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April 15, 2024

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

Re: First Quarter 2024 – SVE System Update
San Juan 32-9 #41A
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident No: NAPP2108949980

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *First Quarter 2024 – SVE System Update* report summarizing the soil vapor extraction (SVE) system performance at the San Juan 32-9 #41A natural gas production well (Site) on land managed by the Bureau of Land Management (BLM) in Unit P, Section 31, Township 32 North, Range 9 West in San Juan County, New Mexico (Figure 1). The SVE system was put into full time operation on October 9, 2023, to remediate subsurface soil impacts resulting from approximately 15 barrels (bbls) of natural gas condensate released from an aboveground storage tank. This report summarizes Site activities performed in January, February, and March 2024.

SVE SYSTEM SPECIFICATIONS

The SVE system at the Site consists of a 3-phase, 5 horsepower Howden Roots 32 URAI rotary lobe blower capable of producing 112 cubic feet per minute (cfm) flow at 82 inches of water column (IWC) vacuum. The system is powered by a permanent power drop and is intended to run 24 hours per day. Three SVE wells are currently in operation and are shown on Figure 2. SVE wells SVE01, SVE02, and SVE03 are screened to 16 feet below ground surface (bgs) to address residual soil impacts in the unsaturated zone.

FIRST QUARTER 2024 ACTIVITIES

The SVE system began operation on October 9, 2023. Based on the New Mexico Oil Conservation Division (NMOCD) Conditions of Approval (COAs), dated March 29, 2023, field data measurements were collected from the system biweekly throughout first quarter 2024. Field measurements included the following parameters: total system flow, estimated flow rates from each SVE well, photoionization detector (PID) measurements of volatile organic compounds (VOCs) from each SVE well, vacuum measurements from each SVE well, and oxygen/carbon dioxide measurements via hand-held analyzers from each SVE well. Field notes taken during operations and maintenance (O&M) visits are presented in Appendix A.

Since startup, all Site SVE wells were operated in order to induce flow in impacted soil zones. Between December 28, 2023, and March 19, 2024, the SVE system operated for 1,940.9 hours for a runtime efficiency of 99 percent (%). Appendix B presents photographs of the runtime meter

for calculating the first quarter 2024 runtime efficiency. Table 1 presents the SVE system operational hours and calculated percent runtime.

Based on the March 2023 COAs, vapor samples were collected from a sample port located between the SVE piping manifold and the SVE blower using a high vacuum air sampler bimonthly following the first quarter of operation. Prior to collection, the vapor sample was field screened with a PID for organic vapor monitoring (OVM). The vapor sample was collected directly into two 1-Liter Tedlar® bags and submitted to Hall Environmental Analysis Laboratory (now Eurofins Environment Testing) 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, VOCs following EPA Method 8260B, and fixed gas analysis of oxygen and carbon dioxide following Gas Processors Association (GPA) Method 2261. Tables 2 and 3 present a summary of field measurements and analytical data, respectively, collected between December 2023 and March 2024. Note: analytical data from the last sampling event of fourth quarter 2023, conducted on December 28, 2023, had not been received from the laboratory at the time of previous quarterly report submittal; this data is included in this report. Full laboratory analytical reports are attached as Appendix C. Graphs 1 and 2 present oxygen and carbon dioxide levels over time, respectively.

Vapor sample data and measured influent flow rates are used to estimate total mass recovered and total emissions generated by the SVE system (Table 4). Based on these estimates, 3,262 pounds (1.63 tons) of TVPH have been removed by the system to date. No phase-separated hydrocarbons were recovered from the system during the O&M and sampling period described above.

DISCUSSION AND RECOMMENDATIONS

Ensolum installed pitot tubes to replace the individual well rotameters in January 2024 in order to obtain more accurate data on the individual well legs.

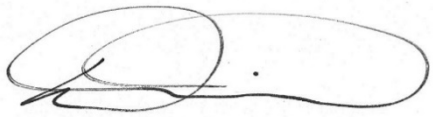
A decrease in total system flow rate was observed throughout the quarter and is attributed to issues with condensation buildup passing through the knockout tank and into the blower, causing a drop in performance. The blower was serviced in February 2024 and returned into service; however, following a planned maintenance shut down on March 19, 2024, the blower could not be restarted, and the motor could not be turned over by hand. Blower evaluation identified that moisture buildup had caused the motor to seize, and the blower would need to be replaced. A replacement blower was procured at the end of March 2024; however, the existing blower was able to be restarted without replacement on March 27, 2024. Demister material will be installed within the knockout tank prior to to minimize the risk of moisture buildup and associated damage.

Monthly O&M visits, at a minimum, and bi-monthly (every other month) sampling events will continue to be performed by Ensolum and/or Hilcorp personnel to ensure 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



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Attachments:

Figure 1	Site Location Map
Figure 2	SVE System Radius of Influence and Radius of Effect
Table 1	Soil Vapor Extraction System Runtime Calculations
Table 2	Soil Vapor Extraction System Field Measurements
Table 3	Soil Vapor Extraction System Air Analytical Results
Table 4	Soil Vapor Extraction System Mass Removal and Emissions
Graph 1	Oxygen vs Time
Graph 2	Carbon Dioxide vs Time
Appendix A	Field Notes
Appendix B	Project Photographs
Appendix C	Laboratory Analytical Reports

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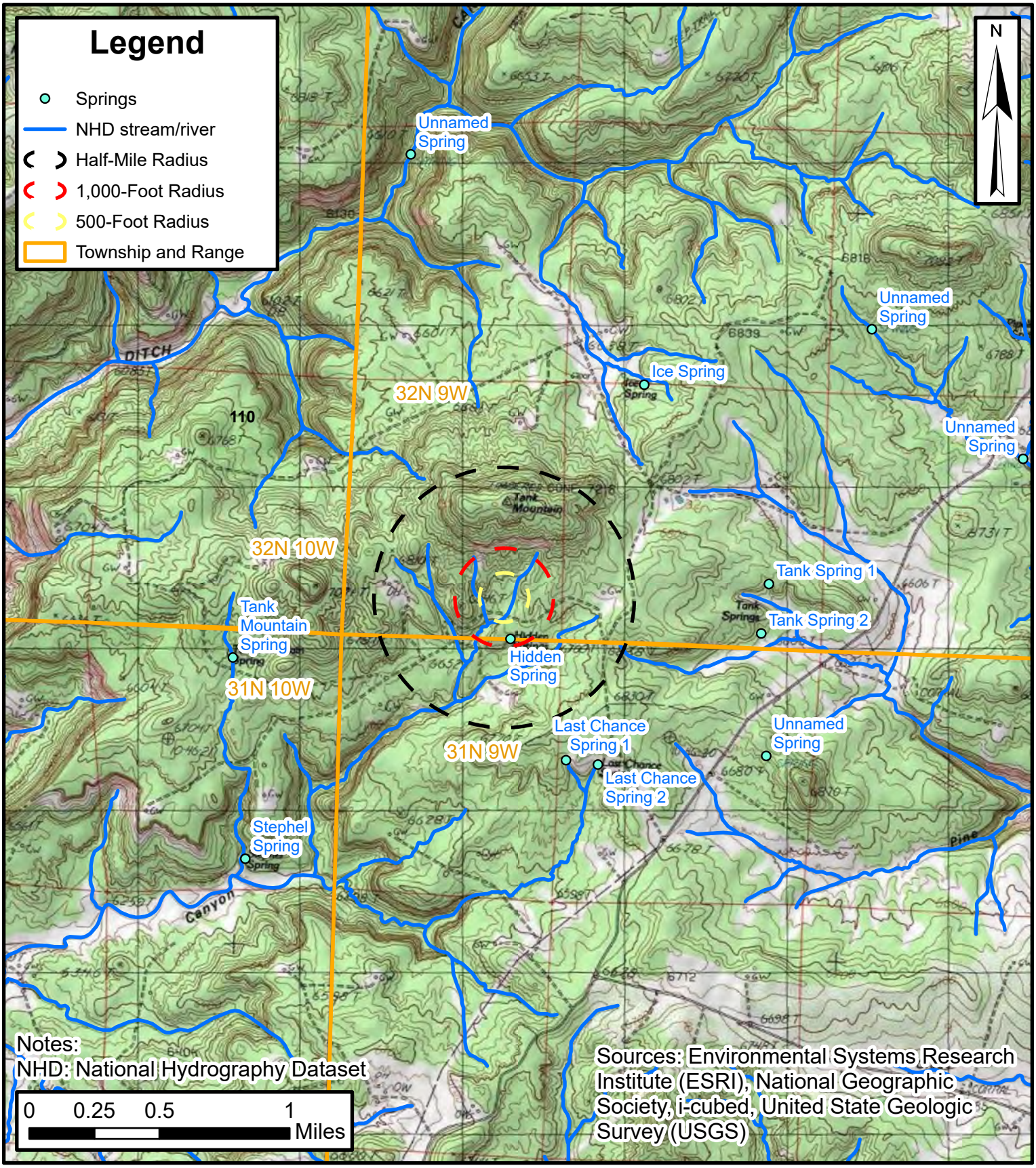
Figures



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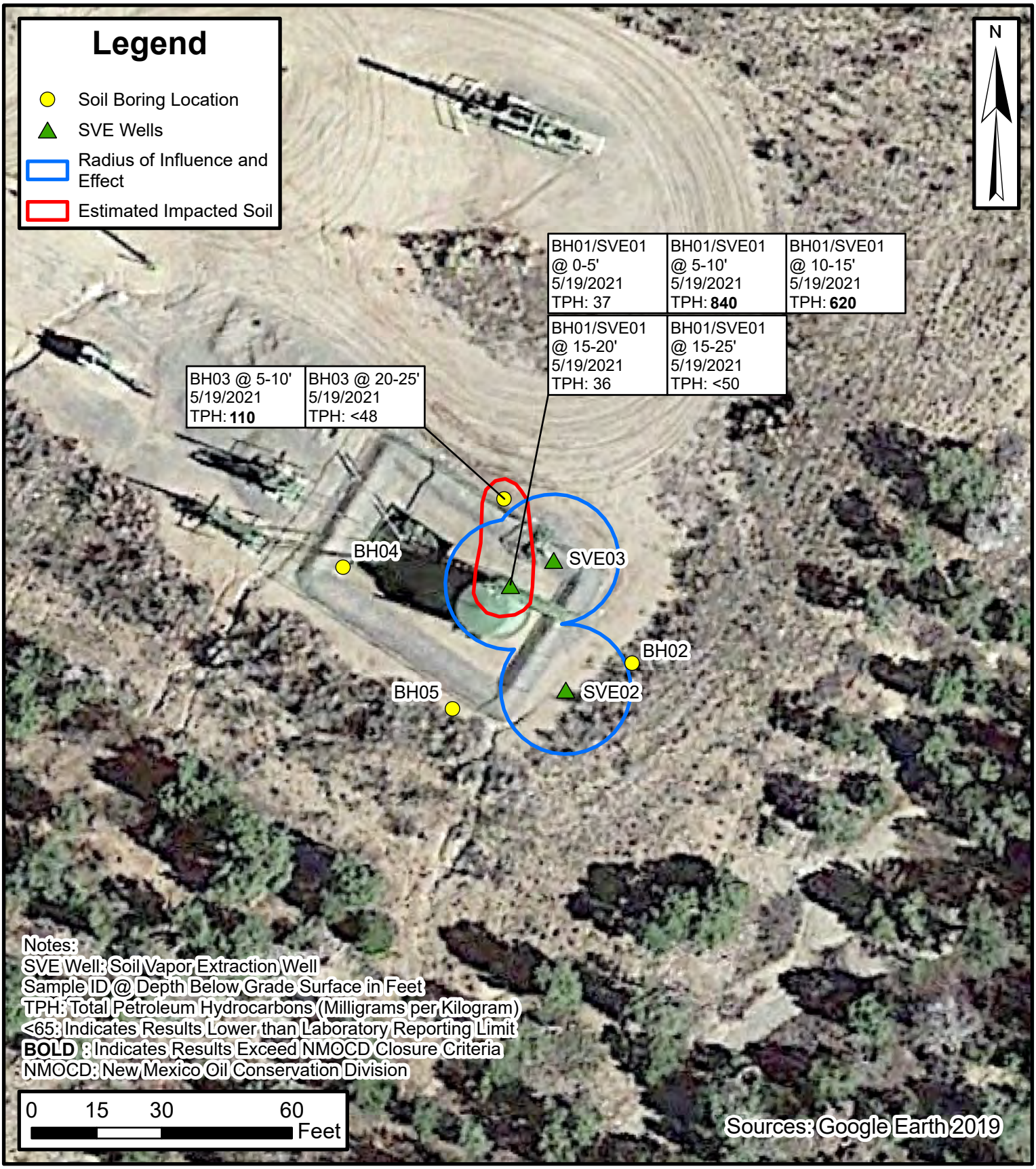
Site Location Map

San Juan 32-9 #41A
Hilcorp Energy Company
SEC 31-T32N-R9W
San Juan County, New Mexico

FIGURE
1



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SVE System Radius of Influence and Radius of Effect

San Juan 32-9 #41A
Hilcorp Energy Company
SEC 31-T32N-R9W
San Juan County, New Mexico

FIGURE
2

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Tables & Graphs

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TABLE 1
SOIL VAPOR EXTRACTION SYSTEM RUNTIME CALCULATIONS
San Juan 32-9 #41A
Hilcorp Energy Company
San Juan County, New Mexico

Date	Total Operational Hours	Delta Hours	Days	Quarterly Percent Runtime	Percent Runtime
10/9/2023	1.3	Startup			
12/28/2023	1,916.1	1,914.8	80	100%	100%
3/19/2024	3,857.0	1,940.9	82	99%	99%

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TABLE 2
SOIL VAPOR EXTRACTION SYSTEM FIELD MEASUREMENTS
San Juan 32-9 #41A
Hilcorp Energy Company
San Juan County, New Mexico

SVE Well ID	Date	PID (ppm)	Differential Pressure (IWC)	Flow Rate (acfm)	Flow Rate (scfm)[1][2]	Vacuum (IWC)	Vacuum (psi)	Oxygen (%)	Carbon Dioxide (%)
Influent, All Wells	10/9/2023	1,783	3.4	161	99	88.0	3.2	20.9	0.00
	10/10/2023	1,646	3.4	161	99	90.0	3.2	20.9	0.00
	10/13/2023	667	4.1	177	118	62.0	2.2	20.1	0.62
	10/19/2023	2,143	4.9	194	133	52.0	1.9	20.5	0.40
	10/26/2023	195	5.2	199	137	52.0	1.9	--	--
	10/31/2023	440	5.2	199	138	49.0	1.8	--	--
	11/8/2023	422	5.2	199	136	52.0	1.9	19.8	0.00
	11/16/2023	541	5.2	199	137	51.7	1.9	--	--
	11/28/2023	91	5.3	201	137	54.4	2.0	--	--
	12/7/2023	231	6.0	214	147	50.0	1.8	--	--
	12/13/2023	317	5.6	207	141	54.4	2.0	--	--
	12/28/2023	232	5.7	209	140	59.8	2.2	--	--
	1/19/2024	173	5.0	195	129	62.0	2.2	20.9	0.16
	2/7/2024	112	3.4	161	86	131.9	4.8	--	--
	2/20/2024	282	3.9	172	93	127.8	4.6	--	--
	3/5/2024	180	4.0	174	95	125.1	4.5	--	--
	3/19/2024	--	--	--	--	--	--	--	--
SVE01	10/9/2023	1,816	--	--	34	72.1	2.6	20.9	0.00
	10/10/2023	1,734	--	--	38	73.4	2.6	20.9	0.00
	10/13/2023	395	--	--	>50	39.0	1.4	20.9	0.22
	10/19/2023	435	--	--	>50	26.0	0.9	20.7	0.28
	10/26/2023	116	--	--	>50	26.0	0.9	20.2	0.00
	10/31/2023	368	--	--	>50	1.8	0.1	20.5	0.18
	11/8/2023	437	--	--	>50	22.0	0.8	20.0	0.08
	11/16/2023	514	--	--	>50	21.7	0.8	19.2	0.18
	11/28/2023	55	--	--	>50	22.7	0.8	19.8	0.02
	12/7/2023	240	--	--	>50	22.7	0.8	19.1	0.06
	12/13/2023	137	--	--	>50	22.7	0.8	19.2	0.00
	12/28/2023	275	--	--	>50	33.3	1.2	19.1	0.02
	1/19/2024	274	--	--	>50	28.0	1.0	20.9	0.12
	2/7/2024	372	0.1	26	15	116.3	4.2	20.9	0.09
	2/20/2024	343	0.5	61	35	110.9	4.0	20.9	0.13
	3/5/2024	276	0.5	59	34	104.3	3.8	20.9	0.12
	3/19/2024	--	--	--	--	--	--	--	--
SVE02	10/9/2023	307	--	--	2	80.7	2.9	20.9	0.00
	10/10/2023	291	--	--	2	83.8	3.0	20.9	0.00
	10/13/2023	84	--	--	<2	48.0	1.7	20.9	0.16
	10/19/2023	28	--	--	<2	46.0	1.7	20.9	0.28
	10/26/2023	46	--	--	--	48.0	1.7	20.7	0.00
	10/31/2023	8	--	--	3	3.2	0.1	20.9	0.04
	11/8/2023	49	--	--	5	44.0	1.6	19.6	0.54
	11/16/2023	95	--	--	2	36.5	1.3	19.1	0.46
	11/28/2023	108	--	--	3	37.5	1.4	19.6	0.04
	12/7/2023	66	--	--	5	39.0	1.4	19.1	0.10
	12/13/2023	50	--	--	2	39.0	1.4	19.1	0.16
	12/28/2023	30	--	--	5	44.8	1.6	19.1	0.00
	1/19/2024	37	--	--	4	50.0	1.8	20.9	0.44
	2/7/2024	56	0.0	9	7	20.1	0.7	20.9	0.07
	2/20/2024	105	0.0	0	0	46.6	1.7	20.9	0.07
	3/5/2024	96	0.0	0	0	36.1	1.3	20.9	0.04
	3/19/2024	--	--	--	--	--	--	--	--

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TABLE 2
SOIL VAPOR EXTRACTION SYSTEM FIELD MEASUREMENTS
San Juan 32-9 #41A
Hilcorp Energy Company
San Juan County, New Mexico

SVE Well ID	Date	PID (ppm)	Differential Pressure (IWC)	Flow Rate (acfm)	Flow Rate (scfm)[1][2]	Vacuum (IWC)	Vacuum (psi)	Oxygen (%)	Carbon Dioxide (%)
SVE03	10/9/2023	524	--	--	26	76.3	2.8	20.1	0.00
	10/10/2023	411	--	--	24	77.2	2.8	19.2	0.00
	10/13/2023	448	--	--	18	43.0	1.6	20.3	0.64
	10/19/2023	180	--	--	14	38.0	1.4	20.7	0.34
	10/26/2023	77	--	--	14	52.0	1.9	20.3	0.00
	10/31/2023	63	--	--	14	35.4	1.3	20.9	0.04
	11/8/2023	312	--	--	14	36.0	1.3	19.1	0.72
	11/16/2023	315	--	--	14	29.4	1.1	19.1	0.26
	11/28/2023	48	--	--	14	33.2	1.2	19.6	0.06
	12/7/2023	134	--	--	30	32.0	1.2	19.0	0.24
	12/13/2023	112	--	--	14	36.2	1.3	19.1	0.14
	12/28/2023	71	--	--	15	38.1	1.4	19.1	0.08
	1/19/2024	85	--	--	16	28.0	1.0	20.9	0.20
	2/7/2024	33	0.6	69	50	28.0	1.0	20.9	0.05
	2/20/2024	64	0.6	69	39	111.4	4.0	20.9	0.06
	3/5/2024	50	0.9	85	48	111.5	4.0	20.9	0.06
	3/19/2024	--	--	--	--	--	--	--	--

Notes:

(1): individual well flow rates in scfm estimated based on rotometer field measurements

(2): total system flow rates in scfm calculated based on pitot tube differential pressure measurements

IWC: inches of water column

PID: photoionization detector

ppm: parts per million

acfm: actual cubic feet per minute

scfm: standard cubic feet per minute

%: percent

--: not measured

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TABLE 3
SOIL VAPOR EXTRACTION SYSTEM EMISSIONS ANALYTICAL RESULTS
San Juan 32-9 #41A
Hilcorp Energy Company
San Juan County, New Mexico

Date	PID (ppm)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TVPH/GRO (µg/L)	Oxygen (%)	Carbon Dioxide (%)
10/9/2023	1,574	46	130	13	130	17,000	19.92%	1.81%
10/10/2023	1,483	17	73	7.6	76	13,000	20.56%	1.03%
10/19/2023	397	<5.0	39	<5.0	110	5,400	21.40%	0.42%
10/31/2023	440	<1.0	14	2.0	73	2,100	21.49%	0.35%
11/8/2023	422	<0.50	12	2.0	92	3,400	21.56%	0.28%
11/16/2023	541	<5.0	9.6	<5.0	64	2,600	21.43%	0.23%
11/28/2023	91	<0.10	0.91	0.14	6.6	350	21.67%	0.06%
12/13/2023	317	<0.50	3.3	0.60	27	1,400	21.72%	0.18%
12/28/2023	232	<0.50	2.7	0.59	23	1,400	21.56%	0.19%
1/19/2024	173	<0.50	1.3	<0.50	8.1	560	21.78%	0.17%
3/5/2024	180	0.49	9.9	<2.0	21	980	21.78%	0.21%

Notes:

GRO: gasoline range hydrocarbons

µg/L: microgram per liter

PID: photoionization detector

ppm: parts per million

TVPH: total volatile petroleum hydrocarbons

%: percent

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

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TABLE 4
SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS
San Juan 32-9 #41A
Hilcorp Energy Company
San Juan County, New Mexico

Laboratory Analysis

Date	PID (ppm)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TVPH (µg/L)
10/9/2023	1,574	46	130	13	130	17,000
10/10/2023	1,483	17	73	7.6	76	13,000
10/19/2023	397	*5.0*	39	*5.0*	110	5,400
10/31/2023	440	*1.0*	14	2.0	73	2,100
11/8/2023	422	*0.50*	12	2.0	92	3,400
11/16/2023	541	*5.0*	10	*5.0*	64	2,600
11/28/2023	91	*0.10*	0.91	0.14	6.6	350
12/13/2023	317	*0.50*	3.3	0.60	27	1,400
12/28/2023	232	*0.50*	2.7	0.59	23	1,400
1/19/2024	173	*0.50*	1.3	*0.50*	8.1	560
3/5/2024	180	*0.50*	9.9	*2.0*	21	980
Average	532	7	27	3	57	4,381

Vapor Extraction Summary

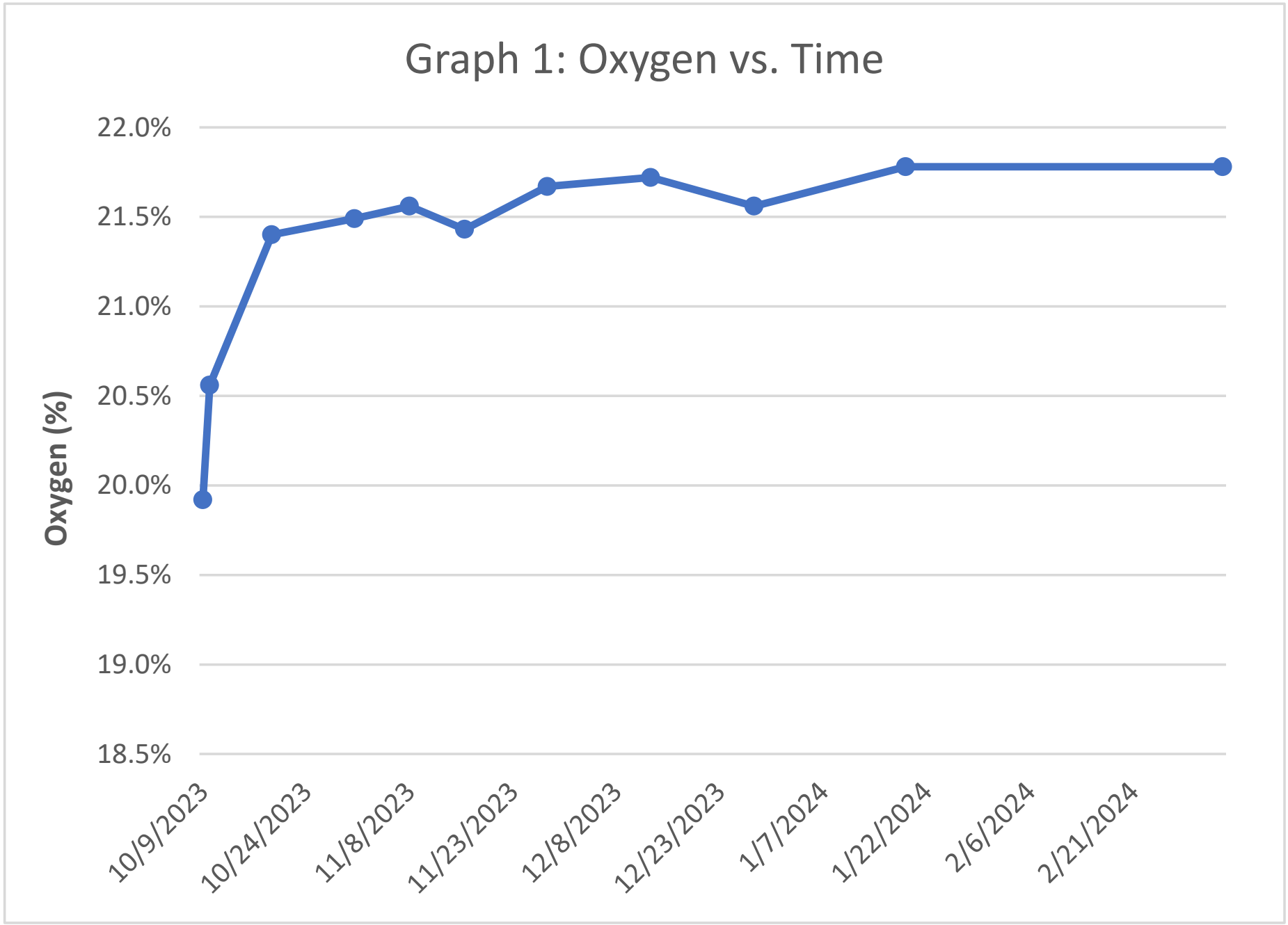
Date	Flow Rate (scfm)	Total System Flow (cf)	Delta Flow (cf)	Benzene (lb/hr)	Toluene (lb/hr)	Ethylbenzene (lb/hr)	Total Xylenes (lb/hr)	TVPH (lb/hr)
10/9/2023	System Startup							
10/10/2023	99	152,658	152,658	0.0117	0.038	0.0038	0.038	5.6
10/19/2023	133	1,872,348	1,719,690	0.0048	0.024	0.0027	0.040	4.0
10/31/2023	138	4,228,836	2,356,488	0.00152	0.0134	0.00177	0.046	1.9
11/8/2023	136	--	--	--	--	--	--	--
11/16/2023	137	7,402,578	3,173,742	0.00154	0.0061	0.00180	0.035	1.21
11/28/2023	137	9,767,472	2,364,894	0.00131	0.0027	0.00132	0.018	0.76
12/13/2023	141	12,791,076	3,023,604	0.00016	0.0011	0.00019	0.009	0.45
12/28/2023	140	15,806,676	3,015,600	0.00026	0.0016	0.00031	0.013	0.74
1/19/2024	129	19,893,396	4,086,720	0.00025	0.0010	0.00027	0.008	0.49
3/5/2024	95	26,037,996	6,144,600	0.00021	0.0023	0.00052	0.006	0.32
			Average	0.0024	0.010	0.0014	0.024	1.7

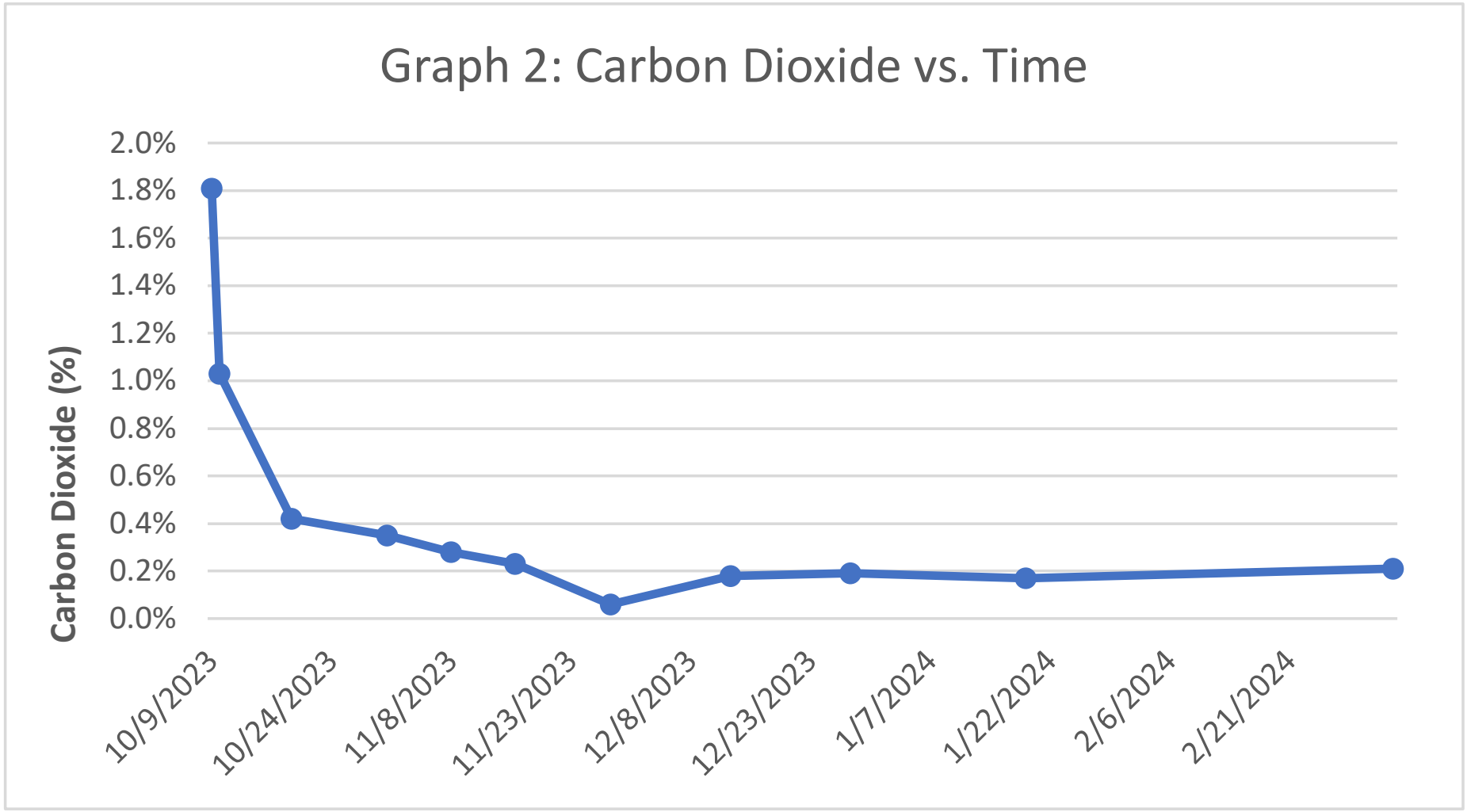
Mass Recovery

Date	Total Operational Hours	Delta Hours	Benzene (pounds)	Toluene (pounds)	Ethylbenzene (pounds)	Total Xylenes (pounds)	TVPH (pounds)	TVPH (tons)
10/9/2023	System Startup							
10/10/2023	26	26	0.30	0.97	0.098	0.98	143	0.071
10/19/2023	241	216	1.03	5.2	0.59	8.7	860	0.43
10/31/2023	526	285	0.43	3.8	0.50	13.2	541	0.27
11/8/2023	--	--	--	--	--	--	--	--
11/16/2023	912	386	0.60	2.3	0.69	13.6	467	0.23
11/28/2023	1,200	288	0.38	0.77	0.38	5.2	217	0.109
12/13/2023	1,557	357	0.06	0.39	0.07	3.1	163	0.081
12/28/2023	1,916	359	0.09	0.57	0.11	4.7	264	0.132
1/19/2024	2,444	528	0.13	0.53	0.14	4.1	260	0.130
3/5/2024	3,522	1,078	0.23	2.53	0.56	6.6	348	0.174
		Total Mass Recovery to Date	3.2	17.2	3.2	60	3,262	1.63

Notes:

cf: cubic feet
scfm: cubic feet per minute
µg/L: micrograms per liter
lb/hr: pounds per hour
PID: photoionization detector
ppm: parts per million
TVPH: total volatile petroleum hydrocarbons
--: not measured
gray: laboratory reporting limit used for calculating emissions





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APPENDIX A

Field Notes

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Location JJ 32-9 41A Date 1-19-24

Project / Client HEC Sunny, 30s

DB Truck, HVAS, PID, 6 gas

1015 - Onsite for O+M + sampling.
Review HASP + JSA

System running upon arrival
- 3 wells running, SVE 01, 02, 03

SVE system readings @ 12.15

Blower Hours - 2,444.2 @12.45

Total Flow - 70 SCFM

Inlet Vac - 62 inc

Diff. Press - 4.95 inc

Inlet PID - 173 ppm

Exhaust PID - 403 ppm

Temp - 100 F

KO Tank Level - ~3 inches

Amt. Drained - 8 gallons

Wellhead	Vac (inc)	PID (ppm)	Diff Pres Flow (inWC)	Rotameter (>50 SCFM)
C1	28	274	NM	tube not ready
C2	50	37	0.03	4
03	28	85	0.19	16

	CH4 (ppm)	OX (vol%)	H2S (ppm)	CO (ppm)	CO2 (vol%)	CH4 % LEL
01-360		20.9	0.0	0	0.12	1
02-250		20.9	0.0	0	0.44	0
03-175		20.9	0.0	0	0.20	0
Influent 360		20.9	0.0	0	0.16	1

12:20 - Influent 1-19-24 collected.

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Location _____ Date _____

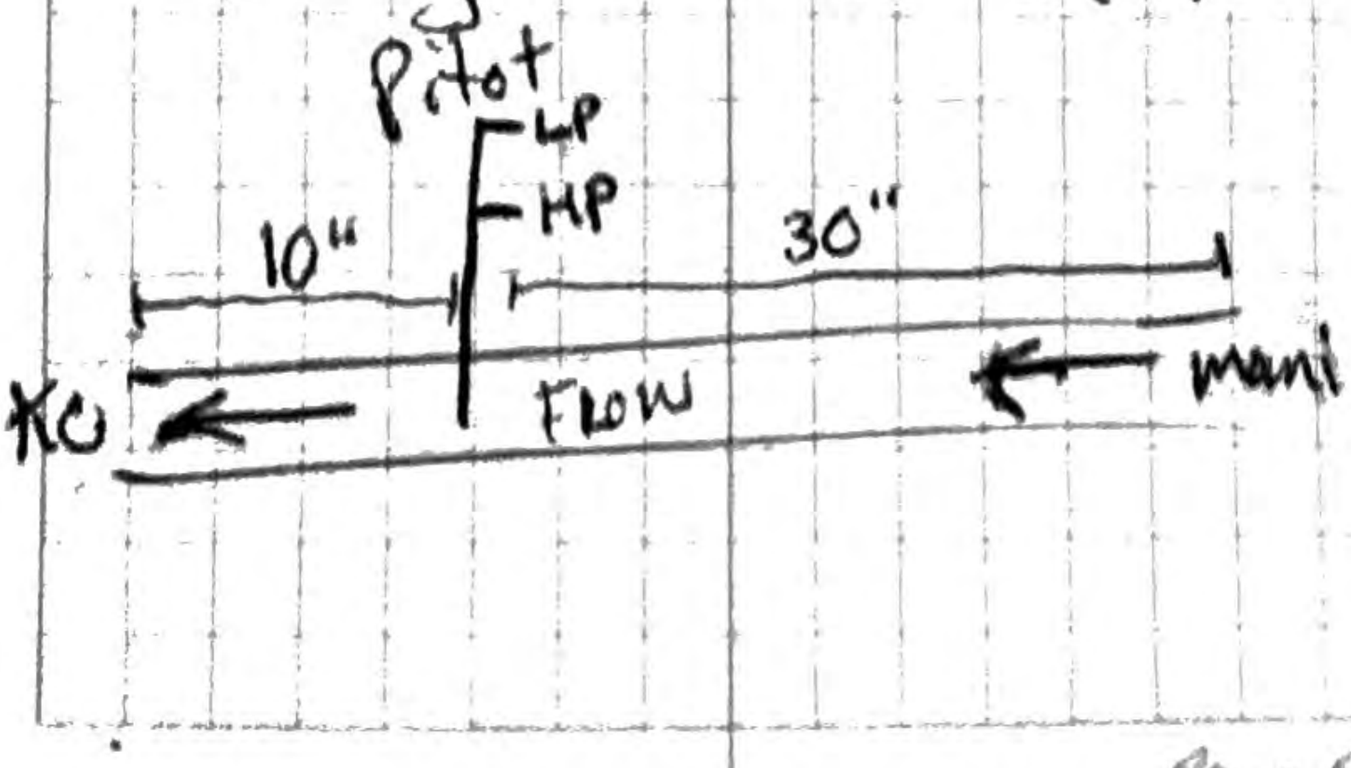
Project / Client _____

Need

½" hose or nipple for KO drain

- Sch 40 PVC pipe for pitot tubes ~5 ft / per well?
- 6 × 2" couplers

or see if pitot tubes can go in 2" HDPE



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Location SJ 32-9 #141A Date 2-2-24

Project / Client HEC Snowing.

DB Truck, HVAS, PID, 6-gas 30s

1215 - Onsite for O+M.
SVE system running upon arrival.
3 wells

See O+M form for details.

Bryan Hall Onsite w/ Hilcorp pumper.

-Need to service pump motor w/ electrical connection.
checking voltages, etc.

Will have to postpone O+M once system back online.

1400 - Offsite

DB

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SAN JUAN 32-9 #41A SVE SYSTEM
O&M FORM

DATE: 2-7
TIME ONSITE:

O&M PERSONNEL: B Sinclair
TIME OFFSITE:

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: KO TANK HIGH LEVEL

		Check/Date
WEEKLY MAINTENANCE:	Blower Bearing Grease	
QUARTERLY MAINTENANCE:	Blower Oil Change	

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	28825	1206
Inlet Vacuum (IHG)	9.7	
Differential Pressure (IWC)	3.41	
Inlet PID	111.8	
Exhaust PID	420.1	
Inlet Temperature		
K/O Tank Liquid Level		
K/O Liquid Drained (gallons)	46	

SVE SYSTEM SAMPLING

SAMPLE ID:	SAMPLE TIME:
Analytes:	Sample Bi-Monthly (every other month) for TVPH (8015), BTEX (8260), Fixed Gas (CO2 AND O2)
OPERATING WELLS	

Change in Well Operation:

WELLHEAD MEASUREMENTS

WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	DIFF PRESSURE (IN W.C.)	OXYGEN (%)	CARBON DIOXIDE (%)
SVE01	116.3	371.9	-0.09	20.9	940
SVE02	20.1	55.8	0.01	20.9	680
SVE03	119.4	33.1	~~-0.62~~ -0.62	20.9	480

COMMENTS/OTHER MAINTENANCE:

ENSOLUM

SAN JUAN 32-9 #41A SVE SYSTEM
O&M FORM

DATE: 2-20
TIME ONSITE:

O&M PERSONNEL: B Sinclair
TIME OFFSITE:

SVE SYSTEM - MONTHLY O&M

SVE ALARMS:		KO TANK HIGH LEVEL	

		Check/Date
WEEKLY MAINTENANCE:	Blower Bearing Grease	✓
QUARTERLY MAINTENANCE:	Blower Oil Change	

SVE SYSTEM	READING	TIME
Blower Hours **(take photo)**	3192.1	1219
~~Total Flow (scfm)~~		
Inlet Vacuum (IHG)	9.4	
Differential Pressure (IWC)	3.88	
Inlet PID	381.8	
Exhaust PID	382.2	
Inlet Temperature		
K/O Tank Liquid Level		
K/O Liquid Drained (gallons)	55	

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID:	**SAMPLE TIME:**
Analytes:	Sample Bi-Weekly (every other week) for TVPH (8015), BTEX (8260), Fixed Gas (CO2 AND O2)
OPERATING WELLS	

Change in Well Operation:

WELLHEAD MEASUREMENTS

WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	~~FLOW (CFM)~~ dift pres	OXYGEN	CARBON DIOXIDE
SVE01	110.9	342.5	-0.48	20.9	1260
SVE02	46.6	104.6	0.00	20.9	740
SVE03	111.4	64	0.62	20.9	640

COMMENTS/OTHER MAINTENANCE:

ENSOLUM

SAN JUAN 32-9 #41A SVE SYSTEM
O&M FORM

DATE: 3-5
TIME ONSITE:

O&M PERSONNEL: B Sinclair
TIME OFFSITE:

SVE SYSTEM - MONTHLY O&M

SVE ALARMS:		KO TANK HIGH LEVEL	

		Check/Date
WEEKLY MAINTENANCE:	Blower Bearing Grease	✓
QUARTERLY MAINTENANCE:	Blower Oil Change	

SVE SYSTEM	READING	TIME
Blower Hours **(take photo)**	3522.1	12/9
Total Flow (scfm)		
Inlet Vacuum (IHG)	9.2	
Differential Pressure (IWC)	3.97	
Inlet PID	180.4	
Exhaust PID	302.3	
Inlet Temperature		
K/O Tank Liquid Level		
K/O Liquid Drained (gallons)	37	

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID:	**SAMPLE TIME:**
Analytes:	Sample Bi-Weekly (every other week) for TVPH (8015), BTEX (8260), Fixed Gas (CO2 AND O2)
OPERATING WELLS	

Change in Well Operation:

WELLHEAD MEASUREMENTS

WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	~~FLOW (CFM)~~ diff pres	OXYGEN	CARBON DIOXIDE
SVE01	104.3	276	-0.45	20.9	1200
SVE02	36.1	96.3	0.00	20.9	400
SVE03	111.5	50.3	-0.94	20.9	600

COMMENTS/OTHER MAINTENANCE:

ENSOLUM

SAN JUAN 32-9 #41A SVE SYSTEM
O&M FORM

DATE: 3-19
TIME ONSITE:

O&M PERSONNEL: B Sinclair
TIME OFFSITE:

SVE SYSTEM - MONTHLY O&M

SVE ALARMS:

	KO TANK HIGH LEVEL	

		Check/Date
WEEKLY MAINTENANCE:	Blower Bearing Grease	
QUARTERLY MAINTENANCE:	Blower Oil Change	✓
		✓

SVE SYSTEM	READING	TIME
Blower Hours **(take photo)**	9857.0	1249
Total Flow (scfm)		
Inlet Vacuum (IHG)		
Differential Pressure (IWC)		
Inlet PID		
Exhaust PID		
Inlet Temperature		
K/O Tank Liquid Level		
K/O Liquid Drained (gallons)	36	

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID:	**SAMPLE TIME:**
Analytes:	Sample Bi-Weekly (every other week) for TVPH (8015), BTEX (8260), Fixed Gas (CO2 AND O2)
OPERATING WELLS	

Change in Well Operation:

WELLHEAD MEASUREMENTS

WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	FLOW (CFM)	OXYGEN	CARBON DIOXIDE
SVE01					
SVE02					
SVE03					

COMMENTS/OTHER MAINTENANCE:

System will not restart. Issue is likely with control panel/VFD. I&E Tech has been dispatched.

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APPENDIX B

Project Photographs

PROJECT PHOTOGRAPHS
San Juan 32-9 #41A
San Juan County, New Mexico
Hilcorp Energy Company

Photograph 1 Runtime meter taken on December 28, 2023 at 12:26 PM Hours = 1,916.1	
Photograph 2 Runtime meter taken on March 19, 2024 at 12:49 PM Hours = 3,857.0	

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

ENSOLUM

APPENDIX C

Laboratory Analytical Reports

eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 17, 2024

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

RE: San Juan 32 9 41 A OrderNo.: 2312F15

Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 12/29/2023 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 do not hesitate to contact Eurofins Albuquerque 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 **2312F15**
Date Reported: **1/17/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: San Juan 32-9#41A Influent
Project: San Juan 32 9 41 A
Collection Date: 12/28/2023 12:15:00 PM
Lab ID: 2312F15-001 **Matrix:** AIR
Received Date: 12/29/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	1400	25		µg/L	5	1/3/2024 3:04:32 PM
Surr: BFB	1000	15-412	S	%Rec	5	1/3/2024 3:04:32 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Toluene	2.7	0.50		µg/L	5	1/8/2024 3:27:00 PM
Ethylbenzene	0.59	0.50		µg/L	5	1/8/2024 3:27:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,2,4-Trimethylbenzene	3.7	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,3,5-Trimethylbenzene	5.0	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,2-Dichloroethane (EDC)	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,2-Dibromoethane (EDB)	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Naphthalene	ND	1.0		µg/L	5	1/8/2024 3:27:00 PM
1-Methylnaphthalene	ND	2.0		µg/L	5	1/8/2024 3:27:00 PM
2-Methylnaphthalene	ND	2.0		µg/L	5	1/8/2024 3:27:00 PM
Acetone	ND	5.0		µg/L	5	1/8/2024 3:27:00 PM
Bromobenzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Bromodichloromethane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Bromoform	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Bromomethane	ND	1.0		µg/L	5	1/8/2024 3:27:00 PM
2-Butanone	ND	5.0		µg/L	5	1/8/2024 3:27:00 PM
Carbon disulfide	ND	80		µg/L	5	1/8/2024 3:27:00 PM
Carbon tetrachloride	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Chlorobenzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Chloroethane	ND	1.0		µg/L	5	1/8/2024 3:27:00 PM
Chloroform	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Chloromethane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
2-Chlorotoluene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
4-Chlorotoluene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
cis-1,2-DCE	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
cis-1,3-Dichloropropene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,2-Dibromo-3-chloropropane	ND	1.0		µg/L	5	1/8/2024 3:27:00 PM
Dibromochloromethane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Dibromomethane	ND	1.0		µg/L	5	1/8/2024 3:27:00 PM
1,2-Dichlorobenzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,3-Dichlorobenzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,4-Dichlorobenzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Dichlorodifluoromethane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,1-Dichloroethane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,1-Dichloroethene	ND	0.50		µg/L	5	1/8/2024 3:27:00 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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2312F15**
Date Reported: **1/17/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: San Juan 32-9#41A Influent
Project: San Juan 32 9 41 A
Collection Date: 12/28/2023 12:15:00 PM
Lab ID: 2312F15-001 **Matrix:** AIR
Received Date: 12/29/2023 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	1/8/2024 3:27:00 PM
1,3-Dichloropropane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
2,2-Dichloropropane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,1-Dichloropropene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Hexachlorobutadiene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
2-Hexanone	ND	5.0		µg/L	5	1/8/2024 3:27:00 PM
Isopropylbenzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
4-Isopropyltoluene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
4-Methyl-2-pentanone	ND	5.0		µg/L	5	1/8/2024 3:27:00 PM
Methylene chloride	ND	1.5		µg/L	5	1/8/2024 3:27:00 PM
n-Butylbenzene	ND	1.5		µg/L	5	1/8/2024 3:27:00 PM
n-Propylbenzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
sec-Butylbenzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Styrene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
tert-Butylbenzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Tetrachloroethene (PCE)	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
trans-1,2-DCE	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
trans-1,3-Dichloropropene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,1,1-Trichloroethane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,1,2-Trichloroethane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Trichloroethene (TCE)	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Trichlorofluoromethane	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
1,2,3-Trichloropropane	ND	1.0		µg/L	5	1/8/2024 3:27:00 PM
Vinyl chloride	ND	0.50		µg/L	5	1/8/2024 3:27:00 PM
Xylenes, Total	23	0.75		µg/L	5	1/8/2024 3:27:00 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	5	1/8/2024 3:27:00 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	5	1/8/2024 3:27:00 PM
Surr: Toluene-d8	120	70-130		%Rec	5	1/8/2024 3:27:00 PM
Surr: 4-Bromofluorobenzene	127	70-130		%Rec	5	1/8/2024 3:27:00 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

January 16, 2024

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

Work Order: B24010207 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 1/3/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24010207-001	2312F15-001B, San Juan 32-9#41A Influent	12/28/23 12:15	01/03/24	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: B24010207-001
Client Sample ID: 2312F15-001B, San Juan 32-9#41A Influent

Report Date: 01/16/24
Collection Date: 12/28/23 12:15
DateReceived: 01/03/24
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.56	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
Nitrogen	78.25	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
Carbon Dioxide	0.19	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
Hexanes plus	<0.01	Mol %		0.01		GPA 2261-95	01/09/23 11:36 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	01/09/23 11:36 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	01/09/23 11:36 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	01/09/23 11:36 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	01/09/23 11:36 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	01/09/23 11:36 / jrj
Hexanes plus	< 0.001	gpm		0.001		GPA 2261-95	01/09/23 11:36 / jrj
GPM Total	< 0.001	gpm		0.001		GPA 2261-95	01/09/23 11:36 / jrj
GPM Pentanes plus	< 0.001	gpm		0.001		GPA 2261-95	01/09/23 11:36 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	ND			1		GPA 2261-95	01/09/23 11:36 / jrj
Net BTU per cu ft @ std cond. (LHV)	ND			1		GPA 2261-95	01/09/23 11:36 / jrj
Pseudo-critical Pressure, psia	545			1		GPA 2261-95	01/09/23 11:36 / jrj
Pseudo-critical Temperature, deg R	239			1		GPA 2261-95	01/09/23 11:36 / jrj
Specific Gravity @ 60/60F	0.998			0.001		D3588-81	01/09/23 11:36 / jrj
Air, %	98.50			0.01		GPA 2261-95	01/09/23 11:36 / jrj
- The analysis was not corrected for air.							

COMMENTS

-						-	01/09/23 11:36 / 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:** B24010207 **Report Date:** 01/16/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: GPA 2261-95										Batch: R414891
Lab ID: LCS010924	11	Laboratory Control Sample				Run: GCNGA-B_240109A				01/09/24 03:25
Oxygen		0.64	Mol %	0.01	128	70	130			
Nitrogen		6.34	Mol %	0.01	106	70	130			
Carbon Dioxide		0.99	Mol %	0.01	100	70	130			
Methane		74.4	Mol %	0.01	100	70	130			
Ethane		6.02	Mol %	0.01	100	70	130			
Propane		5.00	Mol %	0.01	101	70	130			
Isobutane		1.77	Mol %	0.01	88	70	130			
n-Butane		1.99	Mol %	0.01	99	70	130			
Isopentane		1.00	Mol %	0.01	100	70	130			
n-Pentane		1.00	Mol %	0.01	100	70	130			
Hexanes plus		0.81	Mol %	0.01	101	70	130			
Lab ID: B24010204-001ADUP	12	Sample Duplicate				Run: GCNGA-B_240109A				01/09/24 10:44
Oxygen		21.7	Mol %	0.01				0.0	20	
Nitrogen		78.2	Mol %	0.01				0.0	20	
Carbon Dioxide		0.05	Mol %	0.01				0.0	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		<0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		<0.01	Mol %	0.01					20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Hall Environmental

B24010207

Login completed by: Yvonna E. Smith
Date Received: 1/3/2024
Reviewed by: dharris
Received by: cmj
Reviewed Date: 1/4/2024
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:	11.8°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

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

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

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

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Contact and Corrective Action Comments:

None

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CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Eurofins Environment Testing South Central, LLC
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	2312F15-001B	San Juan 32-9#41A Influent	TEDLAR	Air	12/28/2023 12:15:00 PM	1	Natural Gas Analysis. C02+02.

B24010207

MW 12/29/23

SPECIAL INSTRUCTIONS / COMMENTS:

Include the LAB ID and CLIENT SAMPLE ID on final reports. Email results to Hall.Lab@et.eurofinsus.com. For Questions email Hall.samplecontrol@et.eurofinsus.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 12/29/2023	Time: 9:51 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: Crystal Jones	Date: 12/29/24	Time: 0900

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: ____

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Eurofins Environment Testing South Central, LLC
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: **2312F15** RcptNo: **1**

Received By: **Tracy Casarrubias** **12/29/2023 7:00:00 AM**

Completed By: **Tracy Casarrubias** **12/29/2023 9:46:37 AM**

Reviewed By: JH 12/29/23

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: JH 12-29-23

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,phone number and Email/Fax are missingo on COC- TMC 12/29/23

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 : Mitch Killough

mkillough@hilcorp.com

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☑ Standard ☐ Rush

Project Name: San Juan 32-9 #41A

Project #:

Project Manager: Stuart Hyde

shyde@ensolum.com

Sampler: Zach Myers

On Ice: ~~☑ Yes~~ ☑ No ~~mark~~

# of Coolers: 1 N/A

Cooler Temp(including CF): ~~1.1 ± 0.1~~ 12/14/23 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

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. 2312F15	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) 2M list	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed gas CO_2, O_2
12/28	1215	gas	San Juan 32-9#41A Influent	2x tedlar	—	001		X						X			X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
12/28/23	1515				12/28/23	1515
12/28/23	1746			Courier	12/29/23	7:00

Remarks: cc: zmyers@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.

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Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 08, 2024

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

RE: San Juan 32 9 41A OrderNo.: 2401850

Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 1/20/2024 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 do not hesitate to contact Eurofins Albuquerque 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 **2401850**
Date Reported: **2/8/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent 1-19-24
Project: San Juan 32 9 41A
Collection Date: 1/19/2024 12:20:00 PM
Lab ID: 2401850-001 **Matrix:** AIR
Received Date: 1/20/2024 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	560	250		µg/L	50	1/26/2024 2:00:00 PM
Surr: BFB	129	15-412		%Rec	50	1/26/2024 2:00:00 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Toluene	1.3	0.50		µg/L	5	2/1/2024 12:50:00 PM
Ethylbenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,2,4-Trimethylbenzene	0.95	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,3,5-Trimethylbenzene	1.6	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,2-Dichloroethane (EDC)	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,2-Dibromoethane (EDB)	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Naphthalene	ND	1.0		µg/L	5	2/1/2024 12:50:00 PM
1-Methylnaphthalene	ND	2.0		µg/L	5	2/1/2024 12:50:00 PM
2-Methylnaphthalene	ND	2.0		µg/L	5	2/1/2024 12:50:00 PM
Acetone	ND	5.0		µg/L	5	2/1/2024 12:50:00 PM
Bromobenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Bromodichloromethane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Bromoform	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Bromomethane	ND	1.0		µg/L	5	2/1/2024 12:50:00 PM
2-Butanone	ND	5.0		µg/L	5	2/1/2024 12:50:00 PM
Carbon disulfide	ND	5.0		µg/L	5	2/1/2024 12:50:00 PM
Carbon tetrachloride	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Chlorobenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Chloroethane	ND	1.0		µg/L	5	2/1/2024 12:50:00 PM
Chloroform	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Chloromethane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
2-Chlorotoluene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
4-Chlorotoluene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
cis-1,2-DCE	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
cis-1,3-Dichloropropene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,2-Dibromo-3-chloropropane	ND	1.0		µg/L	5	2/1/2024 12:50:00 PM
Dibromochloromethane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Dibromomethane	ND	1.0		µg/L	5	2/1/2024 12:50:00 PM
1,2-Dichlorobenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,3-Dichlorobenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,4-Dichlorobenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Dichlorodifluoromethane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,1-Dichloroethane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,1-Dichloroethene	ND	0.50		µg/L	5	2/1/2024 12:50:00 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 **2401850**
Date Reported: **2/8/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent 1-19-24
Project: San Juan 32 9 41A
Collection Date: 1/19/2024 12:20:00 PM
Lab ID: 2401850-001 **Matrix:** AIR
Received Date: 1/20/2024 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,2-Dichloropropane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,3-Dichloropropane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
2,2-Dichloropropane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,1-Dichloropropene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Hexachlorobutadiene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
2-Hexanone	ND	5.0		µg/L	5	2/1/2024 12:50:00 PM
Isopropylbenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
4-Isopropyltoluene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
4-Methyl-2-pentanone	ND	5.0		µg/L	5	2/1/2024 12:50:00 PM
Methylene chloride	ND	1.5		µg/L	5	2/1/2024 12:50:00 PM
n-Butylbenzene	ND	1.5		µg/L	5	2/1/2024 12:50:00 PM
n-Propylbenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
sec-Butylbenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Styrene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
tert-Butylbenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Tetrachloroethene (PCE)	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
trans-1,2-DCE	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
trans-1,3-Dichloropropene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,1,1-Trichloroethane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,1,2-Trichloroethane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Trichloroethene (TCE)	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Trichlorofluoromethane	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
1,2,3-Trichloropropane	ND	1.0		µg/L	5	2/1/2024 12:50:00 PM
Vinyl chloride	ND	0.50		µg/L	5	2/1/2024 12:50:00 PM
Xylenes, Total	8.1	0.75		µg/L	5	2/1/2024 12:50:00 PM
Surr: Dibromofluoromethane	96.9	70-130		%Rec	5	2/1/2024 12:50:00 PM
Surr: 1,2-Dichloroethane-d4	98.8	70-130		%Rec	5	2/1/2024 12:50:00 PM
Surr: Toluene-d8	117	70-130		%Rec	5	2/1/2024 12:50:00 PM
Surr: 4-Bromofluorobenzene	124	70-130		%Rec	5	2/1/2024 12:50:00 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

January 30, 2024

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

Work Order: B24011070 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 1/23/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24011070-001	2401850-001B, Influent 1-19-24	01/19/24 12:20	01/23/24	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:

ENERGY LABORATORIES
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Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B24011070-001
Client Sample ID: 2401850-001B, Influent 1-19-24

Report Date: 01/30/24
Collection Date: 01/19/24 12:20
DateReceived: 01/23/24
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.78	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
Nitrogen	78.04	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
Carbon Dioxide	0.17	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
Hexanes plus	0.01	Mol %		0.01		GPA 2261-95	01/26/24 12:26 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	01/26/24 12:26 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	01/26/24 12:26 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	01/26/24 12:26 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	01/26/24 12:26 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	01/26/24 12:26 / jrj
Hexanes plus	0.004	gpm		0.001		GPA 2261-95	01/26/24 12:26 / jrj
GPM Total	0.004	gpm		0.001		GPA 2261-95	01/26/24 12:26 / jrj
GPM Pentanes plus	0.004	gpm		0.001		GPA 2261-95	01/26/24 12:26 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	ND			1		GPA 2261-95	01/26/24 12:26 / jrj
Net BTU per cu ft @ std cond. (LHV)	ND			1		GPA 2261-95	01/26/24 12:26 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	01/26/24 12:26 / jrj
Pseudo-critical Temperature, deg R	239			1		GPA 2261-95	01/26/24 12:26 / jrj
Specific Gravity @ 60/60F	0.999			0.001		D3588-81	01/26/24 12:26 / jrj
Air, %	99.53			0.01		GPA 2261-95	01/26/24 12:26 / jrj
- The analysis was not corrected for air.							

COMMENTS

-						-	01/26/24 12:26 / 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)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B24011070 **Report Date:** 01/30/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R415720
Lab ID: **LCS012624**	11	Laboratory Control Sample				Run: GCNGA-B_240126A				01/26/24 02:28
Oxygen		0.64	Mol %	0.01	128	70	130			
Nitrogen		6.37	Mol %	0.01	106	70	130			
Carbon Dioxide		0.99	Mol %	0.01	100	70	130			
Methane		75.2	Mol %	0.01	101	70	130			
Ethane		6.08	Mol %	0.01	101	70	130			
Propane		4.48	Mol %	0.01	91	70	130			
Isobutane		1.60	Mol %	0.01	80	70	130			
n-Butane		2.03	Mol %	0.01	101	70	130			
Isopentane		0.97	Mol %	0.01	97	70	130			
n-Pentane		0.85	Mol %	0.01	85	70	130			
Hexanes plus		0.81	Mol %	0.01	101	70	130			
Lab ID: **B24011070-001ADUP**	12	Sample Duplicate				Run: GCNGA-B_240126A				01/26/24 01:16
Oxygen		21.8	Mol %	0.01				0.1	20	
Nitrogen		78.0	Mol %	0.01				0	20	
Carbon Dioxide		0.17	Mol %	0.01				0.0	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		<0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		0.01	Mol %	0.01				0.0	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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

Work Order Receipt Checklist

Hall Environmental

B24011070

Login completed by: Addison A. Gilbert
Date Received: 1/23/2024
Reviewed by: ysmith
Received by: CMJ
Reviewed Date: 1/23/2024
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:	11.2°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.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Contact and Corrective Action Comments:

None

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CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Eurofins Environment Testing South Central, LLC
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	2401850-001B	Influent 1-19-24	TEDLAR	Air	1/19/2024 12:20:00 PM	1	Natual Gas Analysis CO2+02

B24011070

SPECIAL INSTRUCTIONS / COMMENTS:

Include the LAB ID and CLIENT SAMPLE ID on final reports. Email results to Hall.Lab@et.eurofinsus.com. For Questions email Hall.samplecontrol@et.eurofinsus.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 1/20/2024	Time: 9:23 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: Crystal Jones	Date: 1/23/24	Time: 0950

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: _____

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2401850**

08-Feb-24

Client: HILCORP ENERGY

Project: San Juan 32 9 41A

Sample ID: **2401850-001adup**	SampType: **DUP**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **Influent 1-19-24**	Batch ID: **G102705**	RunNo: **102705**							
Prep Date:	Analysis Date: **1/26/2024**	SeqNo: **3795056**	Units: **µg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	550	250						0.903	20	
Surr: BFB	120000		100000		120	15	412	0	0	

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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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Eurofins Environment Testing South Central, LLC
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: 2401850 RcptNo: 1

Received By: Cheyenne Cason 1/20/2024 8:05:00 AM

Completed By: Cheyenne Cason 1/20/2024 9:22:06 AM

Reviewed By: JM 1/22/24

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: JM 1/22/24

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	NA		

Chain-of-Custody Record

Client: Hilcorp

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: San Juan 32-9 #41A

Project #:

Project Manager: Stuart Hyde

Sampler: D Burns

On Ice: ☒ Yes ☐ No

# of Coolers: 1 (1 cooler)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2401850	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) full list	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed bas
1-19-2024	12:20	Air	Influent 1-19-24	2-Tedlar	NA	001		X						X			X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
1-19-2024	15:00					
1/19/24	1750			One County	1/20/24	0805

Remarks:
cc: dburns
dhenemann Ensolum .com
shyde

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mitch Killough
Hilcorp Energy
PO BOX 4700
Farmington, New Mexico 87499

Generated 3/20/2024 4:56:46 PM

JOB DESCRIPTION

SJ 32 9 Unit 41A

JOB NUMBER

885-717-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

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3/20/2024 4:56:46 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Laboratory Job ID: 885-717-1

Table of Contents

Definitions/Glossary

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Hilcorp Energy
Project: SJ 32 9 Unit 41A

Job ID: 885-717-1

Job ID: 885-717-1 Eurofins Albuquerque

Job Narrative
885-717-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 3/7/2024 7:15 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice.

Subcontract Work
Method Fixed Gases: This method was subcontracted to Energy Laboratories, Inc. The subcontract laboratory certification is different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

GC/MS VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Client Sample ID: SVE-1
Date Collected: 03/05/24 13:15
Date Received: 03/07/24 07:15
Sample Container: Tedlar Bag 1L

Lab Sample ID: 885-717-1
Matrix: Air

Method: SW846 8015D - Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**980**		100		ug/L			03/12/24 15:41	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*		*03/12/24 15:41*	*20*
4-Bromofluorobenzene (Surr)	*188*	*S1+*	*70 - 130*		*03/13/24 12:37*	*1*

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			03/12/24 15:41	20
1,1,1-Trichloroethane	ND		2.0		ug/L			03/12/24 15:41	20
1,1,2,2-Tetrachloroethane	ND		4.0		ug/L			03/12/24 15:41	20
1,1,2-Trichloroethane	ND		2.0		ug/L			03/12/24 15:41	20
1,1-Dichloroethane	ND		2.0		ug/L			03/12/24 15:41	20
1,1-Dichloroethene	ND		2.0		ug/L			03/12/24 15:41	20
1,1-Dichloropropene	ND		2.0		ug/L			03/12/24 15:41	20
1,2,3-Trichlorobenzene	ND		2.0		ug/L			03/12/24 15:41	20
1,2,3-Trichloropropane	ND		4.0		ug/L			03/12/24 15:41	20
1,2,4-Trichlorobenzene	ND		2.0		ug/L			03/12/24 15:41	20
1,2,4-Trimethylbenzene	ND		2.0		ug/L			03/12/24 15:41	20
1,2-Dibromo-3-Chloropropane	ND		4.0		ug/L			03/12/24 15:41	20
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			03/12/24 15:41	20
1,2-Dichlorobenzene	ND		2.0		ug/L			03/12/24 15:41	20
1,2-Dichloroethane (EDC)	ND		2.0		ug/L			03/12/24 15:41	20
1,2-Dichloropropane	ND		2.0		ug/L			03/12/24 15:41	20
1,3,5-Trimethylbenzene	**2.7**		2.0		ug/L			03/12/24 15:41	20
1,3-Dichlorobenzene	ND		2.0		ug/L			03/12/24 15:41	20
1,3-Dichloropropane	ND		2.0		ug/L			03/12/24 15:41	20
1,4-Dichlorobenzene	ND		2.0		ug/L			03/12/24 15:41	20
1-Methylnaphthalene	ND		8.0		ug/L			03/12/24 15:41	20
2,2-Dichloropropane	ND		4.0		ug/L			03/12/24 15:41	20
2-Butanone	ND		20		ug/L			03/12/24 15:41	20
2-Chlorotoluene	ND		2.0		ug/L			03/12/24 15:41	20
2-Hexanone	ND		20		ug/L			03/12/24 15:41	20
2-Methylnaphthalene	ND		8.0		ug/L			03/12/24 15:41	20
4-Chlorotoluene	ND		2.0		ug/L			03/12/24 15:41	20
4-Isopropyltoluene	ND		2.0		ug/L			03/12/24 15:41	20
4-Methyl-2-pentanone	ND		20		ug/L			03/12/24 15:41	20
Acetone	ND		20		ug/L			03/12/24 15:41	20
Benzene	**0.49**		0.10		ug/L			03/13/24 12:37	1
Bromobenzene	ND		2.0		ug/L			03/12/24 15:41	20
Bromodichloromethane	ND		2.0		ug/L			03/12/24 15:41	20
Dibromochloromethane	ND		2.0		ug/L			03/12/24 15:41	20
Bromoform	ND		2.0		ug/L			03/12/24 15:41	20
Bromomethane	ND		6.0		ug/L			03/12/24 15:41	20
Carbon disulfide	ND		20		ug/L			03/12/24 15:41	20
Carbon tetrachloride	ND		2.0		ug/L			03/12/24 15:41	20
Chlorobenzene	ND		2.0		ug/L			03/12/24 15:41	20
Chloroethane	ND		4.0		ug/L			03/12/24 15:41	20

Client Sample Results

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Client Sample ID: SVE-1
Date Collected: 03/05/24 13:15
Date Received: 03/07/24 07:15
Sample Container: Tedlar Bag 1L

Lab Sample ID: 885-717-1
Matrix: Air

Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		2.0		ug/L			03/12/24 15:41	20
Chloromethane	ND		6.0		ug/L			03/12/24 15:41	20
cis-1,2-Dichloroethene	ND		2.0		ug/L			03/12/24 15:41	20
cis-1,3-Dichloropropene	ND		2.0		ug/L			03/12/24 15:41	20
Dibromomethane	ND		2.0		ug/L			03/12/24 15:41	20
Dichlorodifluoromethane	ND		2.0		ug/L			03/12/24 15:41	20
Ethylbenzene	ND		2.0		ug/L			03/12/24 15:41	20
Hexachlorobutadiene	ND		2.0		ug/L			03/12/24 15:41	20
Isopropylbenzene	ND		2.0		ug/L			03/12/24 15:41	20
Methyl-tert-butyl Ether (MTBE)	ND		2.0		ug/L			03/12/24 15:41	20
Methylene Chloride	ND		6.0		ug/L			03/12/24 15:41	20
n-Butylbenzene	ND		6.0		ug/L			03/12/24 15:41	20
N-Propylbenzene	ND		2.0		ug/L			03/12/24 15:41	20
Naphthalene	ND		4.0		ug/L			03/12/24 15:41	20
sec-Butylbenzene	ND		2.0		ug/L			03/12/24 15:41	20
Styrene	ND		2.0		ug/L			03/12/24 15:41	20
tert-Butylbenzene	ND		2.0		ug/L			03/12/24 15:41	20
Tetrachloroethene (PCE)	ND		2.0		ug/L			03/12/24 15:41	20
Toluene	**9.9**		2.0		ug/L			03/12/24 15:41	20
trans-1,2-Dichloroethene	ND		2.0		ug/L			03/12/24 15:41	20
trans-1,3-Dichloropropene	ND		2.0		ug/L			03/12/24 15:41	20
Trichloroethene (TCE)	ND		2.0		ug/L			03/12/24 15:41	20
Trichlorofluoromethane	ND		2.0		ug/L			03/12/24 15:41	20
Vinyl chloride	ND		2.0		ug/L			03/12/24 15:41	20
Xylenes, Total	**21**		3.0		ug/L			03/12/24 15:41	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*03/12/24 15:41*	*20*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*03/13/24 12:37*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*03/12/24 15:41*	*20*
Toluene-d8 (Surr)	*140*	*S1+*	*70 - 130*		*03/13/24 12:37*	*1*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*		*03/12/24 15:41*	*20*
4-Bromofluorobenzene (Surr)	*202*	*S1+*	*70 - 130*		*03/13/24 12:37*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*03/12/24 15:41*	*20*
Dibromofluoromethane (Surr)	*97*		*70 - 130*		*03/13/24 12:37*	*1*

QC Sample Results

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Method: 8015D - Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)

Lab Sample ID: MB 885-1848/3
Matrix: Air
Analysis Batch: 1848

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		ug/L			03/12/24 13:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*03/12/24 13:14*	*1*

Lab Sample ID: LCS 885-1848/2
Matrix: Air
Analysis Batch: 1848

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			500	478		ug/L		96			

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 885-1932/3
Matrix: Air
Analysis Batch: 1932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		50		ug/L			03/13/24 12:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*03/13/24 12:13*	*1*

Lab Sample ID: LCS 885-1932/2
Matrix: Air
Analysis Batch: 1932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			500	505		ug/L		101			

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 885-1628/3
Matrix: Air
Analysis Batch: 1628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			03/12/24 13:14	1
1,1,1-Trichloroethane	ND		0.10		ug/L			03/12/24 13:14	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/12/24 13:14	1
1,1,2-Trichloroethane	ND		0.10		ug/L			03/12/24 13:14	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 885-1628/3
Matrix: Air
Analysis Batch: 1628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		0.10		ug/L			03/12/24 13:14	1
1,1-Dichloroethene	ND		0.10		ug/L			03/12/24 13:14	1
1,1-Dichloropropene	ND		0.10		ug/L			03/12/24 13:14	1
1,2,3-Trichlorobenzene	ND		0.10		ug/L			03/12/24 13:14	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/12/24 13:14	1
1,2,4-Trichlorobenzene	ND		0.10		ug/L			03/12/24 13:14	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			03/12/24 13:14	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			03/12/24 13:14	1
1,2-Dibromoethane (EDB)	ND		0.10		ug/L			03/12/24 13:14	1
1,2-Dichlorobenzene	ND		0.10		ug/L			03/12/24 13:14	1
1,2-Dichloroethane (EDC)	ND		0.10		ug/L			03/12/24 13:14	1
1,2-Dichloropropane	ND		0.10		ug/L			03/12/24 13:14	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			03/12/24 13:14	1
1,3-Dichlorobenzene	ND		0.10		ug/L			03/12/24 13:14	1
1,3-Dichloropropane	ND		0.10		ug/L			03/12/24 13:14	1
1,4-Dichlorobenzene	ND		0.10		ug/L			03/12/24 13:14	1
1-Methylnaphthalene	ND		0.40		ug/L			03/12/24 13:14	1
2,2-Dichloropropane	ND		0.20		ug/L			03/12/24 13:14	1
2-Butanone	ND		1.0		ug/L			03/12/24 13:14	1
2-Chlorotoluene	ND		0.10		ug/L			03/12/24 13:14	1
2-Hexanone	ND		1.0		ug/L			03/12/24 13:14	1
2-Methylnaphthalene	ND		0.40		ug/L			03/12/24 13:14	1
4-Chlorotoluene	ND		0.10		ug/L			03/12/24 13:14	1
4-Isopropyltoluene	ND		0.10		ug/L			03/12/24 13:14	1
4-Methyl-2-pentanone	ND		1.0		ug/L			03/12/24 13:14	1
Acetone	ND		1.0		ug/L			03/12/24 13:14	1
Benzene	ND		0.10		ug/L			03/12/24 13:14	1
Bromobenzene	ND		0.10		ug/L			03/12/24 13:14	1
Bromodichloromethane	ND		0.10		ug/L			03/12/24 13:14	1
Dibromochloromethane	ND		0.10		ug/L			03/12/24 13:14	1
Bromoform	ND		0.10		ug/L			03/12/24 13:14	1
Bromomethane	ND		0.30		ug/L			03/12/24 13:14	1
Carbon disulfide	ND		1.0		ug/L			03/12/24 13:14	1
Carbon tetrachloride	ND		0.10		ug/L			03/12/24 13:14	1
Chlorobenzene	ND		0.10		ug/L			03/12/24 13:14	1
Chloroethane	ND		0.20		ug/L			03/12/24 13:14	1
Chloroform	ND		0.10		ug/L			03/12/24 13:14	1
Chloromethane	ND		0.30		ug/L			03/12/24 13:14	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			03/12/24 13:14	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			03/12/24 13:14	1
Dibromomethane	ND		0.10		ug/L			03/12/24 13:14	1
Dichlorodifluoromethane	ND		0.10		ug/L			03/12/24 13:14	1
Ethylbenzene	ND		0.10		ug/L			03/12/24 13:14	1
Hexachlorobutadiene	ND		0.10		ug/L			03/12/24 13:14	1
Isopropylbenzene	ND		0.10		ug/L			03/12/24 13:14	1
Methyl-tert-butyl Ether (MTBE)	ND		0.10		ug/L			03/12/24 13:14	1
Methylene Chloride	ND		0.30		ug/L			03/12/24 13:14	1
n-Butylbenzene	ND		0.30		ug/L			03/12/24 13:14	1
N-Propylbenzene	ND		0.10		ug/L			03/12/24 13:14	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 885-1628/3
Matrix: Air
Analysis Batch: 1628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.20		ug/L			03/12/24 13:14	1
sec-Butylbenzene	ND		0.10		ug/L			03/12/24 13:14	1
Styrene	ND		0.10		ug/L			03/12/24 13:14	1
tert-Butylbenzene	ND		0.10		ug/L			03/12/24 13:14	1
Tetrachloroethene (PCE)	ND		0.10		ug/L			03/12/24 13:14	1
Toluene	ND		0.10		ug/L			03/12/24 13:14	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			03/12/24 13:14	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			03/12/24 13:14	1
Trichloroethene (TCE)	ND		0.10		ug/L			03/12/24 13:14	1
Trichlorofluoromethane	ND		0.10		ug/L			03/12/24 13:14	1
Vinyl chloride	ND		0.10		ug/L			03/12/24 13:14	1
Xylenes, Total	ND		0.15		ug/L			03/12/24 13:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*03/12/24 13:14*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*03/12/24 13:14*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*03/12/24 13:14*	*1*
Dibromofluoromethane (Surr)	*106*		*70 - 130*		*03/12/24 13:14*	*1*

Lab Sample ID: STOBLK 885-1628/11
Matrix: Air
Analysis Batch: 1628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	STOBLK Result	STOBLK Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			03/12/24 16:30	1
1,1,1-Trichloroethane	ND		1.0		ug/L			03/12/24 16:30	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			03/12/24 16:30	1
1,1,2-Trichloroethane	ND		1.0		ug/L			03/12/24 16:30	1
1,1-Dichloroethane	ND		1.0		ug/L			03/12/24 16:30	1
1,1-Dichloroethene	ND		1.0		ug/L			03/12/24 16:30	1
1,1-Dichloropropene	ND		1.0		ug/L			03/12/24 16:30	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			03/12/24 16:30	1
1,2,3-Trichloropropane	ND		2.0		ug/L			03/12/24 16:30	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			03/12/24 16:30	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			03/12/24 16:30	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/12/24 16:30	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			03/12/24 16:30	1
1,2-Dichlorobenzene	ND		1.0		ug/L			03/12/24 16:30	1
1,2-Dichloroethane (EDC)	ND		1.0		ug/L			03/12/24 16:30	1
1,2-Dichloropropane	ND		1.0		ug/L			03/12/24 16:30	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			03/12/24 16:30	1
1,3-Dichlorobenzene	ND		1.0		ug/L			03/12/24 16:30	1
1,3-Dichloropropane	ND		1.0		ug/L			03/12/24 16:30	1
1,4-Dichlorobenzene	ND		1.0		ug/L			03/12/24 16:30	1
1-Methylnaphthalene	ND		4.0		ug/L			03/12/24 16:30	1
2,2-Dichloropropane	ND		2.0		ug/L			03/12/24 16:30	1
2-Butanone	ND		10		ug/L			03/12/24 16:30	1
2-Chlorotoluene	ND		1.0		ug/L			03/12/24 16:30	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: STOBLK 885-1628/11
Matrix: Air
Analysis Batch: 1628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	STOBLK Result	STOBLK Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	ND		10		ug/L			03/12/24 16:30	1
2-Methylnaphthalene	ND		4.0		ug/L			03/12/24 16:30	1
4-Chlorotoluene	ND		1.0		ug/L			03/12/24 16:30	1
4-Isopropyltoluene	ND		1.0		ug/L			03/12/24 16:30	1
4-Methyl-2-pentanone	ND		10		ug/L			03/12/24 16:30	1
Acetone	ND		10		ug/L			03/12/24 16:30	1
Benzene	ND		1.0		ug/L			03/12/24 16:30	1
Bromobenzene	ND		1.0		ug/L			03/12/24 16:30	1
Bromodichloromethane	ND		1.0		ug/L			03/12/24 16:30	1
Dibromochloromethane	ND		1.0		ug/L			03/12/24 16:30	1
Bromoform	ND		1.0		ug/L			03/12/24 16:30	1
Bromomethane	ND		3.0		ug/L			03/12/24 16:30	1
Carbon disulfide	ND		10		ug/L			03/12/24 16:30	1
Carbon tetrachloride	ND		1.0		ug/L			03/12/24 16:30	1
Chlorobenzene	ND		1.0		ug/L			03/12/24 16:30	1
Chloroethane	ND		2.0		ug/L			03/12/24 16:30	1
Chloroform	ND		1.0		ug/L			03/12/24 16:30	1
Chloromethane	ND		3.0		ug/L			03/12/24 16:30	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			03/12/24 16:30	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			03/12/24 16:30	1
Dibromomethane	ND		1.0		ug/L			03/12/24 16:30	1
Dichlorodifluoromethane	ND		1.0		ug/L			03/12/24 16:30	1
Ethylbenzene	ND		1.0		ug/L			03/12/24 16:30	1
Hexachlorobutadiene	ND		1.0		ug/L			03/12/24 16:30	1
Isopropylbenzene	ND		1.0		ug/L			03/12/24 16:30	1
Methyl-tert-butyl Ether (MTBE)	ND		1.0		ug/L			03/12/24 16:30	1
Methylene Chloride	ND		3.0		ug/L			03/12/24 16:30	1
n-Butylbenzene	ND		3.0		ug/L			03/12/24 16:30	1
N-Propylbenzene	ND		1.0		ug/L			03/12/24 16:30	1
Naphthalene	ND		2.0		ug/L			03/12/24 16:30	1
sec-Butylbenzene	ND		1.0		ug/L			03/12/24 16:30	1
Styrene	ND		1.0		ug/L			03/12/24 16:30	1
tert-Butylbenzene	ND		1.0		ug/L			03/12/24 16:30	1
Tetrachloroethene (PCE)	ND		1.0		ug/L			03/12/24 16:30	1
Toluene	ND		1.0		ug/L			03/12/24 16:30	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			03/12/24 16:30	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			03/12/24 16:30	1
Trichloroethene (TCE)	ND		1.0		ug/L			03/12/24 16:30	1
Trichlorofluoromethane	ND		1.0		ug/L			03/12/24 16:30	1
Vinyl chloride	ND		1.0		ug/L			03/12/24 16:30	1
Xylenes, Total	ND		1.5		ug/L			03/12/24 16:30	1

Surrogate	*STOBLK %Recovery*	*STOBLK Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*03/12/24 16:30*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*03/12/24 16:30*	*1*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*03/12/24 16:30*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*03/12/24 16:30*	*1*

QC Sample Results

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: STOBLK 885-1628/12
Matrix: Air
Analysis Batch: 1628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	STOBLK Result	STOBLK Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			03/12/24 16:54	1
1,1,1-Trichloroethane	ND		1.0		ug/L			03/12/24 16:54	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			03/12/24 16:54	1
1,1,2-Trichloroethane	ND		1.0		ug/L			03/12/24 16:54	1
1,1-Dichloroethane	ND		1.0		ug/L			03/12/24 16:54	1
1,1-Dichloroethene	ND		1.0		ug/L			03/12/24 16:54	1
1,1-Dichloropropene	ND		1.0		ug/L			03/12/24 16:54	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			03/12/24 16:54	1
1,2,3-Trichloropropane	ND		2.0		ug/L			03/12/24 16:54	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			03/12/24 16:54	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			03/12/24 16:54	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/12/24 16:54	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			03/12/24 16:54	1
1,2-Dichlorobenzene	ND		1.0		ug/L			03/12/24 16:54	1
1,2-Dichloroethane (EDC)	ND		1.0		ug/L			03/12/24 16:54	1
1,2-Dichloropropane	ND		1.0		ug/L			03/12/24 16:54	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			03/12/24 16:54	1
1,3-Dichlorobenzene	ND		1.0		ug/L			03/12/24 16:54	1
1,3-Dichloropropane	ND		1.0		ug/L			03/12/24 16:54	1
1,4-Dichlorobenzene	ND		1.0		ug/L			03/12/24 16:54	1
1-Methylnaphthalene	ND		4.0		ug/L			03/12/24 16:54	1
2,2-Dichloropropane	ND		2.0		ug/L			03/12/24 16:54	1
2-Butanone	ND		10		ug/L			03/12/24 16:54	1
2-Chlorotoluene	ND		1.0		ug/L			03/12/24 16:54	1
2-Hexanone	ND		10		ug/L			03/12/24 16:54	1
2-Methylnaphthalene	ND		4.0		ug/L			03/12/24 16:54	1
4-Chlorotoluene	ND		1.0		ug/L			03/12/24 16:54	1
4-Isopropyltoluene	ND		1.0		ug/L			03/12/24 16:54	1
4-Methyl-2-pentanone	ND		10		ug/L			03/12/24 16:54	1
Acetone	ND		10		ug/L			03/12/24 16:54	1
Benzene	ND		1.0		ug/L			03/12/24 16:54	1
Bromobenzene	ND		1.0		ug/L			03/12/24 16:54	1
Bromodichloromethane	ND		1.0		ug/L			03/12/24 16:54	1
Dibromochloromethane	ND		1.0		ug/L			03/12/24 16:54	1
Bromoform	ND		1.0		ug/L			03/12/24 16:54	1
Bromomethane	ND		3.0		ug/L			03/12/24 16:54	1
Carbon disulfide	ND		10		ug/L			03/12/24 16:54	1
Carbon tetrachloride	ND		1.0		ug/L			03/12/24 16:54	1
Chlorobenzene	ND		1.0		ug/L			03/12/24 16:54	1
Chloroethane	ND		2.0		ug/L			03/12/24 16:54	1
Chloroform	ND		1.0		ug/L			03/12/24 16:54	1
Chloromethane	ND		3.0		ug/L			03/12/24 16:54	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			03/12/24 16:54	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			03/12/24 16:54	1
Dibromomethane	ND		1.0		ug/L			03/12/24 16:54	1
Dichlorodifluoromethane	ND		1.0		ug/L			03/12/24 16:54	1
Ethylbenzene	ND		1.0		ug/L			03/12/24 16:54	1
Hexachlorobutadiene	ND		1.0		ug/L			03/12/24 16:54	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: STOBLK 885-1628/12
Matrix: Air
Analysis Batch: 1628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	STOBLK Result	STOBLK Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0		ug/L			03/12/24 16:54	1
Methyl-tert-butyl Ether (MTBE)	ND		1.0		ug/L			03/12/24 16:54	1
Methylene Chloride	ND		3.0		ug/L			03/12/24 16:54	1
n-Butylbenzene	ND		3.0		ug/L			03/12/24 16:54	1
N-Propylbenzene	ND		1.0		ug/L			03/12/24 16:54	1
Naphthalene	ND		2.0		ug/L			03/12/24 16:54	1
sec-Butylbenzene	ND		1.0		ug/L			03/12/24 16:54	1
Styrene	ND		1.0		ug/L			03/12/24 16:54	1
tert-Butylbenzene	ND		1.0		ug/L			03/12/24 16:54	1
Tetrachloroethene (PCE)	ND		1.0		ug/L			03/12/24 16:54	1
Toluene	ND		1.0		ug/L			03/12/24 16:54	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			03/12/24 16:54	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			03/12/24 16:54	1
Trichloroethene (TCE)	ND		1.0		ug/L			03/12/24 16:54	1
Trichlorofluoromethane	ND		1.0		ug/L			03/12/24 16:54	1
Vinyl chloride	ND		1.0		ug/L			03/12/24 16:54	1
Xylenes, Total	ND		1.5		ug/L			03/12/24 16:54	1

Surrogate	*STOBLK %Recovery*	*STOBLK Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*03/12/24 16:54*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*03/12/24 16:54*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*03/12/24 16:54*	*1*
Dibromofluoromethane (Surr)	*103*		*70 - 130*		*03/12/24 16:54*	*1*

Lab Sample ID: LCS 885-1628/2
Matrix: Air
Analysis Batch: 1628

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1-Dichloroethene			20.1	18.4		ug/L		91			
Benzene			20.1	19.4		ug/L		97			
Chlorobenzene			20.1	19.5		ug/L		97			
Toluene			20.2	19.0		ug/L		94			
Trichloroethene (TCE)			20.2	18.8		ug/L		93			

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
Dibromofluoromethane (Surr)	*104*		*70 - 130*

Lab Sample ID: MB 885-1708/3
Matrix: Air
Analysis Batch: 1708

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			03/13/24 12:13	1
1,1,1-Trichloroethane	ND		1.0		ug/L			03/13/24 12:13	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 885-1708/3
Matrix: Air
Analysis Batch: 1708

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			03/13/24 12:13	1
1,1,2-Trichloroethane	ND		1.0		ug/L			03/13/24 12:13	1
1,1-Dichloroethane	ND		1.0		ug/L			03/13/24 12:13	1
1,1-Dichloroethene	ND		1.0		ug/L			03/13/24 12:13	1
1,1-Dichloropropene	ND		1.0		ug/L			03/13/24 12:13	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			03/13/24 12:13	1
1,2,3-Trichloropropane	ND		2.0		ug/L			03/13/24 12:13	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			03/13/24 12:13	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			03/13/24 12:13	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/13/24 12:13	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			03/13/24 12:13	1
1,2-Dichlorobenzene	ND		1.0		ug/L			03/13/24 12:13	1
1,2-Dichloroethane (EDC)	ND		1.0		ug/L			03/13/24 12:13	1
1,2-Dichloropropane	ND		1.0		ug/L			03/13/24 12:13	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			03/13/24 12:13	1
1,3-Dichlorobenzene	ND		1.0		ug/L			03/13/24 12:13	1
1,3-Dichloropropane	ND		1.0		ug/L			03/13/24 12:13	1
1,4-Dichlorobenzene	ND		1.0		ug/L			03/13/24 12:13	1
1-Methylnaphthalene	ND		4.0		ug/L			03/13/24 12:13	1
2,2-Dichloropropane	ND		2.0		ug/L			03/13/24 12:13	1
2-Butanone	ND		10		ug/L			03/13/24 12:13	1
2-Chlorotoluene	ND		1.0		ug/L			03/13/24 12:13	1
2-Hexanone	ND		10		ug/L			03/13/24 12:13	1
2-Methylnaphthalene	ND		4.0		ug/L			03/13/24 12:13	1
4-Chlorotoluene	ND		1.0		ug/L			03/13/24 12:13	1
4-Isopropyltoluene	ND		1.0		ug/L			03/13/24 12:13	1
4-Methyl-2-pentanone	ND		10		ug/L			03/13/24 12:13	1
Acetone	ND		10		ug/L			03/13/24 12:13	1
Benzene	ND		1.0		ug/L			03/13/24 12:13	1
Bromobenzene	ND		1.0		ug/L			03/13/24 12:13	1
Bromodichloromethane	ND		1.0		ug/L			03/13/24 12:13	1
Dibromochloromethane	ND		1.0		ug/L			03/13/24 12:13	1
Bromoform	ND		1.0		ug/L			03/13/24 12:13	1
Bromomethane	ND		3.0		ug/L			03/13/24 12:13	1
Carbon disulfide	ND		10		ug/L			03/13/24 12:13	1
Carbon tetrachloride	ND		1.0		ug/L			03/13/24 12:13	1
Chlorobenzene	ND		1.0		ug/L			03/13/24 12:13	1
Chloroethane	ND		2.0		ug/L			03/13/24 12:13	1
Chloroform	ND		1.0		ug/L			03/13/24 12:13	1
Chloromethane	ND		3.0		ug/L			03/13/24 12:13	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			03/13/24 12:13	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			03/13/24 12:13	1
Dibromomethane	ND		1.0		ug/L			03/13/24 12:13	1
Dichlorodifluoromethane	ND		1.0		ug/L			03/13/24 12:13	1
Ethylbenzene	ND		1.0		ug/L			03/13/24 12:13	1
Hexachlorobutadiene	ND		1.0		ug/L			03/13/24 12:13	1
Isopropylbenzene	ND		1.0		ug/L			03/13/24 12:13	1
Methyl-tert-butyl Ether (MTBE)	ND		1.0		ug/L			03/13/24 12:13	1
Methylene Chloride	ND		3.0		ug/L			03/13/24 12:13	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 885-1708/3
Matrix: Air
Analysis Batch: 1708

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		3.0		ug/L			03/13/24 12:13	1
N-Propylbenzene	ND		1.0		ug/L			03/13/24 12:13	1
Naphthalene	ND		2.0		ug/L			03/13/24 12:13	1
sec-Butylbenzene	ND		1.0		ug/L			03/13/24 12:13	1
Styrene	ND		1.0		ug/L			03/13/24 12:13	1
tert-Butylbenzene	ND		1.0		ug/L			03/13/24 12:13	1
Tetrachloroethene (PCE)	ND		1.0		ug/L			03/13/24 12:13	1
Toluene	ND		1.0		ug/L			03/13/24 12:13	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			03/13/24 12:13	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			03/13/24 12:13	1
Trichloroethene (TCE)	ND		1.0		ug/L			03/13/24 12:13	1
Trichlorofluoromethane	ND		1.0		ug/L			03/13/24 12:13	1
Vinyl chloride	ND		1.0		ug/L			03/13/24 12:13	1
Xylenes, Total	ND		1.5		ug/L			03/13/24 12:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*03/13/24 12:13*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*03/13/24 12:13*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*03/13/24 12:13*	*1*
Dibromofluoromethane (Surr)	*103*		*70 - 130*		*03/13/24 12:13*	*1*

Lab Sample ID: LCS 885-1708/2
Matrix: Air
Analysis Batch: 1708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1-Dichloroethene			20.1	17.7		ug/L		88			
Benzene			20.1	19.3		ug/L		96			
Chlorobenzene			20.1	20.1		ug/L		100			
Toluene			20.2	19.6		ug/L		97			
Trichloroethene (TCE)			20.2	18.7		ug/L		92			

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*100*		*70 - 130*

QC Association Summary

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

GC/MS VOA

Analysis Batch: 1628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-717-1	SVE-1	Total/NA	Air	8260B	
MB 885-1628/3	Method Blank	Total/NA	Air	8260B	
STOBLK 885-1628/11	Method Blank	Total/NA	Air	8260B	
STOBLK 885-1628/12	Method Blank	Total/NA	Air	8260B	
LCS 885-1628/2	Lab Control Sample	Total/NA	Air	8260B	

Analysis Batch: 1708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-717-1	SVE-1	Total/NA	Air	8260B	
MB 885-1708/3	Method Blank	Total/NA	Air	8260B	
LCS 885-1708/2	Lab Control Sample	Total/NA	Air	8260B	

Analysis Batch: 1848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-717-1	SVE-1	Total/NA	Air	8015D	
MB 885-1848/3	Method Blank	Total/NA	Air	8015D	
LCS 885-1848/2	Lab Control Sample	Total/NA	Air	8015D	

Analysis Batch: 1932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-717-1	SVE-1	Total/NA	Air	8015D	
MB 885-1932/3	Method Blank	Total/NA	Air	8015D	
LCS 885-1932/2	Lab Control Sample	Total/NA	Air	8015D	

Lab Chronicle

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Client Sample ID: SVE-1
Date Collected: 03/05/24 13:15
Date Received: 03/07/24 07:15

Lab Sample ID: 885-717-1
Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015D		20	1848	CM	EET ALB	03/12/24 15:41
Total/NA	Analysis	8015D		1	1932	CM	EET ALB	03/13/24 12:37
Total/NA	Analysis	8260B		20	1628	CM	EET ALB	03/12/24 15:41
Total/NA	Analysis	8260B		1	1708	CM	EET ALB	03/13/24 12:37

Laboratory References:

= , 1120 South 27th Street, Billings, MT 59107

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015D		Air	Gasoline Range Organics [C6 - C10]
8260B		Air	1,1,1,2-Tetrachloroethane
8260B		Air	1,1,1-Trichloroethane
8260B		Air	1,1,2,2-Tetrachloroethane
8260B		Air	1,1,2-Trichloroethane
8260B		Air	1,1-Dichloroethane
8260B		Air	1,1-Dichloroethene
8260B		Air	1,1-Dichloropropene
8260B		Air	1,2,3-Trichlorobenzene
8260B		Air	1,2,3-Trichloropropane
8260B		Air	1,2,4-Trichlorobenzene
8260B		Air	1,2,4-Trimethylbenzene
8260B		Air	1,2-Dibromo-3-Chloropropane
8260B		Air	1,2-Dibromoethane (EDB)
8260B		Air	1,2-Dichlorobenzene
8260B		Air	1,2-Dichloroethane (EDC)
8260B		Air	1,2-Dichloropropane
8260B		Air	1,3,5-Trimethylbenzene
8260B		Air	1,3-Dichlorobenzene
8260B		Air	1,3-Dichloropropane
8260B		Air	1,4-Dichlorobenzene
8260B		Air	1-Methylnaphthalene
8260B		Air	2,2-Dichloropropane
8260B		Air	2-Butanone
8260B		Air	2-Chlorotoluene
8260B		Air	2-Hexanone
8260B		Air	2-Methylnaphthalene
8260B		Air	4-Chlorotoluene
8260B		Air	4-Isopropyltoluene
8260B		Air	4-Methyl-2-pentanone
8260B		Air	Acetone
8260B		Air	Benzene
8260B		Air	Bromobenzene
8260B		Air	Bromodichloromethane
8260B		Air	Bromoform
8260B		Air	Bromomethane
8260B		Air	Carbon disulfide
8260B		Air	Carbon tetrachloride
8260B		Air	Chlorobenzene
8260B		Air	Chloroethane
8260B		Air	Chloroform
8260B		Air	Chloromethane
8260B		Air	cis-1,2-Dichloroethene
8260B		Air	cis-1,3-Dichloropropene
8260B		Air	Dibromochloromethane

Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Laboratory: Eurofins Albuquerque (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Air	Dibromomethane
8260B		Air	Dichlorodifluoromethane
8260B		Air	Ethylbenzene
8260B		Air	Hexachlorobutadiene
8260B		Air	Isopropylbenzene
8260B		Air	Methylene Chloride
8260B		Air	Methyl-tert-butyl Ether (MTBE)
8260B		Air	Naphthalene
8260B		Air	n-Butylbenzene
8260B		Air	N-Propylbenzene
8260B		Air	sec-Butylbenzene
8260B		Air	Styrene
8260B		Air	tert-Butylbenzene
8260B		Air	Tetrachloroethene (PCE)
8260B		Air	Toluene
8260B		Air	trans-1,2-Dichloroethene
8260B		Air	trans-1,3-Dichloropropene
8260B		Air	Trichloroethene (TCE)
8260B		Air	Trichlorofluoromethane
8260B		Air	Vinyl chloride
8260B		Air	Xylenes, Total

Oregon	NELAP	NM100001	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015D		Air	Gasoline Range Organics [C6 - C10]
8260B		Air	1,1,1,2-Tetrachloroethane
8260B		Air	1,1,1-Trichloroethane
8260B		Air	1,1,2,2-Tetrachloroethane
8260B		Air	1,1,2-Trichloroethane
8260B		Air	1,1-Dichloroethane
8260B		Air	1,1-Dichloroethene
8260B		Air	1,1-Dichloropropene
8260B		Air	1,2,3-Trichlorobenzene
8260B		Air	1,2,3-Trichloropropane
8260B		Air	1,2,4-Trichlorobenzene
8260B		Air	1,2,4-Trimethylbenzene
8260B		Air	1,2-Dibromo-3-Chloropropane
8260B		Air	1,2-Dibromoethane (EDB)
8260B		Air	1,2-Dichlorobenzene
8260B		Air	1,2-Dichloroethane (EDC)
8260B		Air	1,2-Dichloropropane
8260B		Air	1,3,5-Trimethylbenzene
8260B		Air	1,3-Dichlorobenzene
8260B		Air	1,3-Dichloropropane
8260B		Air	1,4-Dichlorobenzene

Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Laboratory: Eurofins Albuquerque (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Air	1-Methylnaphthalene
8260B		Air	2,2-Dichloropropane
8260B		Air	2-Butanone
8260B		Air	2-Chlorotoluene
8260B		Air	2-Hexanone
8260B		Air	2-Methylnaphthalene
8260B		Air	4-Chlorotoluene
8260B		Air	4-Isopropyltoluene
8260B		Air	4-Methyl-2-pentanone
8260B		Air	Acetone
8260B		Air	Benzene
8260B		Air	Bromobenzene
8260B		Air	Bromodichloromethane
8260B		Air	Bromoform
8260B		Air	Bromomethane
8260B		Air	Carbon disulfide
8260B		Air	Carbon tetrachloride
8260B		Air	Chlorobenzene
8260B		Air	Chloroethane
8260B		Air	Chloroform
8260B		Air	Chloromethane
8260B		Air	cis-1,2-Dichloroethene
8260B		Air	cis-1,3-Dichloropropene
8260B		Air	Dibromochloromethane
8260B		Air	Dibromomethane
8260B		Air	Dichlorodifluoromethane
8260B		Air	Ethylbenzene
8260B		Air	Hexachlorobutadiene
8260B		Air	Isopropylbenzene
8260B		Air	Methylene Chloride
8260B		Air	Methyl-tert-butyl Ether (MTBE)
8260B		Air	Naphthalene
8260B		Air	n-Butylbenzene
8260B		Air	N-Propylbenzene
8260B		Air	sec-Butylbenzene
8260B		Air	Styrene
8260B		Air	tert-Butylbenzene
8260B		Air	Tetrachloroethene (PCE)
8260B		Air	Toluene
8260B		Air	trans-1,2-Dichloroethene
8260B		Air	trans-1,3-Dichloropropene
8260B		Air	Trichloroethene (TCE)
8260B		Air	Trichlorofluoromethane
8260B		Air	Vinyl chloride
8260B		Air	Xylenes, Total

Method Summary

Client: Hilcorp Energy
Project/Site: SJ 32 9 Unit 41A

Job ID: 885-717-1

Method	Method Description	Protocol	Laboratory
8015D	Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)	SW846	EET ALB
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET ALB
Subcontract	Fixed Gases	None	
5030C	Collection/Prep Tedlar Bag (P&T)	SW846	EET ALB

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

= , 1120 South 27th Street, Billings, MT 59107

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

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ANALYTICAL SUMMARY REPORT

March 19, 2024

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

Work Order: B24030517 Quote ID: B15626
Project Name: SJ 32 9 Unit 41A

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 3/8/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24030517-001	SVE-1 (885-717-1)	03/05/24 13:15	03/08/24	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: SJ 32 9 Unit 41A
Lab ID: B24030517-001
Client Sample ID: SVE-1 (885-717-1)

Report Date: 03/19/24
Collection Date: 03/05/24 13:15
DateReceived: 03/08/24
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.78	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
Nitrogen	77.99	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
Carbon Dioxide	0.21	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
Methane	0.01	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
Hexanes plus	0.01	Mol %		0.01		GPA 2261-95	03/12/24 01:28 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	03/12/24 01:28 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	03/12/24 01:28 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	03/12/24 01:28 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	03/12/24 01:28 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	03/12/24 01:28 / jrj
Hexanes plus	0.004	gpm		0.001		GPA 2261-95	03/12/24 01:28 / jrj
GPM Total	0.004	gpm		0.001		GPA 2261-95	03/12/24 01:28 / jrj
GPM Pentanes plus	0.004	gpm		0.001		GPA 2261-95	03/12/24 01:28 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	1			1		GPA 2261-95	03/12/24 01:28 / jrj
Net BTU per cu ft @ std cond. (LHV)	1			1		GPA 2261-95	03/12/24 01:28 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	03/12/24 01:28 / jrj
Pseudo-critical Temperature, deg R	239			1		GPA 2261-95	03/12/24 01:28 / jrj
Specific Gravity @ 60/60F	0.999			0.001		D3588-81	03/12/24 01:28 / jrj
Air, %	99.53			0.01		GPA 2261-95	03/12/24 01:28 / jrj
- The analysis was not corrected for air.							
COMMENTS							
-						-	03/12/24 01:28 / 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:** B24030517 **Report Date:** 03/19/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R417974
Lab ID: **B24030510-001ADUP**	12	Sample Duplicate				Run: GCNGA-B_240312A				03/12/24 10:57
Oxygen		22.3	Mol %	0.01				0.3	20	
Nitrogen		77.4	Mol %	0.01				0.1	20	
Carbon Dioxide		0.10	Mol %	0.01				0.0	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		0.14	Mol %	0.01				13	20	
Ethane		0.01	Mol %	0.01				0.0	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				0.0	20	
Lab ID: **LCS031224**	11	Laboratory Control Sample				Run: GCNGA-B_240312A				03/12/24 03:08
Oxygen		0.63	Mol %	0.01	126	70	130			
Nitrogen		6.14	Mol %	0.01	102	70	130			
Carbon Dioxide		0.99	Mol %	0.01	100	70	130			
Methane		74.7	Mol %	0.01	100	70	130			
Ethane		6.04	Mol %	0.01	101	70	130			
Propane		5.03	Mol %	0.01	102	70	130			
Isobutane		1.66	Mol %	0.01	83	70	130			
n-Butane		2.00	Mol %	0.01	100	70	130			
Isopentane		0.99	Mol %	0.01	99	70	130			
n-Pentane		1.00	Mol %	0.01	100	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)

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Work Order Receipt Checklist

Hall Environmental

B24030517

Login completed by: Crystal M. Jones
Date Received: 3/8/2024
Reviewed by: gmccartney
Received by: CMJ
Reviewed Date: 3/13/2024
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:	9.8°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

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

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

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

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Contact and Corrective Action Comments:

None

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque, NM 87109
Phone: 505-345-3975 Fax: 505-345-4107

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Freeman, Andy	Carrier Tracking No(s):	COC No: 885-91.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: andy.freeman@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Energy Laboratories, Inc.		Accreditations Required (See note): NELAP - Oregon; State - New Mexico		Job #: 885-717-1
Address: 1120 South 27th Street, ,	Due Date Requested: 3/14/2024	Analysis Requested		Preservation Codes:
City: Billings	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
State, Zip: MT, 59107				
Phone:	PO #:			Other:
Email:	WO #:			
Project Name: SJ 32 9 Unit 41A	Project #: 88500415			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Fixed Gases)/ Fixed Gases	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SVE-1 (885-717-1)	3/5/24	13:15 Mountain		Air			X	1	B24030517

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		3/7/24 14:30				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by: Crystal Jones	Date/Time: 3/8/24 0930	Company ELI

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

ICOC No:
885-91

Containers

Count	Container Type	Preservative
1	Tedlar Bag 1L	None

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 32 9 Unit 41A

Project #:

Project Manager: Kate Kaufman

Sampler: Brandon Sinclair

On Ice: ☐ Yes ☑ No

# of Coolers: 1

Cooler Temp(including CF): NA (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
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.
3-5	1315	air	SVE-1	2 Tedlar		

885-717 COC

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				
							✓			✓	✓				

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
3/6/24	1232				3/6/24	1232
3/6/24	1750				3/7/24	0715

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.

Login Sample Receipt Checklist

Client: Hilcorp Energy Job Number: 885-717-1

Login Number: 717 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Lowman, Nick

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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 333286

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 333286
	Action Type: [REPORT] Alternative Remediation Report (C-141AR)

CONDITIONS

Created By	Condition	Condition Date
nvelez	1. Continue with O & M schedule. 2. Submit next quarterly report by July 15, 2024.	5/1/2024