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 – Solar SVE System Update
Scott #4M
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident Number: NCE2003650476
Ensolum Project No. 07A1988016

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Second Quarter 2022 – Solar SVE System Update* report summarizing the solar soil vapor extraction (SVE) system performance at the Scott #4M natural gas production well (Site, shown on Figure 1). The solar soil vapor extraction (SVE) system has operated since January 2021 to remediate subsurface soil impacts of approximately 42 barrels (bbls) of natural gas condensate released from an aboveground storage tank. This report summarizes Site activities performed in April, May, and June of 2022.

SVE SYSTEM SPECIFICATIONS

Currently, a solar SVE system is operating at the Site consisting of a 1/3 horsepower Atlantic Blower AB-91 blower capable of producing a flow of 22 standard cubic feet per minute (scfm) and a vacuum of 29 inches of water column (IWC). Three solar panels, with a total of 915 watts of maximum power output, charge four 12-volt deep cycle batteries that subsequently power the SVE blower. The system operation is controlled by a timer adjusted throughout the year run based on available nominal daylight hours (generally 8 hours per day during the winter and 12 hours per day during the summer).

Seven SVE wells are currently present at the Site (SVE01 through SVE07 shown on Figure 2). SVE wells SVE01 through SVE03 are screened at depth intervals ranging from 25 to 45 feet below ground surface (bgs) in order to remediate deep soil impacts located at the Site. SVE wells SVE04 through SVE 07 are screened at depth intervals ranging from 5 to 25 feet bgs in order to remediate shallow soil impacts at the Site.

SECOND QUARTER 2022 ACTIVITIES

During the second quarter of 2022Ensoum 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. During Site visits, the system timer and the angle of the solar panels were adjusted to account for seasonal variations and maximize system efficiency. Field notes taken during O&M visits are presented in Appendix A.

During the second quarter of 2022, SVE wells SVE01 (deep well) and SVE05 (shallow well) were operated in order to induce flow in both the shallow and deep impacts zones. Between April 4 and June 16, 2022, there were an estimated 803 total hours of available nominal daylight during which time the solar SVE system could operate. Site specific nominal daylight hours were presented in the approved *Update Report and Updated Remediation Workplan* prepared by WSP, Inc. (WSP), dated October 6, 2021, and were based on the Site locations and estimates by the National Oceanic and Atmospheric Administration's National Weather Service. Between these dates, the actual runtime for the system was 847.3 hours, equating to a first quarter 2022 runtime efficiency of 105.5 percent (%). For solar SVE systems, runtime efficiency can be greater than 100 % when the solar panels charge the system's batteries during daylight hours and continue to run the SVE blower for a longer amount of time than the nominal daylight hours available at the Site. Appendix B presents photographs of the runtime meter taken during the first and last field visits of the quarter. Attached Table 1 presents the SVE system runtime compared to nominal available daylight hours per month.

A second quarter 2022 air sample was collected on June 16, 2022 from a 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) in Albuquerque, New Mexico for analysis of total volatile petroleum hydrocarbons (TVPH – also known 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 Processors Association (GPA) Method 2261. Table 2 presents a summary of analytical data collected during this sampling event and historical sampling events, with the full laboratory analytical report included in Appendix C.

Air sample data and measured stack flow rates are used to estimate total mass recovered and total emissions generated by the SVE system (Table 3). Based on these estimates, 5,284 pounds (2.6 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.

In addition, Hilcorp has completed the construction of an upgraded SVE system for the Site, as specified in *Updated Pilot Testing Report* submitted by WSP to the New Mexico Oil Conservation Division (NMOCD) on December 15, 2021. Specifically, the new SVE system consists of a 3-phase, 3.4 horsepower Republic Model KVHRC500 blower capable of producing a flow of 221 scfm and a vacuum of 76 IWC. Hilcorp is working with the Farmington Electric Utility System (FEUS) in order to install a permanent power drop at the Site capable of powering a larger vacuum blower. FEUS is currently working on a right-of-way agreement with the landowner in order to install power poles leading to the Site. Following the installation of electrical power, the SVE system will be moved to the Site, connected, and started.

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
shyde@ensolum.com

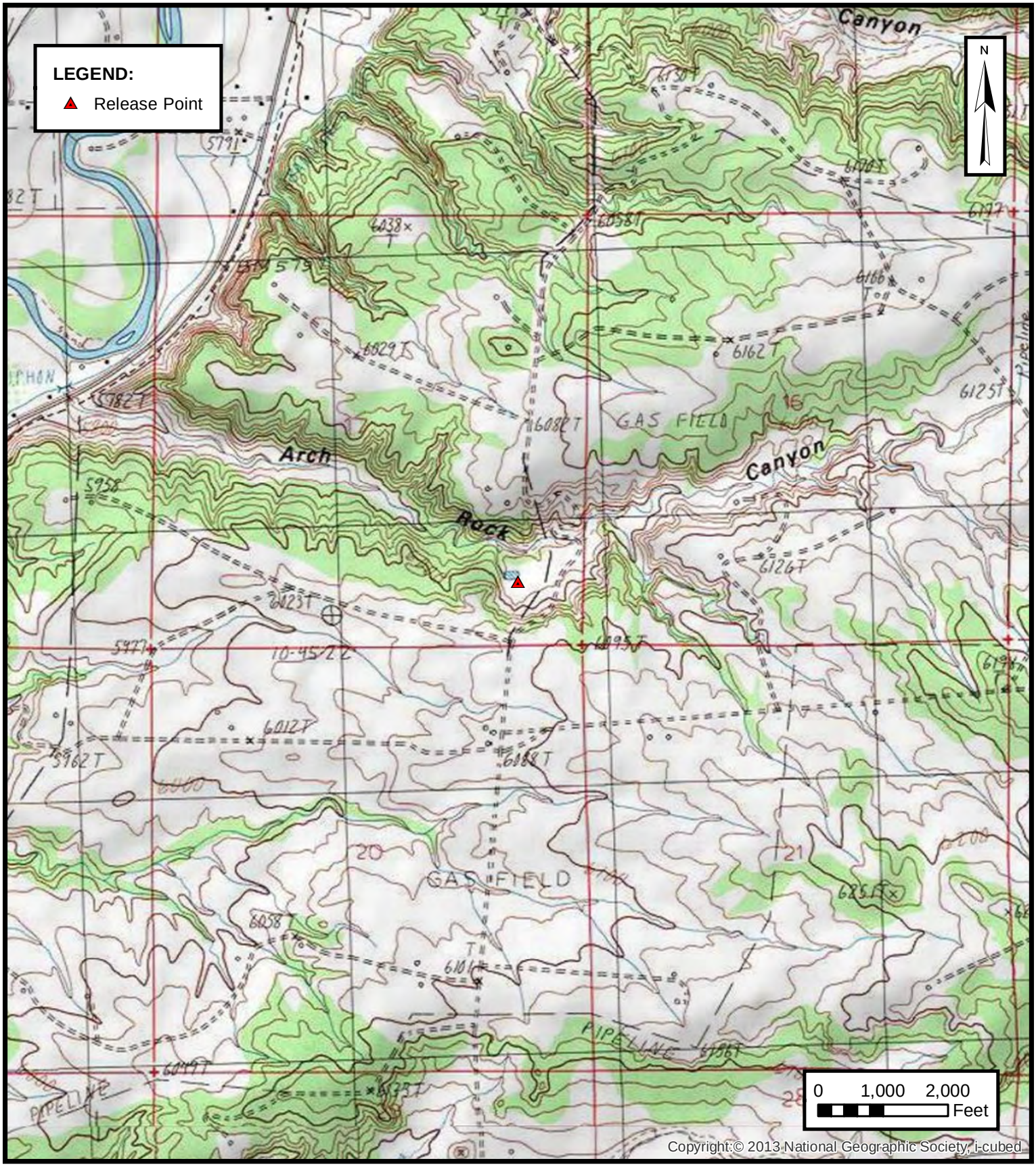
Daniel R. Moir, PG
Senior Managing Geologist
(303) 887-2946
dmoir@ensolum.com

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

ENSOLUM

FIGURES



ENSOLUM
Environmental & Hydrogeologic Consultants

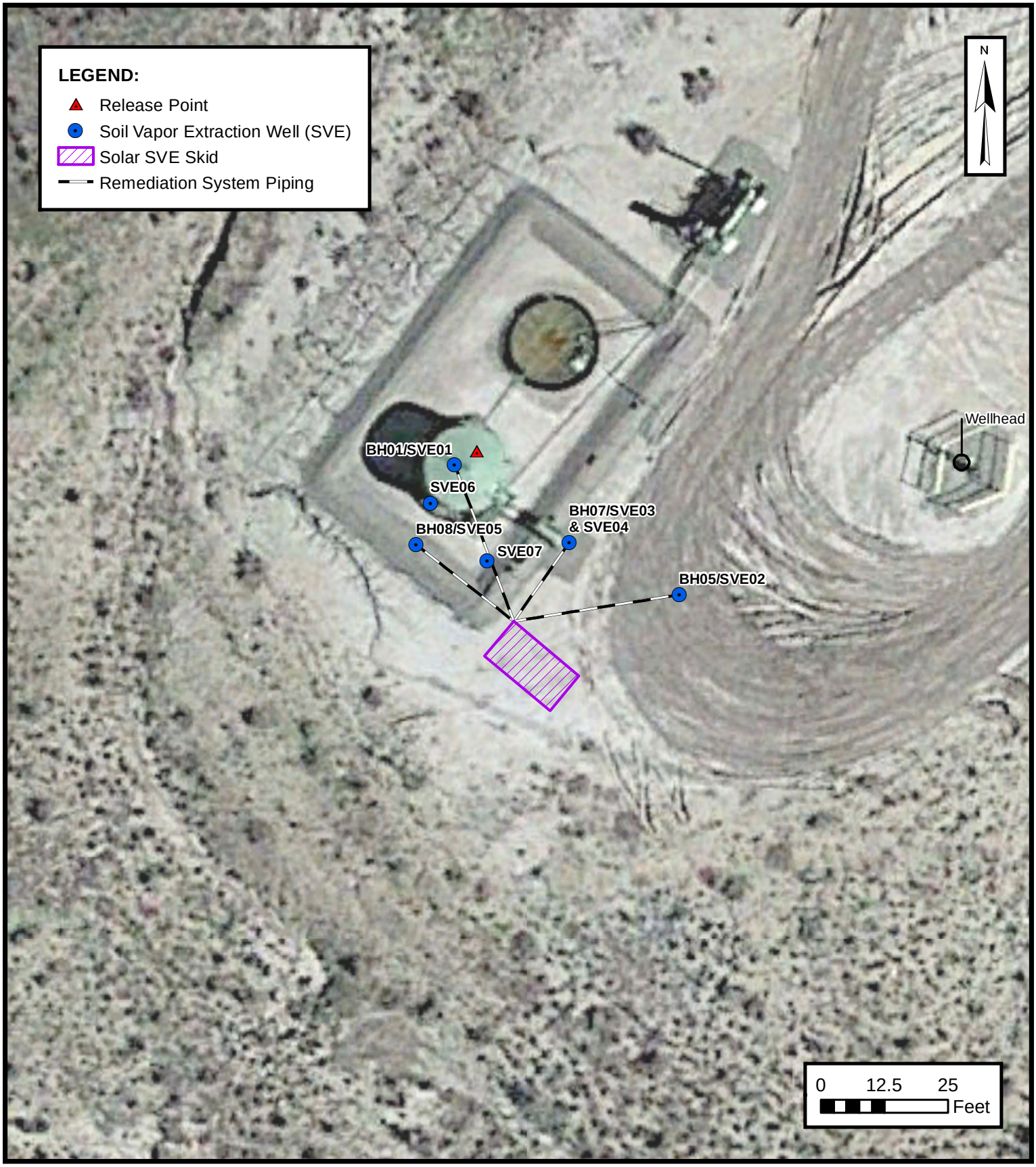
SITE LOCATION

HILCORP ENERGY COMPANY
SCOTT 4M
SESE SEC 17 T31N R1OW, San Juan County, New Mexico
36.893345° N, 107.899185° W

PROJECT NUMBER: 07A1988016

FIGURE

1



ENSOLUM
Environmental & Hydrogeologic Consultants

SVE SYSTEM CONFIGURATION

HILCORP ENERGY COMPANY
SCOTT 4M
SESE SEC 17 T31N R1OW, San Juan County, New Mexico
36.893345° N, 107.899185° W

PROJECT NUMBER: 07A1988016

FIGURE
2

ENSOLUM

TABLES

ENSOLUM

TABLE 1
SOIL VAPOR EXTRACTION SYSTEM RUNTIME CALCULATIONS
Hilcorp Energy Company - Scott #4M
San Juan County, New Mexico

Ensolum Project No. 07A1988016

Date	Total Operational Hours	Delta Hours
4/4/2022	4,062.1	---
6/17/2022	4,909.9	847.8

Time Period	April 4 to April 30, 2022	May 1 to May 31, 2022	June 1 to June 16, 2022
Days	27	31	16
Avg. Nominal Daylight Hours	10	11	12
Available Runtime Hours	270	341	192
		Quarterly Available Daylight Runtime Hours	**803**
		Quarterly Runtime Hours	**847.8**
		Quarterly % Runtime	**105.6%**

Month	Days	Nominal Daylight Hours	Total Month Hours
January	31	8	248
February	28	8	224
March	31	9	279
April	30	10	300
May	31	11	341
June	30	12	360
July	31	12	372
August	31	11	341
September	30	10	300
October	31	10	310
November	30	9	270
December	31	8	248

ENSOLUM

TABLE 2
SOIL VAPOR EXTRACTION SYSTEM EMISSIONS ANALYTICAL RESULTS
Hilcorp Energy Company - Scott #4M
San Juan County, New Mexico

Ensolum Project No. 07A1988016

Date	PID (ppm)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TVPH/GRO (µg/L)	Oxygen (%)	Carbon Dioxide (%)
2/1/2021	118	85	240	10	64	18,000	--	--
9/7/2021	53	40	280	24	240	15,000	--	--
9/29/2021	316	210	1,800	240	2,200	85,000	--	--
12/2/2021	232	48	320	32	310	50,000	16.6%	1.03%
3/15/2022	402	38	430	63	660	18,000	20.8%	0.473%
6/16/2022	89	1.3	13	1.6	17	750	21.6%	0.15%

Notes:

GRO: gasoline range organics

µg/L: microgram per liter

PID: photoionization detector

ppm: parts per million

TVPH: total volatile petroleum hydrocarbons

%: percent

--: not sampled

ENSOLUM

TABLE 3
SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS
Hilcorp Energy Company - Scott #4M
San Juan County, New Mexico

Ensolum Project No. 07A1988016

Flow and Laboratory Analysis

Date	PID (ppm)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TVPH (µg/L)
2/1/2021	118	85	240	10	64	18,000
9/7/2021	53	40	280	24	240	15,000
9/29/2021	316	210	1,800	240	2,200	85,000
12/2/2021	232	48	320	32	310	50,000
3/15/2022	402	38	430	63	660	18,000
6/16/2022	89	1.3	13	1.6	17	750
Average	202	70	514	62	582	31,125

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)
2/1/2021	22	1,980	1,980	0.0070	0.020	0.00082	0.0053	1.5
9/7/2021	22	2,841,168	2,839,188	0.0051	0.021	0.0014	0.013	1.4
9/29/2021	10	2,979,528	138,360	0.0047	0.039	0.0049	0.046	1.9
12/2/2021	3.5	3,106,158	126,630	0.0017	0.014	0.0018	0.016	0.88
3/15/2022	8.0	3,519,486	413,328	0.0013	0.011	0.0014	0.015	1.0
6/16/2022	14	4,412,322	892,836	0.0010	0.012	0.0017	0.018	0.49
			Average	0.0040	0.021	0.0021	0.019	1.3

Flow and Laboratory Analysis

Date	Total SVE System Hours	Delta Hours	Benzene (pounds)	Toluene (pounds)	Ethylbenzene (pounds)	Total Xylenes (pounds)	TVPH (pounds)	TVPH (tons)
2/1/2021	1.5	1.5	0.010	0.030	0.0012	0.0079	2.2	0.0011
9/7/2021	2,152	2,151	11	46	3.0	27	2,920	1.5
9/29/2021	2,383	231	1.1	9.0	1.1	11	431	0.22
12/2/2021	2,986	603	1.0	8.4	1.1	9.9	533	0.27
3/15/2022	3,847	861	1.1	9.7	1.2	12	876	0.44
6/16/2022	4,910	1,063	1.1	12.3	1.8	19	522	0.26
		Total Mass Recovery to Date	15	85	8.2	79	5,284	2.6

Notes:

cf: cubic feet

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

ENSOLUM

APPENDIX A

Field Notes

SCOTT 4M SVE SYSTEM
BIWEEKLY O&M FORM

DATE: 4/4/22 O&M PERSONNEL: Reece Henson
TIME ONSITE: 1315 TIME OFFSITE: 1400

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: KO TANK HIGH LEVEL

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	4062.1	1317
Voltage In	43.6	
Amperage In	8.0	
Voltage Out	27.2	
Amperage Out	12.5	
KiloWatts	0.34	
KiloWatt-Hours	1.8	
Solar Controller Status	Floating	
Pre K/O Vacuum (IWC)	25	
Inlet Rotameter Flow (scfm)	8	
Inlet PID	271	
Exhaust PID	305	
Solar Panel Angle	–	
K/O Tank Drum Level	1.5"	
K/O Liquid Drained (gallons)	–	
Timer Setting	8AM to 6:30 PM	

TIMER SETTINGS	
Month	**Timer Setting**
January	8 AM to 7 PM
February	8 AM to 7 PM
March	8 AM to 8 PM
April	8 AM to 9 PM
May	7 AM to 9 PM
June	6 AM to 9 PM
July	6 AM to 9 PM
August	7 AM to 9 PM
September	8 AM to 9 PM
October	8 AM to 8 PM
November	9 AM to 8 PM
December	8 AM to 6 PM

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID:	**SAMPLE TIME:**
Analytes:	TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)
OPERATING WELLS	05 + 01

Change in Well Operation: –

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE01			
SVE02			
SVE03			
SVE04			
SVE05			
SVE06 (OBSERVATION WELL)			
SVE07 (OBSERVATION WELL)			

COMMENTS/OTHER MAINTENANCE:

change timer setting to 8 AM to 7:30 PM

SCOTT 4M SVE SYSTEM
BIWEEKLY O&M FORM

DATE: 4-19
TIME ONSITE: _____

O&M PERSONNEL: B Sinclair
TIME OFFSITE: _____

SVE SYSTEM - MONTHLY O&M

SVE ALARMS:	KO TANK HIGH LEVEL

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	4233.1	1329
Voltage In		
Amperage In		
Voltage Out		
Amperage Out		
KiloWatts		
KiloWatt-Hours		
Solar Controller Status		
Pre K/O Vacuum (IWC)	17.5	
Inlet Rotameter Flow (scfm)	13.5	
Inlet PID	243	
Exhaust PID	285	
Solar Panel Angle		
K/O Tank Drum Level		
K/O Liquid Drained (gallons)		
Timer Setting		

TIMER SETTINGS	
Month	**Timer Setting**
January	8 AM to 7 PM
February	8 AM to 7 PM
March	8 AM to 8 PM
April	8 AM to 9 PM
May	7 AM to 9 PM
June	6 AM to 9 PM
July	6 AM to 9 PM
August	7 AM to 9 PM
September	8 AM to 9 PM
October	8 AM to 8 PM
November	9 AM to 8 PM
December	8 AM to 6 PM

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID:	**SAMPLE TIME:**
Analytes:	TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)
OPERATING WELLS	1, 5

Change in Well Operation:

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE01		154		
SVE02				
SVE03				
SVE04				
SVE05		227		
SVE06 (OBSERVATION WELL)				
SVE07 (OBSERVATION WELL)				

COMMENTS/OTHER MAINTENANCE:

SCOTT 4M SVE SYSTEM
BIWEEKLY O&M FORM

DATE: 5/6/22 O&M PERSONNEL: Reece Hanson
TIME ONSITE: 1230 TIME OFFSITE: 1310

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: — KO TANK HIGH LEVEL —

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	4425.9	1233
Voltage In	43.5	
Amperage In	6.6	
Voltage Out	27.2	
Amperage Out	10.4	
KiloWatts	0.280	
KiloWatt-Hours	1.5	
Solar Controller Status	Floating	
Pre K/O Vacuum (IWC)	10	
Inlet Rotameter Flow (scfm)	13.5	
Inlet PID	122	
Exhaust PID	135	
Solar Panel Angle	—	
K/O Tank Drum Level	1.5" (inches)	
K/O Liquid Drained (gallons)	—	
Timer Setting	8AM - 7:30 PM ~~7~~	

TIMER SETTINGS	
Month	**Timer Setting**
January	8 AM to 7 PM
February	8 AM to 7 PM
March	8 AM to 8 PM
April	8 AM to 9 PM
May	7 AM to 9 PM
June	6 AM to 9 PM
July	6 AM to 9 PM
August	7 AM to 9 PM
September	8 AM to 9 PM
October	8 AM to 8 PM
November	9 AM to 8 PM
December	8 AM to 6 PM

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID:	**SAMPLE TIME:**
Analytes:	TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)
OPERATING WELLS	SVE-01, 05

Change in Well Operation:

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE01		120	
SVE02		—	
SVE03		—	
SVE04		—	
SVE05		54.0	
SVE06 (OBSERVATION WELL)			
SVE07 (OBSERVATION WELL)			

COMMENTS/OTHER MAINTENANCE:

Change timer setting to ~~7AM to 8PM~~ 8AM to 8PM

SCOTT 4M SVE SYSTEM
BIWEEKLY O&M FORM

DATE: 5-18-22 O&M PERSONNEL: B Sinclair
TIME ONSITE: _____ TIME OFFSITE: _____

SVE SYSTEM - MONTHLY O&M

SVE ALARMS:		KO TANK HIGH LEVEL

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	4571	1501
Voltage In		
Amperage In		
Voltage Out		
Amperage Out		
KiloWatts		
KiloWatt-Hours		
Solar Controller Status		
Pre K/O Vacuum (IWC)	8	
Inlet Rotameter Flow (scfm)	14	
Inlet PID	78.7	
Exhaust PID	92.8	
Solar Panel Angle		
K/O Tank Drum Level		
K/O Liquid Drained (gallons)		
Timer Setting		

TIMER SETTINGS	
Month	**Timer Setting**
January	8 AM to 7 PM
February	8 AM to 7 PM
March	8 AM to 8 PM
April	8 AM to 9 PM
May	7 AM to 9 PM
June	6 AM to 9 PM
July	6 AM to 9 PM
August	7 AM to 9 PM
September	8 AM to 9 PM
October	8 AM to 8 PM
November	9 AM to 8 PM
December	8 AM to 6 PM

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID:	**SAMPLE TIME:**
Analytes:	TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)
OPERATING WELLS	SVE01, SVE05

Change in Well Operation:

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE01		122		
SVE02				
SVE03				
SVE04				
SVE05		19.2		
SVE06 (OBSERVATION WELL)				
SVE07 (OBSERVATION WELL)				

COMMENTS/OTHER MAINTENANCE:

SCOTT 4M 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

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	4739.7	1716
Voltage In		
Amperage In		
Voltage Out		
Amperage Out		
KiloWatts		
KiloWatt-Hours		
Solar Controller Status		
Pre K/O Vacuum (IWC)	8	
Inlet Rotameter Flow (scfm)	14.5	
Inlet PID	66.8	
Exhaust PID	84.7	
Solar Panel Angle		
K/O Tank Drum Level	0	
K/O Liquid Drained (gallons)	0	
Timer Setting		

TIMER SETTINGS	
Month	Timer Setting
January	8 AM to 7 PM
February	8 AM to 7 PM
March	8 AM to 8 PM
April	8 AM to 9 PM
May	7 AM to 9 PM
June	6 AM to 9 PM
July	6 AM to 9 PM
August	7 AM to 9 PM
September	8 AM to 9 PM
October	8 AM to 8 PM
November	9 AM to 8 PM
December	8 AM to 6 PM

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID:
SAMPLE TIME:
Analytes: TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)
OPERATING WELLS: SVE01, SVE05

Change in Well Operation:

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	FLOW (CFM)	ADJUSTMENTS
SVE01	109			
SVE02				
SVE03				
SVE04				
SVE05	17.5			
SVE06 (OBSERVATION WELL)				
SVE07 (OBSERVATION WELL)				

COMMENTS/OTHER MAINTENANCE:

SCOTT 4M SVE SYSTEM
BIWEEKLY O&M FORM

DATE: 6-16-22 O&M PERSONNEL: D. Burns
TIME ONSITE: 0845 TIME OFFSITE: 1000

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: NA KO TANK HIGH LEVEL NA

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	4909.9	0900
Voltage In	39.9	
Amperage In	5.8	
Voltage Out	25.2	
Amperage Out	9.3	
KiloWatts	0.240	
KiloWatt-Hours	0.2	
Solar Controller Status	MPPT BULK	
Pre K/O Vacuum (IWC)	9	
Inlet Rotameter Flow (scfm)	14	
Inlet PID	89	
Exhaust PID	104	
Solar Panel Angle	~50°	
K/O Tank Drum Level	1.5 inches	
K/O Liquid Drained (gallons)	0	
Timer Setting	~~8AM-8PM~~ 5AM-8PM	

TIMER SETTINGS	
Month	Timer Setting
January	
February	
March	
April	
May	
June	5-8
July	
August	
September	
October	
November	
December	

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID: Influent SVE01+05 SAMPLE TIME: 0940
Analytes: TVPH (8015), VOCs (8260), Fixed Gas (CO/CO2/O2)
OPERATING WELLS SVE01 + 05 PID: 61 ppm

Change in Well Operation: None

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE01	7.2	111	
SVE02			
SVE03			
SVE04			
SVE05	2.7	75	
SVE06 (OBSERVATION WELL)			
SVE07 (OBSERVATION WELL)			

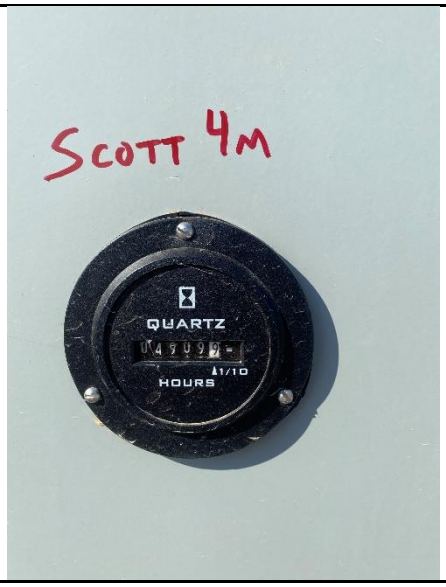
COMMENTS/OTHER MAINTENANCE:

ENSOLUM

APPENDIX B

Project Photographs

PROJECT PHOTOGRAPHS
Scott #4M
San Juan County, New Mexico
Hilcorp Energy Company

Photograph 1 Runtime meter taken on April 4, 2022 at 1:17 PM Hours = 4,062.1	
Photograph 2 Runtime meter taken on June 16, 2022 at 9:00 AM Hours = 4,909.4	

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

July 05, 2022

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

RE: Scott 4M OrderNo.: 2206943

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/17/2022 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 **2206943**
Date Reported: **7/5/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent SVE 01+05
Project: Scott 4M
Collection Date: 6/16/2022 9:40:00 AM
Lab ID: 2206943-001 **Matrix:** AIR
Received Date: 6/17/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	750	25		µg/L	5	6/21/2022 8:55:49 AM
Surr: BFB	232	15-380		%Rec	5	6/21/2022 8:55:49 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	1.3	0.50		µg/L	5	6/21/2022 3:28:00 PM
Toluene	13	0.50		µg/L	5	6/21/2022 3:28:00 PM
Ethylbenzene	1.6	0.50		µg/L	5	6/21/2022 3:28:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,2,4-Trimethylbenzene	0.98	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,3,5-Trimethylbenzene	0.91	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,2-Dichloroethane (EDC)	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,2-Dibromoethane (EDB)	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Naphthalene	ND	1.0		µg/L	5	6/21/2022 3:28:00 PM
1-Methylnaphthalene	ND	2.0		µg/L	5	6/21/2022 3:28:00 PM
2-Methylnaphthalene	ND	2.0		µg/L	5	6/21/2022 3:28:00 PM
Acetone	ND	5.0		µg/L	5	6/21/2022 3:28:00 PM
Bromobenzene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Bromodichloromethane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Bromoform	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Bromomethane	ND	1.0		µg/L	5	6/21/2022 3:28:00 PM
2-Butanone	ND	5.0		µg/L	5	6/21/2022 3:28:00 PM
Carbon disulfide	ND	5.0		µg/L	5	6/21/2022 3:28:00 PM
Carbon tetrachloride	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Chlorobenzene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Chloroethane	ND	1.0		µg/L	5	6/21/2022 3:28:00 PM
Chloroform	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Chloromethane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
2-Chlorotoluene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
4-Chlorotoluene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
cis-1,2-DCE	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
cis-1,3-Dichloropropene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,2-Dibromo-3-chloropropane	ND	1.0		µg/L	5	6/21/2022 3:28:00 PM
Dibromochloromethane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Dibromomethane	ND	1.0		µg/L	5	6/21/2022 3:28:00 PM
1,2-Dichlorobenzene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,3-Dichlorobenzene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,4-Dichlorobenzene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Dichlorodifluoromethane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,1-Dichloroethane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,1-Dichloroethene	ND	0.50		µg/L	5	6/21/2022 3:28:00 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2206943**
Date Reported: **7/5/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent SVE 01+05
Project: Scott 4M
Collection Date: 6/16/2022 9:40:00 AM
Lab ID: 2206943-001 **Matrix:** AIR **Received Date:** 6/17/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,2-Dichloropropane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,3-Dichloropropane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
2,2-Dichloropropane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,1-Dichloropropene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Hexachlorobutadiene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
2-Hexanone	ND	5.0		µg/L	5	6/21/2022 3:28:00 PM
Isopropylbenzene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
4-Isopropyltoluene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
4-Methyl-2-pentanone	ND	5.0		µg/L	5	6/21/2022 3:28:00 PM
Methylene chloride	ND	1.5		µg/L	5	6/21/2022 3:28:00 PM
n-Butylbenzene	ND	1.5		µg/L	5	6/21/2022 3:28:00 PM
n-Propylbenzene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
sec-Butylbenzene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Styrene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
tert-Butylbenzene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Tetrachloroethene (PCE)	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
trans-1,2-DCE	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
trans-1,3-Dichloropropene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,1,1-Trichloroethane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,1,2-Trichloroethane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Trichloroethene (TCE)	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Trichlorofluoromethane	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
1,2,3-Trichloropropane	ND	1.0		µg/L	5	6/21/2022 3:28:00 PM
Vinyl chloride	ND	0.50		µg/L	5	6/21/2022 3:28:00 PM
Xylenes, Total	17	0.75		µg/L	5	6/21/2022 3:28:00 PM
Surr: Dibromofluoromethane	90.4	70-130		%Rec	5	6/21/2022 3:28:00 PM
Surr: 1,2-Dichloroethane-d4	78.0	70-130		%Rec	5	6/21/2022 3:28:00 PM
Surr: Toluene-d8	108	70-130		%Rec	5	6/21/2022 3:28:00 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	5	6/21/2022 3:28:00 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	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 range due to dilution or matrix interference		

ENERGY LABORATORIES
Trust our People. Trust our Data.
www.energylab.com
Billings, MT 800.735.4489 • Casper, WY 888.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

ANALYTICAL SUMMARY REPORT

June 30, 2022

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

Work Order: G22060373
Project Name: 2206943

Energy Laboratories Inc. Gillette WY received the following 1 sample for Hall Environmental on 6/21/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G22060373-001	2206943-001B; Influent SVE 01+05	06/16/22 9:40	06/21/22	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:

ENERGY LABORATORIES
Trust our People. Trust our Data.
www.energylab.com
Billings, MT 800.735.4489 • Casper, WY 888.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

CLIENT: Hall Environmental
Project: 2206943
Work Order: G22060373

Report Date: 06/30/22

CASE NARRATIVE

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

ENERGY LABORATORIES
Trust our People. Trust our Data.
www.energylab.com
Billings, MT 800.735.4489 • Casper, WY 888.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Hall Environmental
Project: 2206943
Client Sample ID: 2206943-001B; Influent SVE 01+05
Location:
Lab ID: G22060373-001

Report Date: 06/30/22
Collection Date: 06/16/22 09:40
Date Received: 06/21/22
Sampled By: Not Provided

Analyses	Result	Units	Qualifier	Method	Analysis Date / By
GAS CHROMATOGRAPHIC ANALYSIS REPORT					
Oxygen	21.57	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
Nitrogen	77.86	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
Carbon Dioxide	0.15	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
Hydrogen Sulfide	<0.01	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
Methane	0.38	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
Ethane	0.03	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
Propane	0.01	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
Isobutane	<0.01	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
n-Butane	<0.01	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
Isopentane	<0.01	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
n-Pentane	<0.01	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
Hexanes plus	<0.01	Mol %		GPA 2261-	06/27/22 12:46 / eli-b
GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS					
Propane	0.003	gpm		GPA 2261-	06/27/22 12:46 / eli-b
Isobutane	< 0.001	gpm		GPA 2261-	06/27/22 12:46 / eli-b
n-Butane	< 0.001	gpm		GPA 2261-	06/27/22 12:46 / eli-b
Isopentane	< 0.001	gpm		GPA 2261-	06/27/22 12:46 / eli-b
n-Pentane	< 0.001	gpm		GPA 2261-	06/27/22 12:46 / eli-b
Hexanes plus	< 0.001	gpm		GPA 2261-	06/27/22 12:46 / eli-b
GPM Total	0.003	gpm		GPA 2261-	06/27/22 12:46 / eli-b
GPM Pentanes plus	< 0.001	gpm		GPA 2261-	06/27/22 12:46 / eli-b
CALCULATED PROPERTIES					
Gross BTU per cu ft @ Std Cond. (HHV	5			GPA 2261-	06/27/22 12:46 / eli-b
Net BTU per cu ft @ std cond. (LHV)	4			GPA 2261-	06/27/22 12:46 / eli-b
Pseudo-critical Pressure, psia	546			GPA 2261-	06/27/22 12:46 / eli-b
Pseudo-critical Temperature, deg R	240			GPA 2261-	06/27/22 12:46 / eli-b
PHYSICAL PROPERTIES-CALCULATED					
Specific Gravity @ 60/60F	0.997			D3588-81	06/27/22 12:46 / eli-b
COMMENTS					
-				-	06/27/22 12:46 / 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)

ENERGY LABORATORIES
Trust our People. Trust our Data.
www.energylab.com
Billings, MT 800.735.4489 • Casper, WY 888.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** G22060373 **Report Date:** 06/30/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**								Batch: R383813	
Lab ID: **B22062144-001ADUP**	Sample Duplicate				Run: GCNGA-B_220627A			06/27/22 09:47	
Oxygen	21.1	Mol %	0.01				0.1	20	
Nitrogen	78.2	Mol %	0.01				0	20	
Carbon Dioxide	0.74	Mol %	0.01				1.4	20	
Hydrogen Sulfide	<0.01	Mol %	0.01					20	
Methane	<0.01	Mol %	0.01					20	
Ethane	<0.01	Mol %	0.01					20	
Propane	<0.01	Mol %	0.01					20	
Isobutane	<0.01	Mol %	0.01					20	
n-Butane	<0.01	Mol %	0.01					20	
Isopentane	<0.01	Mol %	0.01					20	
n-Pentane	<0.01	Mol %	0.01					20	
Hexanes plus	<0.01	Mol %	0.01					20	
Lab ID: **B22062161-002ADUP**	Sample Duplicate				Run: GCNGA-B_220627A			06/27/22 11:37	
Oxygen	21.2	Mol %	0.01				0.1	20	
Nitrogen	77.5	Mol %	0.01				0	20	
Carbon Dioxide	0.39	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				67	20	R
n-Butane	0.02	Mol %	0.01				40	20	R
Isopentane	0.04	Mol %	0.01				22	20	R
n-Pentane	0.05	Mol %	0.01				18	20	
Hexanes plus	0.75	Mol %	0.01				5.5	20	
Lab ID: **LCS062722**	Laboratory Control Sample				Run: GCNGA-B_220627A			06/27/22 14:44	
Oxygen	0.59	Mol %	0.01	118	70	130			
Nitrogen	6.07	Mol %	0.01	101	70	130			
Carbon Dioxide	1.00	Mol %	0.01	101	70	130			
Methane	74.3	Mol %	0.01	99	70	130			
Ethane	6.09	Mol %	0.01	101	70	130			
Propane	5.08	Mol %	0.01	103	70	130			
Isobutane	2.01	Mol %	0.01	100	70	130			
n-Butane	2.01	Mol %	0.01	100	70	130			
Isopentane	1.02	Mol %	0.01	102	70	130			
n-Pentane	1.01	Mol %	0.01	101	70	130			
Hexanes plus	0.78	Mol %	0.01	98	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

R - Relative Percent Difference (RPD) exceeds advisory limit

ENERGY LABORATORIES
Trust our People. Trust our Data.
www.energylab.com
Billings, MT 800.735.4489 • Casper, WY 888.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

Work Order Receipt Checklist

Hall Environmental

G22060373

Login completed by: Jill S. Jeffress
Date Received: 6/21/2022

Reviewed by: Misty Stephens
Received by: jsj

Reviewed Date: 6/23/2022
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	2206943-001B	Influent SVE 01+05	TEDLAR	Air	6/16/2022 9:40:00 AM	1	Natural Gas 02, CO2

C22060373

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: cmc	Date: 6/17/2022	Time: 7:54 AM	Received By: Jill T 6/21/22	Date: 1034	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: _____

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: **2206943** RcptNo: 1

Received By: **Juan Rojas** **6/17/2022 7:00:00 AM**

Completed By: **Cheyenne Cason** **6/17/2022 7:52:52 AM**

Reviewed By: JR 6/17/22

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 CMC 6/17/22

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	Yes			

Chain-of-Custody Record

Client: Hilcorp Energy Co.
-Mitch Killough

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:
Scott 4M

Project #:

Project Manager:
Stuart Hyde

Sampler: D. Burns
On Ice: ☐ Yes ☒ No
# of Coolers: 1
Cooler Temp(including CF): N/A (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2206943	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)	Full VOCs 8260	Fixed Gas CO_2 O_2				
6-16-22	0940	Air	Inflwent SVE 01+05	2-Tedlar	NA	001		X									X	X				

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6-16-22	1430				6/16/22	1430
6/16/22	1801			courier	6/17/22	7:00

Remarks:
cc: dburns@ensolum.com
ecarroll@ensolum.com
dhencmann@ensolum.com

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

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

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

CONDITIONS

Action 124691

CONDITIONS

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	372171
	Action Number: 124691
	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