1. Continue with O & M schedule.
2. Submit next quarterly report by October 31, 2022.

ENSOLUM

July 11, 2022

New Mexico Oil Conservation Division
New Mexico Energy, Minerals, and Natural Resources Department
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: Second Quarter 2022 – 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 2022 – 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 2022 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.

SECOND QUARTER 2022 ACTIVITIES

During the second quarter of 2022, 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. 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.

Between April 6 and June 13 2022, the SVE system operated for 1,619 hours for a runtime efficiency of 99.2 percent (%). Table 1 presents the SVE system operational hours and percent runtime. Appendix B presents photographs of the runtime meters taken during the first and last field visits of the quarter. During the second quarter 2022, all SVE well were operating.

A second quarter 2022 emissions sample was collected from the SVE system on June 13, 2022 from the sample port located between the SVE piping manifold and the SVE blower using a high vacuum air sampler. Prior to collection, the emission sample was field screened with a photoionization detector (PID) for organic vapor monitoring (OVM). The emission sample was collected directly into two 1-Liter Tedlar® bag 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 (GPS) 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 8,578 pounds (4.3 tons) of TVPH have been removed by the system to date.

In general, TVPH and BTEX concentrations have steadily declined since the system began operation in September 2021. After the collection of the second quarter air sample, wells with low PID measurements were turned off in order to induce higher vacuum responses in other wells at the Site and target zones with higher remaining impacts. Specifically, wells SVE-6, 7D, 7S, 9, and 15 were turned off. This operating configuration will be maintained for the third quarter of 2022.

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.

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

Stuart Hyde, LG
Senior Geologist
(970) 903-1607
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Daniel R. Moir, MS, PG
Senior Managing Geologist
(303) 887-2946
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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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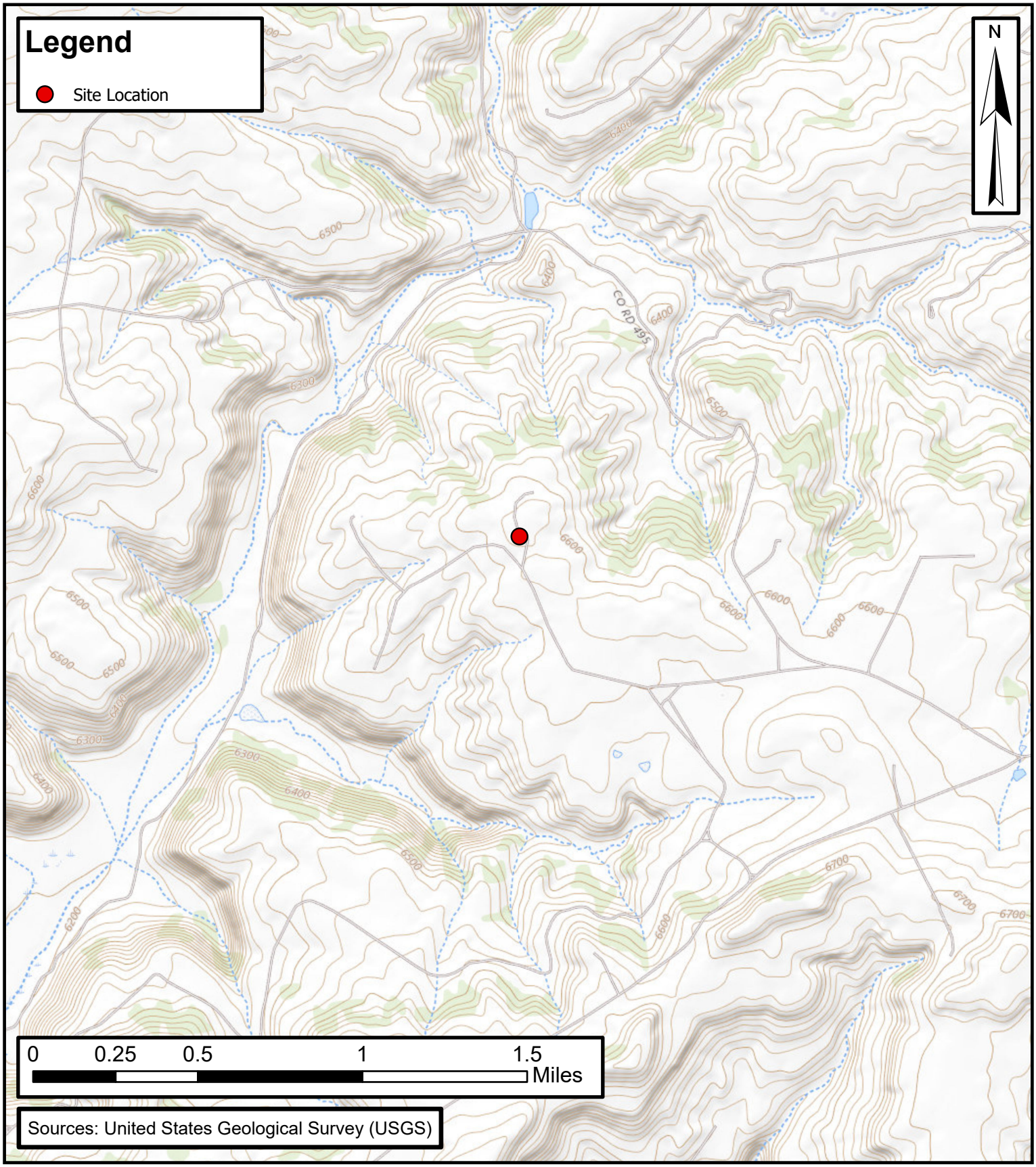
FIGURES



ENSOLUM
Environmental & Hydrogeologic Consultants

Site Location

San Juan 28-6 #31

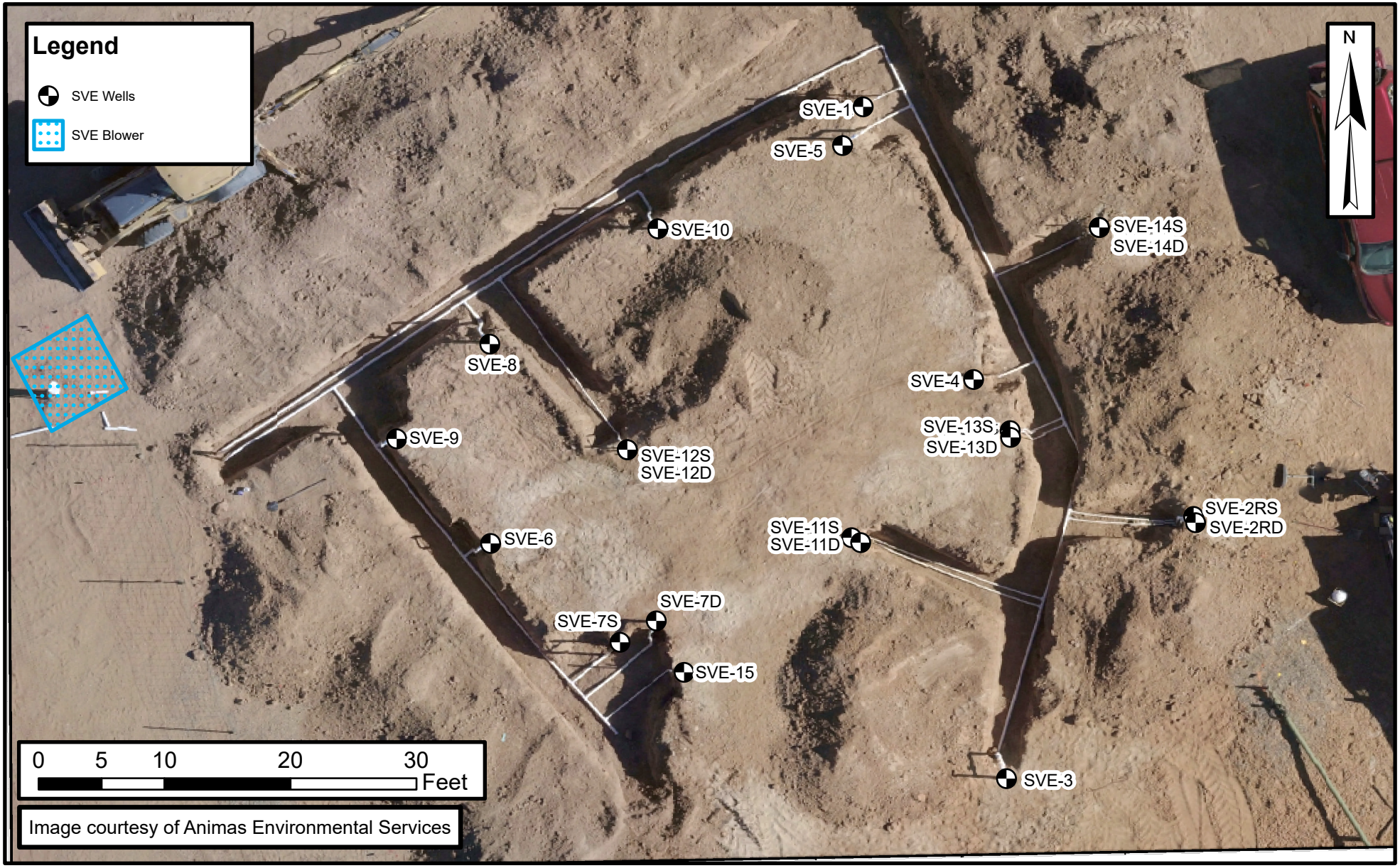
Hilcorp Energy Company

36.6277°N, -107.4781°W

Rio Arriba County, NM

FIGURE

1



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

Ensolum Project No. 07A1988031

Date	SVE Runtime Hours (1)	Delta Hours	Days	% Runtime
4/6/2022	1,489	--	--	--
6/13/2022	3,108	1,619	68	99.2%

Notes:

(1): Runtime hours collected from SVE system digital meter installed on February 1, 2022

ENSOLUM

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

Ensolum Project No. 07A1988031

Date	Sample Identification	Operating SVE Wells	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 Wells	1,287	720	1,600	15	320	250,000	17.87%	2.05%
9/28/2021	Influent A+B	All Wells	736	240	720	27	350	53,000	---	---
10/21/2021	Influent A+B	All Wells	615	60	170	6.7	74	13,000	---	---
11/5/2021	Leg A Deep	2RD, 3, 5, 11D, 13D	1,177	620	1,700	29	390	72,000	---	---
12/16/2021	Leg A Deep	2RD, 3, 5, 11D, 13D	1,398	470	950	11	190	96,000	21.00%	0.83%
12/16/2021	Leg A Shallow	1, 2RS, 4, 11S, 13S, 14S	298	10	32	1.1	19	2,300	22.00%	0.12%
1/6/2022	Leg A Shallow	1, 2RS, 4, 11S, 13S, 14S	283	12	34	1.2	15	2,500	22.13%	0.13%
1/6/2022	Leg B-1	7D, 10, 12S, 15	158	2.3	10	<0.50	6.7	1,100	21.97%	0.10%
3/24/2022	Influent All Wells	All Wells	604	48	92	1.2	19	6,300	22.10%	0.18%
6/13/2022	Influent All Wells	All Wells	414	30	89	<2.0	29	4,600	21.57%	0.25%

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

<0.037: 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
Hilcorp Energy Company - San Juan 28-6 #31
Rio Arriba County, New Mexico

Ensolum Project No. 07A1988031

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
Average	572	144	402	10	127	21,757

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	0.009	0.021	0.00037	0.0055	1.2
			Average	0.017	0.048	0.0016	0.020	3.2

Flow and Laboratory Analysis

Date	Total Operational Hours (1)	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 (2)	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
		Total Mass Recovery to Date	52	138	3.4	45	8,224	4.1

Notes:

(1): total operational hours are a summation of runtime hours collected from several generators and blower runtime meters used between September 28, 2021 and June 13, 2022

(2): 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: 4-6-22
TIME ONSITE: 0920

O&M PERSONNEL: Brandon Sinclair
TIME OFFSITE:

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: KO TANK HIGH LEVEL

GENERATOR
Hours (take photo) 22017.5
Hertz
Voltage
Battery Voltage
Oil Pressure
Oil Temp

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	1489.0	935
Pre K/O Vacuum (IWC)	-44	
Post K/O Vacuum (IWC)	-38	
Pitot Tube 3" Flow (cfm)	70	
Leg A Rotameter (scfm)	30	
Leg B Rotameter (scfm)	41	
Inlet PID	412	
Exhaust Post GAC PID	460	
Liquid in K/O Sight Tube (Y/N)	N	
K/O Liquird Drained (gallons)	0	

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)	FLOW (CFM)	ADJUSTMENTS
SVE-2RD		1857		
SVE-3		1132		
SVE-5		1547		
SVE-11D		1243		
SVE-13D		1314		

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-1		453		
SVE-2RS		1245		
SVE-4		863		
SVE-11S		458		
SVE-13S		1721		
SVE-14S		1981		

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-7D		152		
SVE-10		213		
SVE-12S		636		
SVE-15		271		

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-6		168		
SVE-7S		207		
SVE-8		4.8		
SVE-9		5.9		

COMMENTS/OTHER MAINTENANCE:

DIRECTION 72 deg(T)
36.62776°N 107.47816°W
ACCURACY 5 m DATUM WGS84

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

DATE: 4-18-22
TIME ONSITE:
O&M PERSONNEL: Brandon Sinclair
TIME OFFSITE:

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: | KO TANK HIGH LEVEL

GENERATOR

Hours (take photo)	22312.3
Hertz	
Voltage	
Battery Voltage	
Oil Pressure	
Oil Temp	

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	1782.3	1450
Pre K/O Vacuum (IWC)	-44	
Post K/O Vacuum (IWC)	-38	
Pitot Tube 3" Flow (cfm)	68	
Leg A Rotameter (scfm)	30	
Leg B Rotameter (scfm)	40	
Inlet PID	394	
Exhaust Post GAC PID	570	
Liquid in K/O Sight Tube (Y/N)	N	
K/O Liquird Drained (gallons)	0	

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)	FLOW (CFM)	ADJUSTMENTS
SVE-2RD		1931		
SVE-3		688		
SVE-5		1330		
SVE-11D		517		
SVE-13D		1622		

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-1		65.1		
SVE-2RS		739		
SVE-4		1347		
SVE-11S		173		
SVE-13S		1557		
SVE-14S		1990		

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-7D		44.4		
SVE-10		394		
SVE-12S		254		
SVE-15		90.8		

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-6		41.8		
SVE-7S		83.2		
SVE-8		47.4		
SVE-9		23.0		

COMMENTS/OTHER MAINTENANCE:

Field Notes SJ 28-6 #31 2022-04-18 16:29:02-06:00

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

DATE: 5-3-22
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)	2125.7	1220
Pre K/O Vacuum (IWC)	-33	
Post K/O Vacuum (IWC)	-27	
Pitot Tube 3" Flow (cfm)	65	
Leg A Rotameter (scfm)	26	
Leg B Rotameter (scfm)	33	
Inlet PID	475	
Exhaust Post GAC PID	867	
Liquid in K/O Sight Tube (Y/N)	N	
K/O Liquird Drained (gallons)	0	

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)	FLOW (CFM)	ADJUSTMENTS
SVE-2RD		2002		
SVE-3		602		
SVE-5		1632		
SVE-11D		1722		
SVE-13D		1776		

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-1		96.5		
SVE-2RS		597		
SVE-4		1641		
SVE-11S		681		
SVE-13S		1681		
SVE-14S		1115		

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-7D		59.5		
SVE-10		386		
SVE-12S		289		
SVE-15		85.1		

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-6		33.6		
SVE-7S		68.8		
SVE-8		36.7		
SVE-9		11.4		

COMMENTS/OTHER MAINTENANCE:

Generator off, system running off battery

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

DATE: 5-18-22
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)**	2479.5	0934
Pre K/O Vacuum (IWC)	-33	
Post K/O Vacuum (IWC)	-27	
Pitot Tube 3" Flow (cfm)	63	
Leg A Rotameter (scfm)	2.5	
Leg B Rotameter (scfm)	33	
Inlet PID	407	
Exhaust Post GAC PID	528	
Liquid in K/O Sight Tube (Y/N)	N	
K/O Liquird Drained (gallons)	0	

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	1879		
SVE-3	710		
SVE-5	618		
SVE-11D	1706		
SVE-13D	1769		

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1	90.5		
SVE-2RS	695		
SVE-4	1809		
SVE-11S	422		
SVE-13S	1713		
SVE-14S	610		

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D	90.8		
SVE-10	485		
SVE-12S	331		
SVE-15	351		

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-6	67.3		
SVE-7S	95.9		
SVE-8	31.4		
SVE-9	16.2		

COMMENTS/OTHER MAINTENANCE:

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

DATE: 6-1
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)**	2817.5	1139
Pre K/O Vacuum (IWC)	-32	
Post K/O Vacuum (IWC)	-26	
Pitot Tube 3" Flow (cfm)	60	
Leg A Rotameter (scfm)	24	
Leg B Rotameter (scfm)	33	
Inlet PID	246	
Exhaust Post GAC PID	809	
Liquid in K/O Sight Tube (Y/N)	N	
K/O Liquid Drained (gallons)	0	

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		1751	
SVE-3		546	
SVE-5		1692	
SVE-11D		1728	
SVE-13D		1760	

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-1		170	
SVE-2RS		394	
SVE-4		1219	
SVE-11S		653	
SVE-13S		544	
SVE-14S		610	

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-7D		35.3	
SVE-10		326	
SVE-12S		581	
SVE-15		116	

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE-6		58.9	
SVE-7S		91.1	
SVE-8		22.2	
SVE-9		9.2	

COMMENTS/OTHER MAINTENANCE:

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

DATE: 6-13-22 O&M PERSONNEL: D. Burns
TIME ONSITE: 1130 TIME OFFSITE: 1430

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: KO TANK HIGH LEVEL

GENERATOR

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

NA

SVE SYSTEM

	READING	TIME	
Blower Hours (take photo)	3105.8	1153	1410
Pre K/O Vacuum (IWC)	34		32
Post K/O Vacuum (IWC)	28		26
Pitot Tube 3" Flow (cfm)	70		65
Leg A Rotameter (scfm)	28		24
Leg B Rotameter (scfm)	33		25
Inlet PID	414	1235	
Exhaust Post GAC PID	545		
Liquid in K/O Sight Tube (Y/N)	NO		
K/O Liquird Drained (gallons)	NA		

3108.0 ~~3110.~~

HOUSEKEEPING Check

Generator Lubrication	NA
Inline Filter Clean	
Clean Wye Strainer	yes

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID: Influent All Wells SAMPLE TIME: 1235 PID - 414 ppm
Analytes: TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)
OPERATING WELLS: All Wells

ZONES

Change in Well Operation: Following sampling, turned off wells 7D, 15, 6, 7S, +9. Have to open fresh air bypass slightly to keep motor @ 7.7 Amps

LEG A DEEP

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-2RD	19	1316		
SVE-3	18	296		
SVE-5	19	1107		
SVE-11D	19	1,078		
SVE-13D	19	1,117		

LEG A SHALLOW

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-1	13	876		
SVE-2RS	19	1,137		
SVE-4	19	1166		
SVE-11S	18	588		
SVE-13S	19	795		
SVE-14S	19	1235		

LEG B-1

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-7D	18	19		Turned OFF *
SVE-10	19	830		
SVE-12S	19	624		
SVE-15	18	7		OFF *

LEG B-2

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE-6	18	13		OFF *
SVE-7S	18	56		OFF *
SVE-8	19	540		
SVE-9	19	11		OFF *

COMMENTS/OTHER MAINTENANCE:

Unit very dusty. Cleaned off as much as possible. May need to clean KO inlet Filter due to vac differential.

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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 April 6, 2022 at 9:35 AM Hours = 1489.0	
Photograph 2 Runtime meter taken on June 13, 2022 at 11:53 AM Hours = 3108.0	

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

June 23, 2022

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

RE: San Juan 28 6 31 OrderNo.: 2206714

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/14/2022 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 **2206714**
Date Reported: **6/23/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent All Wells
Project: San Juan 28 6 31
Collection Date: 6/13/2022 12:35:00 PM
Lab ID: 2206714-001 **Matrix:** AIR
Received Date: 6/14/2022 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	30	2.0		µg/L	20	6/15/2022 1:33:00 PM
Toluene	89	2.0		µg/L	20	6/15/2022 1:33:00 PM
Ethylbenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,2,4-Trimethylbenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,3,5-Trimethylbenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Naphthalene	ND	4.0		µg/L	20	6/15/2022 1:33:00 PM
1-Methylnaphthalene	ND	8.0		µg/L	20	6/15/2022 1:33:00 PM
2-Methylnaphthalene	ND	8.0		µg/L	20	6/15/2022 1:33:00 PM
Acetone	ND	20		µg/L	20	6/15/2022 1:33:00 PM
Bromobenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Bromodichloromethane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Bromoform	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Bromomethane	ND	4.0		µg/L	20	6/15/2022 1:33:00 PM
2-Butanone	ND	20		µg/L	20	6/15/2022 1:33:00 PM
Carbon disulfide	ND	20		µg/L	20	6/15/2022 1:33:00 PM
Carbon tetrachloride	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Chlorobenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Chloroethane	ND	4.0		µg/L	20	6/15/2022 1:33:00 PM
Chloroform	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Chloromethane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
2-Chlorotoluene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
4-Chlorotoluene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
cis-1,2-DCE	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
cis-1,3-Dichloropropene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	20	6/15/2022 1:33:00 PM
Dibromochloromethane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Dibromomethane	ND	4.0		µg/L	20	6/15/2022 1:33:00 PM
1,2-Dichlorobenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,3-Dichlorobenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,4-Dichlorobenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Dichlorodifluoromethane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,1-Dichloroethane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,1-Dichloroethene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,2-Dichloropropane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,3-Dichloropropane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2206714**
Date Reported: **6/23/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent All Wells
Project: San Juan 28 6 31
Collection Date: 6/13/2022 12:35:00 PM
Lab ID: 2206714-001 **Matrix:** AIR
Received Date: 6/14/2022 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,1-Dichloropropene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Hexachlorobutadiene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
2-Hexanone	ND	20		µg/L	20	6/15/2022 1:33:00 PM
Isopropylbenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
4-Isopropyltoluene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
4-Methyl-2-pentanone	ND	20		µg/L	20	6/15/2022 1:33:00 PM
Methylene chloride	ND	6.0		µg/L	20	6/15/2022 1:33:00 PM
n-Butylbenzene	ND	6.0		µg/L	20	6/15/2022 1:33:00 PM
n-Propylbenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
sec-Butylbenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Styrene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
tert-Butylbenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Tetrachloroethene (PCE)	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
trans-1,2-DCE	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
trans-1,3-Dichloropropene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,2,3-Trichlorobenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,2,4-Trichlorobenzene	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Trichloroethene (TCE)	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Trichlorofluoromethane	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
1,2,3-Trichloropropane	ND	4.0		µg/L	20	6/15/2022 1:33:00 PM
Vinyl chloride	ND	2.0		µg/L	20	6/15/2022 1:33:00 PM
Xylenes, Total	29	3.0		µg/L	20	6/15/2022 1:33:00 PM
Surr: Dibromofluoromethane	94.0	70-130		%Rec	20	6/15/2022 1:33:00 PM
Surr: 1,2-Dichloroethane-d4	81.7	70-130		%Rec	20	6/15/2022 1:33:00 PM
Surr: Toluene-d8	108	70-130		%Rec	20	6/15/2022 1:33:00 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	20	6/15/2022 1:33:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	4600	100		µg/L	20	6/15/2022 1:33:00 PM
Surr: BFB	102	70-130		%Rec	20	6/15/2022 1:33:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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ANALYTICAL SUMMARY REPORT

June 23, 2022

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

Work Order: G22060271
Project Name: 2206714

Energy Laboratories Inc. Gillette WY received the following 1 sample for Hall Environmental on 6/15/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G22060271-001	2206714-001B; Influent All Wells	06/13/22 12:35	06/15/22	Gas	Air Correction Calculations Analysis Corrections 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., 400 W. Boxelder Rd., Gillette, WY 82718, 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 tests results, please contact your Project Manager.

Report Approved By:

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Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

CLIENT: Hall Environmental
Project: 2206714
Work Order: G22060271

Report Date: 06/23/22

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

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LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Hall Environmental
Project: 2206714
Client Sample ID: 2206714-001B; Influent All Wells
Location:
Lab ID: G22060271-001

Report Date: 06/23/22
Collection Date: 06/13/22 12:35
Date Received: 06/15/22
Sampled By: Not Provided

Analyses	Result	Units	Qualifier	Method	Analysis Date / By
GAS CHROMATOGRAPHIC ANALYSIS REPORT					
Oxygen	21.57	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
Nitrogen	77.99	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
Carbon Dioxide	0.25	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
Hydrogen Sulfide	<0.01	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
Methane	<0.01	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
Ethane	<0.01	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
Propane	<0.01	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
Isobutane	<0.01	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
n-Butane	<0.01	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
Isopentane	<0.01	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
n-Pentane	<0.01	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
Hexanes plus	0.19	Mol %		GPA 2261-	06/17/22 15:55 / eli-b
GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS					
Propane	< 0.001	gpm		GPA 2261-	06/17/22 15:55 / eli-b
Isobutane	< 0.001	gpm		GPA 2261-	06/17/22 15:55 / eli-b
n-Butane	< 0.001	gpm		GPA 2261-	06/17/22 15:55 / eli-b
Isopentane	< 0.001	gpm		GPA 2261-	06/17/22 15:55 / eli-b
n-Pentane	< 0.001	gpm		GPA 2261-	06/17/22 15:55 / eli-b
Hexanes plus	0.080	gpm		GPA 2261-	06/17/22 15:55 / eli-b
GPM Total	0.080	gpm		GPA 2261-	06/17/22 15:55 / eli-b
GPM Pentanes plus	0.080	gpm		GPA 2261-	06/17/22 15:55 / eli-b
CALCULATED PROPERTIES					
Gross BTU per cu ft @ Std Cond. (HHV	9			GPA 2261-	06/17/22 15:55 / eli-b
Net BTU per cu ft @ std cond. (LHV)	8			GPA 2261-	06/17/22 15:55 / eli-b
Pseudo-critical Pressure, psia	545			GPA 2261-	06/17/22 15:55 / eli-b
Pseudo-critical Temperature, deg R	241			GPA 2261-	06/17/22 15:55 / eli-b
PHYSICAL PROPERTIES-CALCULATED					
Specific Gravity @ 60/60F	1.00			D3588-81	06/17/22 15:55 / eli-b
COMMENTS					
-				-	06/17/22 15:55 / eli-b

- 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:** G22060271 **Report Date:** 06/22/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**									Batch: R383365
Lab ID: **B22061061-001ADUP**	Sample Duplicate				Run: GCNGA-B_220617A				06/17/22 11:15
Nitrogen	3.88	Mol %	0.01				1.8	20	
Carbon Dioxide	0.06	Mol %	0.01				0.0	20	
Hydrogen Sulfide	<0.01	Mol %	0.01					20	
Methane	95.8	Mol %	0.01				0.1	20	
Ethane	0.24	Mol %	0.01				0.0	20	
Propane	0.02	Mol %	0.01				0.0	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: **LCS061722**	Laboratory Control Sample				Run: GCNGA-B_220617A				06/17/22 15:01
Oxygen	0.59	Mol %	0.01	118	70	130			
Nitrogen	6.02	Mol %	0.01	100	70	130			
Carbon Dioxide	0.99	Mol %	0.01	100	70	130			
Methane	74.5	Mol %	0.01	100	70	130			
Ethane	6.01	Mol %	0.01	100	70	130			
Propane	5.14	Mol %	0.01	104	70	130			
Isobutane	1.98	Mol %	0.01	99	70	130			
n-Butane	1.98	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	0.76	Mol %	0.01	95	70	130			
Lab ID: **B22061486-001ADUP**	Sample Duplicate				Run: GCNGA-B_220617A				06/17/22 16:21
Oxygen	20.0	Mol %	0.01				0.3	20	
Nitrogen	77.8	Mol %	0.01				0.2	20	
Carbon Dioxide	1.57	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	0.59	Mol %	0.01				13	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

G22060271

Login completed by: Jill S. Jeffress
Date Received: 6/15/2022

Reviewed by: Chantel S. Johnson
Received by: csj

Reviewed Date: 6/17/2022
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:	°C		
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-Gillette	COMPANY: Energy Laboratories	PHONE: (866) 686-7175	FAX:
ADDRESS: 400 W Boxelder Rd		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: Gillette, WY 82718			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2206714-001B	Influent All Wells	TEDLAR	Air	6/13/2022 12:35:00 PM	1	Natural Gases O2, CO2 *RUSH 5 DAY TAT*

6220602 71

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: SLA	Date: 6/14/2022	Time: 9:32 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

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: Fed ex Custody tape

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: 2206714 RcptNo: 1

Received By: **Juan Rojas** 6/14/2022 7:05:00 AM

Completed By: **Sean Livingston** 6/14/2022 9:29:41 AM

Reviewed By: JR 6/14/22

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: KPG 6.14.22

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				

Chain-of-Custody Record

Client: Hilcorp
Billy Ginn
Mailing Address:

Phone #:
email or Fax#:
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
5 Day
☒ Standard ☐ Rush
Project Name: San Juan 28-6 #31
Project #:
Project Manager: Stewart Hyde
Sampler: Danny Burns
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 1.0 + 1.0 = 1.0 N/A (°C)

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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2206714	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)	X Fixed Gas O_2 + CO_2	X Full VOCs 8260				
6/13	1235	Air	Inflwent All Wells	2-Ted	NA	001											X	X				

Remarks:
CC: dburns@ensolum.com
dhermann@ensolum.com

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/13/22	1725				6/13/22	1725
6/13/22	1806			courier	6/14/22	705

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 125935

CONDITIONS

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	372171
	Action Number: 125935
	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 October 31, 2022.	9/6/2022