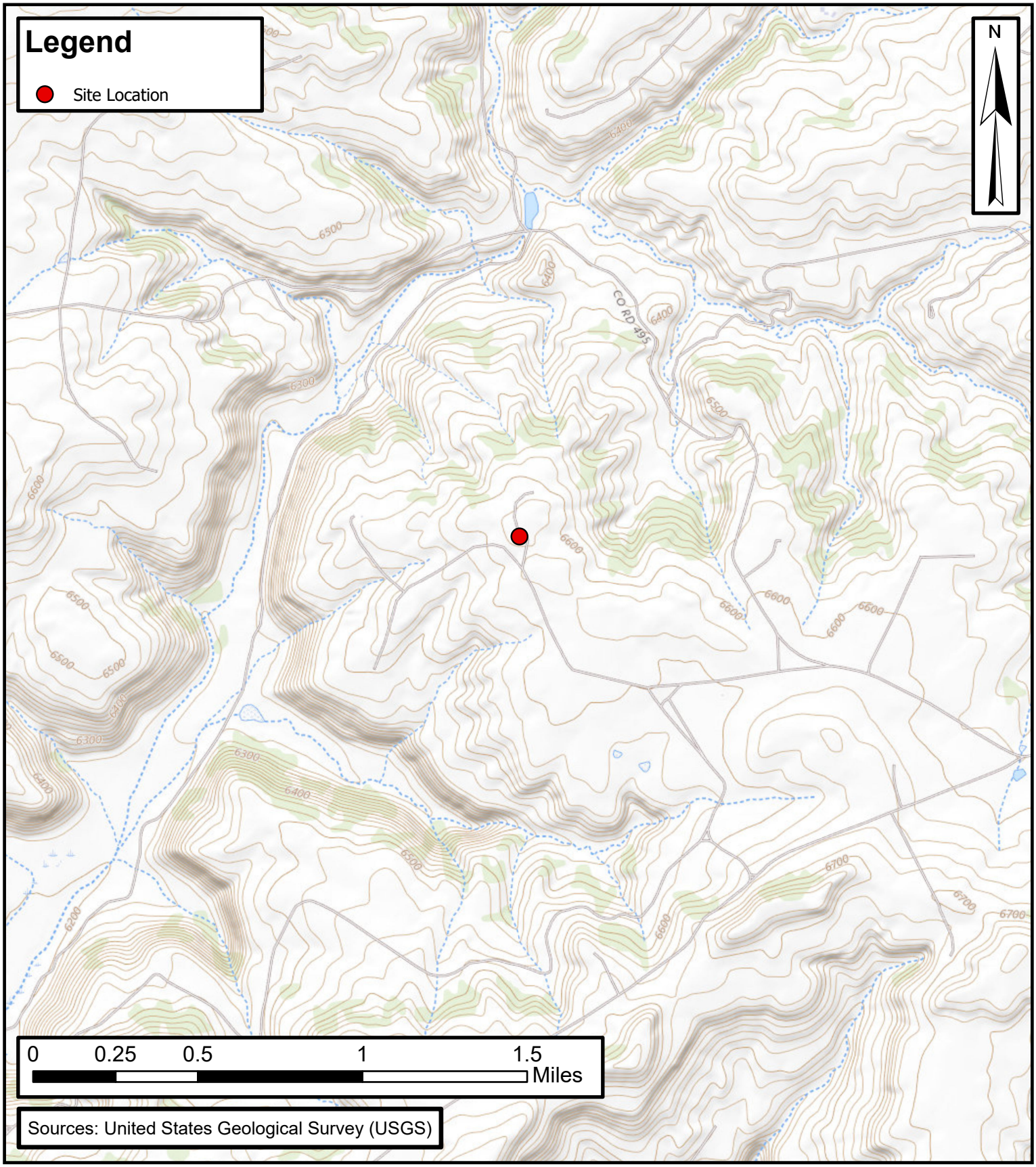
FIGURES



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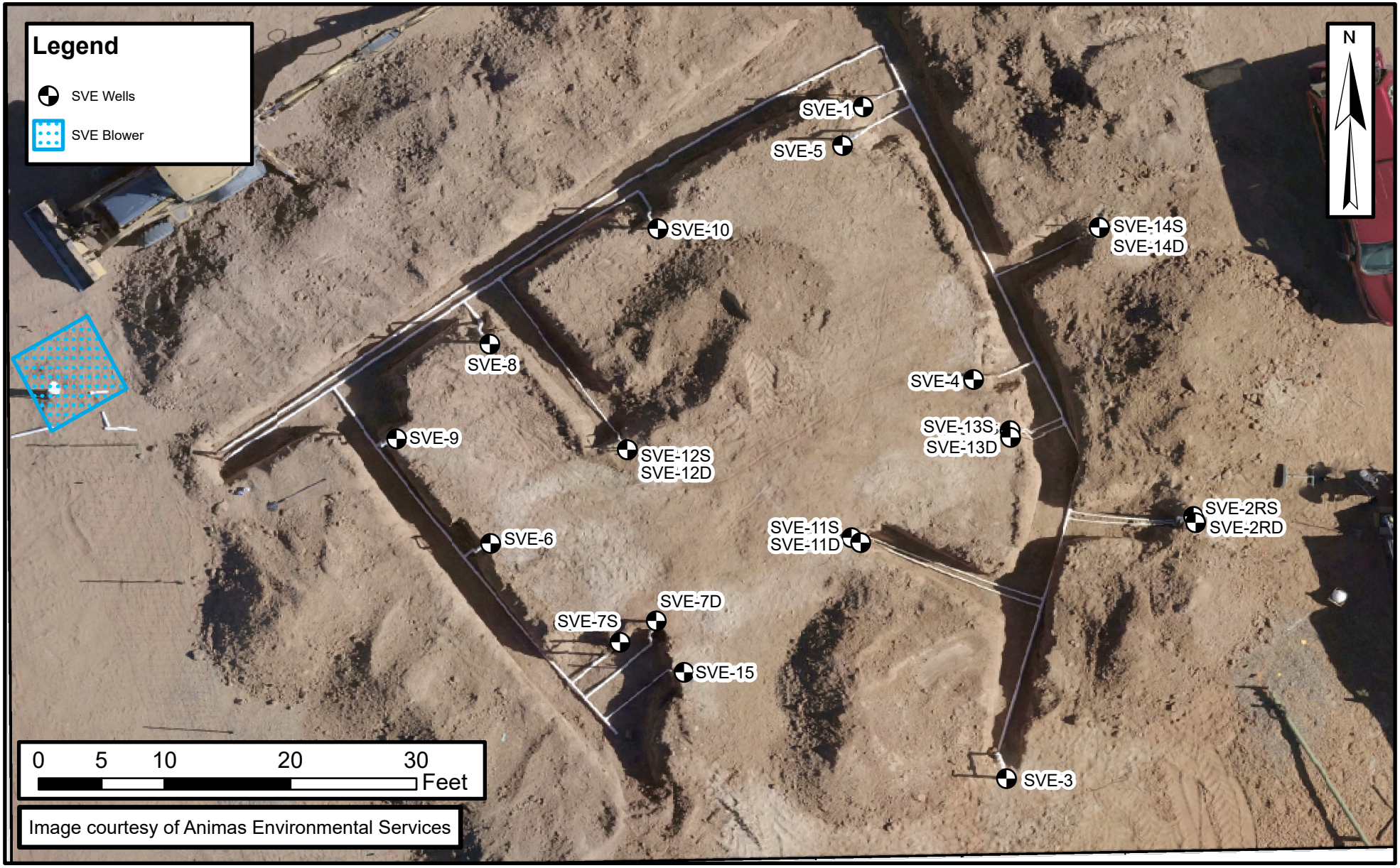
Environmental & Hydrogeologic Consultants

Site Location Map

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

FIGURE
1



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Environmental & Hydrogeologic Consultants

SVE System Configuration

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

FIGURE
2

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TABLES

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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
6/22/2023	12,004	--	--	--
9/28/2023	14,343	2,339	98	99.4%

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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%
8/22/2023	SVE-1	All Zones	386	14	49	<5.0	17	2,800	21.68%	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)

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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
8/22/2023	386	14	49	*5.0*	17	2,800
Average	485	96	270	7.2	85	15,321

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	0.020	0.029	0.00073	0.0086	2.6
3/8/2023	50	31,583,082	6,612,000	0.0092	0.026	0.00094	0.0069	2.1
6/22/2023	55	39,941,982	8,358,900	0.0022	0.0096	0.00064	0.0034	0.31
8/22/2023	60	45,183,582	5,241,600	0.0025	0.0099	0.00070	0.0038	0.65
			Average	0.013	0.036	0.001	0.014	2.4

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	37	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	5.6	24	1.6	8.6	795	0.40
8/22/2023	16,348	1,456	3.7	14	1.0	5.6	948	0.47
		Total Mass Recovery to Date	129	322	10.4	103	21,291	11

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 since system startup

(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

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APPENDIX A

Field Notes

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

DATE: 7-10
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)**	12433	1230
Pre K/O Vacuum (IWC)	-30	
Post K/O Vacuum (IWC)	-24	
Pitot Tube 3" Flow (cfm)	60	
Leg A Rotameter (scfm)	23	
Leg B Rotameter (scfm)	27	
Inlet PID	350.5	
Exhaust Post GAC PID	491.5	
Liquid in K/O Sight Tube (Y/N)		
K/O Liquird 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		1377	
SVE-3		737.9	
SVE-5		1206	
SVE-11D		1914	
SVE-13D		1945	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		652.3	
SVE-2RS		1117	
SVE-4		395.9	
SVE-11S		1101	
SVE-13S		1705	
SVE-14S		983.8	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D			
SVE-10		176.5	
SVE-12S		850.3	
SVE-15			

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-6			
SVE-7S			
SVE-8		29.8	
SVE-9			

COMMENTS/OTHER MAINTENANCE:

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

DATE: 7-27
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)**	12840	1140
Pre K/O Vacuum (IWC)	-31	
Post K/O Vacuum (IWC)	-35	
Pitot Tube 3" Flow (cfm)	68	
Leg A Rotameter (scfm)	29	
Leg B Rotameter (scfm)	9	
Inlet PID	412.6	
Exhaust Post GAC PID	628.6	
Liquid in K/O Sight Tube (Y/N)		
K/O Liquird 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		1472	
SVE-3		929.2	
SVE-5		975.8	
SVE-11D		1180	
SVE-13D		1914	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		160.3	
SVE-2RS		873.3	
SVE-4		405.4	
SVE-11S		962.3	
SVE-13S		1530	
SVE-14S		1143	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D			
SVE-10		228.2	
SVE-12S		1112	
SVE-15			

LEG B-2

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

COMMENTS/OTHER MAINTENANCE:

Closed SVE-8

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

DATE: 8-9
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)**	13148	1117
Pre K/O Vacuum (IWC)	-32	
Post K/O Vacuum (IWC)	-24	
Pitot Tube 3" Flow (cfm)	60	
Leg A Rotameter (scfm)	29	
Leg B Rotameter (scfm)	21	
Inlet PID	351.3	
Exhaust Post GAC PID	396.3	
Liquid in K/O Sight Tube (Y/N)		
K/O Liquird 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		1442	
SVE-3		696.3	
SVE-5		1128	
SVE-11D		1960	
SVE-13D		1849	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		178.3	
SVE-2RS		970.3	
SVE-4		353.6	
SVE-11S		1271	
SVE-13S		1681	
SVE-14S		1217	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D			
SVE-10		278.6	
SVE-12S		1549	
SVE-15			

LEG B-2

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

COMMENTS/OTHER MAINTENANCE:

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

DATE: 8-22
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	READING	TIME
Blower Hours **(take photo)**	13460	1144
Pre K/O Vacuum (IWC)	-31	
Post K/O Vacuum (IWC)	-25	
Pitot Tube 3" Flow (cfm)	60	
Leg A Rotameter (scfm)	38	
Leg B Rotameter (scfm)	21	
Inlet PID	386.7	
Exhaust Post GAC PID	492.3	
Liquid in K/O Sight Tube (Y/N)		
K/O Liquird 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		1579	
SVE-3		381.4	
SVE-5		1084	
SVE-11D		1986	
SVE-13D		1948	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		365	
SVE-2RS		1422	
SVE-4		420.9	
SVE-11S		951.3	
SVE-13S		1555	
SVE-14S		1273	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D			
SVE-10		282.8	
SVE-12S		1017	
SVE-15			

LEG B-2

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

COMMENTS/OTHER MAINTENANCE:

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

DATE: 9-8
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)**	13863	1243
Pre K/O Vacuum (IWC)	-31	
Post K/O Vacuum (IWC)	-25	
Pitot Tube 3" Flow (cfm)	60	
Leg A Rotameter (scfm)	27	
Leg B Rotameter (scfm)	23	
Inlet PID	50.1	
Exhaust Post GAC PID	641.1	
Liquid in K/O Sight Tube (Y/N)		
K/O Liquird 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		1546	
SVE-3		342.2	
SVE-5		1027	
SVE-11D		1956	
SVE-13D		1926	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		243.7	
SVE-2RS		1049	
SVE-4		652.4	
SVE-11S		686.6	
SVE-13S		1596	
SVE-14S		1863	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D			
SVE-10		269.2	
SVE-12S		1746	
SVE-15			

LEG B-2

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

COMMENTS/OTHER MAINTENANCE:

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

DATE: 9-28
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)**	14343	1239
Pre K/O Vacuum (IWC)	-32	
Post K/O Vacuum (IWC)	-23	
Pitot Tube 3" Flow (cfm)	60	
Leg A Rotameter (scfm)	27	
Leg B Rotameter (scfm)	23	
Inlet PID	315.3	
Exhaust Post GAC PID	734.3	
Liquid in K/O Sight Tube (Y/N)		
K/O Liquird 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		1476	
SVE-3		501.9	
SVE-5		841.6	
SVE-11D		1643	
SVE-13D		1598	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		122.3	
SVE-2RS		1388	
SVE-4		375.5	
SVE-11S		1463	
SVE-13S		1373	
SVE-14S		1291	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D		205.4	
SVE-10		1636	
SVE-12S			
SVE-15			

LEG B-2

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

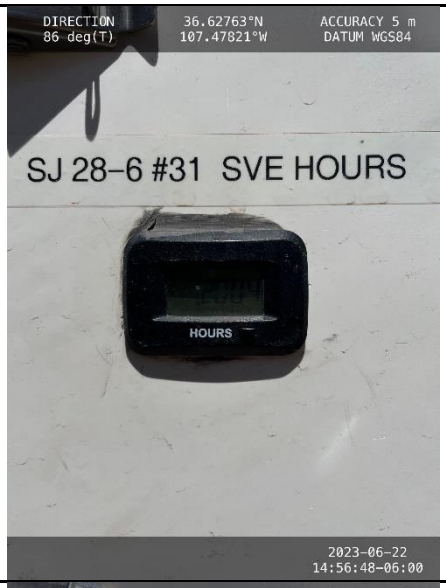
COMMENTS/OTHER MAINTENANCE:

ENSOLUM

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 June 22, 2023 at 2:56 PM Hours = 12,004		
Photograph 2 Runtime meter taken on September 28, 2023 at 12:39 PM Hours = 14,343		

Ensolum, LLC | Environmental & Hydrogeologic Consultants
Durango, Colorado | info@ensolum.com

ENSOLUM

APPENDIX C

Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 07, 2023

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

RE: SJ 28 6 Unit 31 OrderNo.: 2308E05

Dear Samantha Grabert:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/25/2023 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 **2308E05**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: SVE-1
Project: SJ 28 6 Unit 31
Collection Date: 8/22/2023 11:45:00 AM
Lab ID: 2308E05-001 **Matrix:** AIR **Received Date:** 8/25/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	14	5.0		µg/L	50	8/30/2023 3:48:00 PM
Toluene	49	5.0		µg/L	50	8/30/2023 3:48:00 PM
Ethylbenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Naphthalene	ND	10		µg/L	50	8/30/2023 3:48:00 PM
1-Methylnaphthalene	ND	20		µg/L	50	8/30/2023 3:48:00 PM
2-Methylnaphthalene	ND	20		µg/L	50	8/30/2023 3:48:00 PM
Acetone	ND	50		µg/L	50	8/30/2023 3:48:00 PM
Bromobenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Bromodichloromethane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Bromoform	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Bromomethane	ND	10		µg/L	50	8/30/2023 3:48:00 PM
2-Butanone	ND	50		µg/L	50	8/30/2023 3:48:00 PM
Carbon disulfide	ND	50		µg/L	50	8/30/2023 3:48:00 PM
Carbon tetrachloride	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Chlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Chloroethane	ND	10		µg/L	50	8/30/2023 3:48:00 PM
Chloroform	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Chloromethane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
2-Chlorotoluene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
4-Chlorotoluene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
cis-1,2-DCE	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	8/30/2023 3:48:00 PM
Dibromochloromethane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Dibromomethane	ND	10		µg/L	50	8/30/2023 3:48:00 PM
1,2-Dichlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,3-Dichlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,4-Dichlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Dichlorodifluoromethane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,1-Dichloroethane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,1-Dichloroethene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,2-Dichloropropane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,3-Dichloropropane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
2,2-Dichloropropane	ND	5.0		µg/L	50	8/30/2023 3:48:00 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 **2308E05**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: SVE-1
Project: SJ 28 6 Unit 31
Collection Date: 8/22/2023 11:45:00 AM
Lab ID: 2308E05-001 **Matrix:** AIR
Received Date: 8/25/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,1-Dichloropropene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Hexachlorobutadiene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
2-Hexanone	ND	50		µg/L	50	8/30/2023 3:48:00 PM
Isopropylbenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
4-Isopropyltoluene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
4-Methyl-2-pentanone	ND	50		µg/L	50	8/30/2023 3:48:00 PM
Methylene chloride	ND	15		µg/L	50	8/30/2023 3:48:00 PM
n-Butylbenzene	ND	15		µg/L	50	8/30/2023 3:48:00 PM
n-Propylbenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
sec-Butylbenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Styrene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
tert-Butylbenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
trans-1,2-DCE	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,1,1-Trichloroethane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,1,2-Trichloroethane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Trichloroethene (TCE)	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Trichlorofluoromethane	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
1,2,3-Trichloropropane	ND	10		µg/L	50	8/30/2023 3:48:00 PM
Vinyl chloride	ND	5.0		µg/L	50	8/30/2023 3:48:00 PM
Xylenes, Total	17	7.5		µg/L	50	8/30/2023 3:48:00 PM
Surr: Dibromofluoromethane	104	70-130		%Rec	50	8/30/2023 3:48:00 PM
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%Rec	50	8/30/2023 3:48:00 PM
Surr: Toluene-d8	113	70-130		%Rec	50	8/30/2023 3:48:00 PM
Surr: 4-Bromofluorobenzene	121	70-130		%Rec	50	8/30/2023 3:48:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	2800	250		µg/L	50	8/30/2023 3:48:00 PM
Surr: BFB	93.1	70-130		%Rec	50	8/30/2023 3:48:00 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

September 06, 2023

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

Work Order: B23082668 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 8/29/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23082668-001	2308E05-001B, SVE-1	08/22/23 11:45	08/29/23	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: B23082668-001
Client Sample ID: 2308E05-001B, SVE-1

Report Date: 09/06/23
Collection Date: 08/22/23 11:45
DateReceived: 08/29/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.68	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
Nitrogen	78.00	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
Carbon Dioxide	0.20	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
Hexanes plus	0.12	Mol %		0.01		GPA 2261-95	08/30/23 11:18 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	08/30/23 11:18 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	08/30/23 11:18 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	08/30/23 11:18 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	08/30/23 11:18 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	08/30/23 11:18 / jrj
Hexanes plus	0.051	gpm		0.001		GPA 2261-95	08/30/23 11:18 / jrj
GPM Total	0.051	gpm		0.001		GPA 2261-95	08/30/23 11:18 / jrj
GPM Pentanes plus	0.051	gpm		0.001		GPA 2261-95	08/30/23 11:18 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	6			1		GPA 2261-95	08/30/23 11:18 / jrj
Net BTU per cu ft @ std cond. (LHV)	5			1		GPA 2261-95	08/30/23 11:18 / jrj
Pseudo-critical Pressure, psia	545			1		GPA 2261-95	08/30/23 11:18 / jrj
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	08/30/23 11:18 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	08/30/23 11:18 / jrj
Air, %	99.06			0.01		GPA 2261-95	08/30/23 11:18 / jrj
- The analysis was not corrected for air.							
COMMENTS							
-						-	08/30/23 11:18 / jrj

- 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:** B23082668 **Report Date:** 09/06/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R408000
Lab ID: **B23082662-001ADUP**	12	Sample Duplicate				Run: GCNGA-B_230830A				08/30/23 09:44
Oxygen		21.4	Mol %	0.01				0.1	20	
Nitrogen		77.4	Mol %	0.01				0.1	20	
Carbon Dioxide		0.54	Mol %	0.01				1.8	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		0.66	Mol %	0.01				11	20	
Lab ID: **LCS083023**	11	Laboratory Control Sample				Run: GCNGA-B_230830A				08/30/23 12:42
Oxygen		0.62	Mol %	0.01	124	70	130			
Nitrogen		6.05	Mol %	0.01	101	70	130			
Carbon Dioxide		1.00	Mol %	0.01	101	70	130			
Methane		74.2	Mol %	0.01	99	70	130			
Ethane		6.02	Mol %	0.01	100	70	130			
Propane		5.37	Mol %	0.01	109	70	130			
Isobutane		1.99	Mol %	0.01	99	70	130			
n-Butane		2.01	Mol %	0.01	100	70	130			
Isopentane		1.00	Mol %	0.01	100	70	130			
n-Pentane		1.00	Mol %	0.01	100	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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Work Order Receipt Checklist

Hall Environmental

B23082668

Login completed by: Lyndsi E. LeProwse
Date Received: 8/29/2023
Reviewed by: gmccartney
Received by: dnh
Reviewed Date: 9/3/2023
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:	24.2°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	2308E05-001B	SVE-1	TEDLAR	Air	8/22/2023 11:45:00 AM	1	Natural Gas Analysis. 02+C02

B2308261618

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: 8/25/2023	Time: 8:29 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 8/29/23	Time: 10:00

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 °C 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: 2308E05 RcptNo: 1

Received By: Juan Rojas 8/25/2023 7:10:00 AM

Completed By: Tracy Casarrubias 8/25/2023 8:18:39 AM

Reviewed By: JA 8-25-23

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: JA 8/25/23

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 8/25/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °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.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: SJ 28 6 Unit 31

Project #:

Project Manager: Samantha Grabert

Sampler: Brandon Sinclair 8/25/23

On Ice: ~~☐ Yes~~ ☑ No

# of Coolers: 1 Jw 8/25/23

Cooler Temp (Including CF): ~~1.3 - 0~~ 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. 2308E05	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 gas O_2 & CO_2				
8-22	1145	air	SVE-1	2 Tedlar		001								✓			✓	✓				

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8-24	1446				8/24/23	1446
8/24/23	1752	Christian Walden			8/25/23	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 275065

CONDITIONS

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	372171
	Action Number: 275065
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	1. Continue with O & M schedule. 2. Submit next quarterly report by January 15, 2024.	10/27/2023