



1. Continue O&M schedule as stated in report.
2. Submit next quarterly report by October 15, 2024.

July 11, 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: Second Quarter 2024 – SVE System Update

Lambe 2C
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident Number: NVF1836050592

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Second Quarter 2024 – SVE System Update* report summarizing the soil vapor extraction (SVE) system performance at the Lambe 2C natural gas production well (Site), located in Unit H, Section 20, Township 31 North, and Range 10 West in San Juan County (Figure 1). Specifically, this report summarizes Site activities performed in April, May, and June of 2024 to the New Mexico Oil Conservation Division (NMOCD).

SVE SYSTEM SPECIFICATIONS

The current SVE system was installed at the Site in September 2021, with operation beginning on September 24, 2021. The SVE system is configured so vacuum is applied to well MW01 (shown on Figure 2). SVE well MW01 is screened across the impacted soil interval from approximately 20 feet to 35 feet below ground surface (bgs). The SVE system consists of a 1-horsepower Atlantic Blower model AB-202/1 regenerative blower capable of producing 50 standard cubic feet per minute (scfm) flow and 30 inches of water column (IWC) vacuum. The layout of the SVE system and piping is shown on Figure 2.

SECOND QUARTER 2024 ACTIVITIES

During the second quarter of 2024, Ensolum and Hilcorp personnel performed bi-weekly operation and maintenance (O&M) visits to verify the system was operating as designed and to perform any required maintenance. Field notes taken during O&M visits are presented in Appendix A. During the second quarter of 2024, SVE well MW01 was operated in order to induce flow in the impacted soil zone. Between March 19 and June 13, 2024, the SVE system operated for 2,058.7 hours for a runtime efficiency of 99.7 percent (%). Appendix B presents photographs of the runtime meter for calculating the second quarter runtime efficiency. Please note that an additional O&M visit was conducted on June 25, 2024; however, a photo of the runtime meter was not collected and therefore the second quarter of 2024 runtime presented above is only through June 13, 2024. Table 1 presents the SVE system operational hours and calculated percentage runtime.

A second quarter 2024 vapor sample was collected on June 13, 2024, from a sample port located between the SVE piping manifold and the SVE blower, using a high vacuum air sampler. Prior to collection, the vapor sample was field screened with a photoionization detector (PID) for organic vapor monitoring (OVM). The vapor sample was collected directly into two 1-Liter Tedlar® bags and submitted to Eurofins Environment Testing (Formerly Hall Environmental Analysis Laboratory) in Albuquerque, New Mexico for analysis of total volatile petroleum hydrocarbons (TVPH – also known as total petroleum hydrocarbons – gasoline range organics (TPH-GRO)) following United States Environmental Protection Agency (EPA) Method 8015D, volatile organic compounds (VOCs) following EPA Method 8260B, and fixed gas analysis of oxygen and carbon dioxide following Gas Processors Association (GPA) Method 2261. Table 2 presents a summary of analytical data collected during this sampling event and historical sampling events, with the full laboratory analytical report included in Appendix C.

Vapor sample data and measured stack flow rates are used to estimate total mass recovered and total emissions generated by the SVE system (Table 3). Based on these estimates, 503 pounds of TVPH have been removed by the system to date.

RECOMMENDATIONS

Based on the remediation timeline presented in the *Update Report and Updated Remediation Workplan*, prepared by WSP USA, Inc. and dated September 30, 2021, soil sampling activities were performed on September 22 and 23, 2023 using a sonic drill rig. Soil sampling activities and analytical results were initially summarized in the Ensolum report titled *Closure Request with Variance* and submitted to the NMOCD on November 22, 2023. A revised *Closure Request with Variance* was submitted to the NMOCD on June 13, 2024. The SVE system will continue to operate while Hilcorp and the NMOCD work towards closure of the Site.

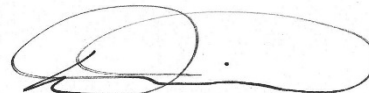
Bi-weekly O&M visits will continue to be performed by Ensolum and/or Hilcorp personnel to verify the SVE system is operating within normal working ranges (i.e., temperature, pressure, and vacuum). Deviations from regular operations will be noted on field logs and included in the following quarterly report.

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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Hilcorp Energy Company
Second Quarter 2024 – SVE System Update
Lambe 2C

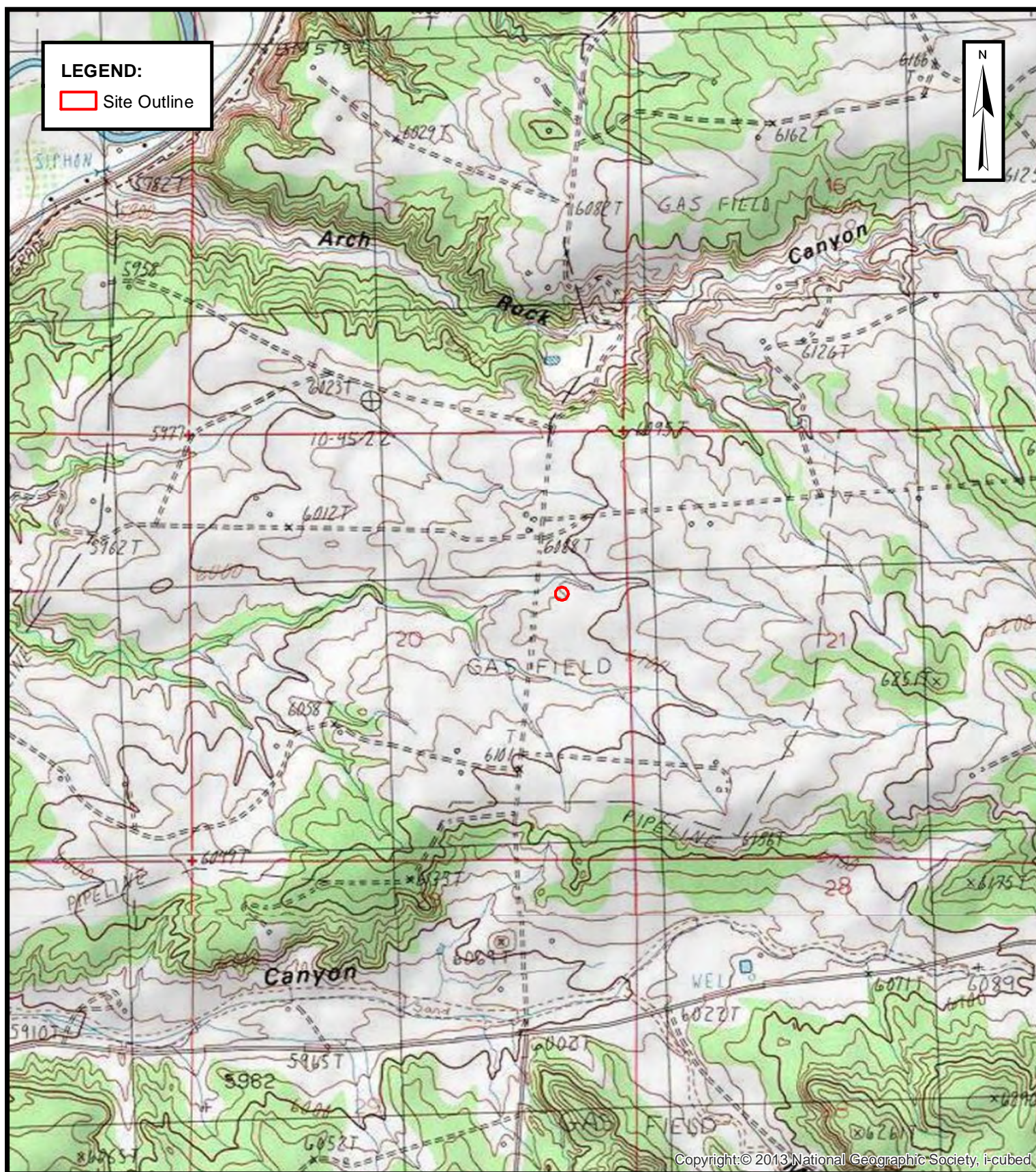


Attachments:

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



Figures



SITE LOCATION MAP

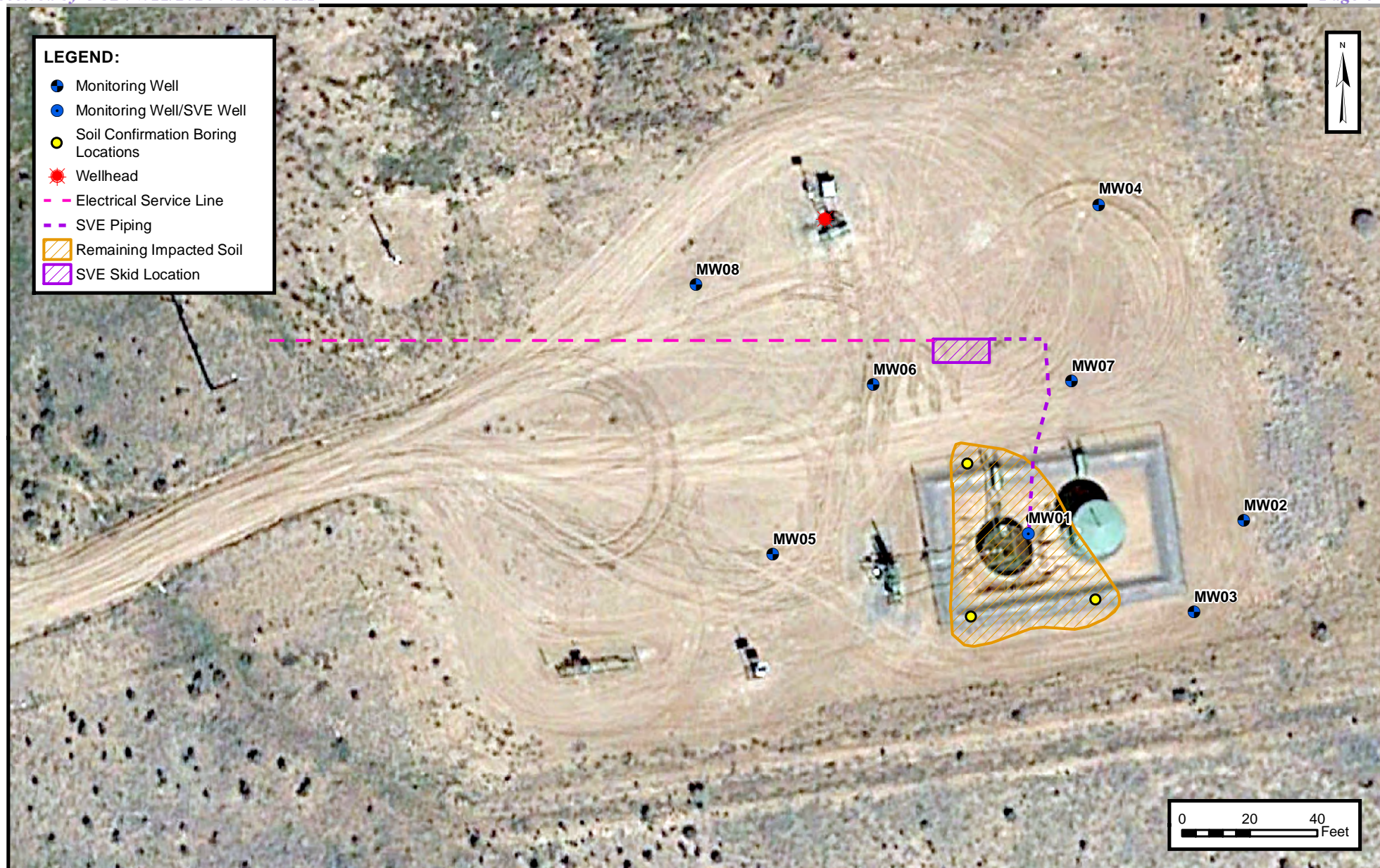
HILLCORP ENERGY COMPANY
LAMBE 2C

SENE SEC 20 T31N R10W, San Juan County, New Mexico
36.885735° N, 107.899592° W

PROJECT NUMBER: 07A1988008

FIGURE

1



AS BUILT DIAGRAM

HILCORP ENERGY COMPANY
LAMBE 2C

SENE SEC 20 T31N R10W, San Juan County, New Mexico
36.885855° N, 107.899525° W

PROJECT NUMBER: 07A1988008

FIGURE

2



Tables



TABLE 1
SOIL VAPOR EXTRACTION SYSTEM RUNTIME CALCULATIONS
Lambe 2C
Hilcorp Energy Company
San Juan County, New Mexico

Date	Total Operational Hours	Delta Hours	Days	Percent Runtime
3/19/2024	12,256.6	--	--	--
6/13/2024	14,315.3	2,058.7	86.0	99.7%



TABLE 2 SOIL VAPOR EXTRACTION SYSTEM EMISSIONS ANALYTICAL RESULTS Lambe 2C 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 (%)
9/25/2019 ⁽¹⁾	782	6.1	42	<5.0	56	--	--	--
10/14/2019 ⁽¹⁾	431	7.3	26	2.6	36	3,600	--	--
9/17/2021 ⁽²⁾	78	<0.10	<0.10	<0.10	1.1	660	--	--
9/24/2021	97	<0.20	0.9	<0.20	4.3	880	--	--
12/2/2021	92	<0.20	2.3	0.6	6.5	300	22.10	0.288
3/15/2022	42	<0.1	<0.10	<0.10	0.5	41	22.10	0.249
6/16/2022	25	<0.10	0.51	0.14	1.4	110	21.57	0.28
9/28/2022 ⁽³⁾	122	<0.10	<0.10	<0.10	<0.15	43	21.47	0.41
12/12/2022 ⁽³⁾	16.9	0.72	8.2	0.51	6.5	170	21.68	0.30
3/9/2023	20.8	0.21	4.1	0.47	<0.10	140	21.64	0.26
6/22/2023	48.3	0.37	4.1	0.29	5.4	120	21.10	0.30
8/23/2023	38.6	0.21	3.1	0.30	4.7	75	21.30	0.53
11/27/2023	23.8	<0.10	1.6	0.16	2.5	51	21.50	0.34
3/5/2024	40.6	0.69	9.9	0.91	11	130	22.31	0.24
6/13/2024	30.1	0.35	4.2	0.34	4.4	57	21.67	0.25

Notes:

(1): sample collected during a Venturi event
(2): sample collected during pilot testing of the SVE system
(3): PID measurement collected during operation and maintenance visits on 9/21/2022 and 12/10/2022
GRO: gasoline range organics
µg/L: microgram per liter
PID: photoionization detector

ppm: parts per million
TVPH: total volatile petroleum hydrocarbons
%: percent
--: not sampled
<: gray indicates result less than the stated laboratory reporting limit (RL)



TABLE 3
SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS
 Lambe 2C
 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)
9/24/2021	97	0.20	0.94	0.20	4.3	880
12/2/2021	92	0.20	2.3	0.59	6.5	300
3/15/2022	42	0.10	0.10	0.10	0.48	41
6/16/2022	25	0.10	0.51	0.14	1.4	110
9/28/2022 ⁽¹⁾	122	0.10	0.10	0.10	0.15	43
12/12/2022 ⁽²⁾	16.9	0.72	8.2	0.51	6.5	170
3/9/2023	20.8	0.21	4.1	0.47	0.10	140
6/22/2023	48.3	0.37	4.1	0.29	5.4	120
8/23/2023	38.6	0.21	3.1	0.30	4.7	75
11/27/2023	23.8	0.10	1.6	0.16	2.5	51
3/5/2024	40.6	0.69	9.9	0.91	11.0	130
6/13/2024	30.1	0.35	4.2	0.34	4.4	57
Average	50	0.28	3.3	0.34	4.0	176

Vapor Extraction Summary

Date	Flow Rate (cfm)	Total System Flow (cf)	Delta Flow (cf)	Benzene (lb/hr)	Toluene (lb/hr)	Ethylbenzene (lb/hr)	Total Xylenes (lb/hr)	TVPH (lb/hr)
9/24/2021	51	4,590	4,590	0.000038	0.00018	0.000038	0.00082	0.17
12/2/2021	40	3,811,470	3,806,880	0.000030	0.00024	0.000059	0.00081	0.088
3/15/2022	40	9,329,550	5,518,080	0.000022	0.00018	0.000052	0.00052	0.026
6/16/2022	42	14,899,002	5,569,452	0.000016	0.000048	0.000019	0.00015	0.012
9/28/2022 ⁽¹⁾	44	20,888,106	5,989,104	0.000016	0.000050	0.000020	0.00013	0.013
12/10/2022 ⁽²⁾	44	25,438,938	4,550,832	0.000067	0.00068	0.000050	0.00055	0.018
3/9/2023	43	30,543,984	5,105,046	0.000075	0.00099	0.000079	0.00053	0.025
6/22/2023	44	37,073,496	6,529,512	0.000048	0.00067	0.000063	0.00045	0.021
8/23/2023	46	40,215,535	3,142,039	0.000050	0.00062	0.000051	0.00087	0.017
11/27/2023	47	46,701,986	6,486,451	0.000027	0.00041	0.000040	0.00063	0.011
3/5/2024	45	53,835,926	7,133,940	0.000066	0.00097	0.000090	0.00114	0.015
6/13/2024	45	59,394,416	5,558,490	0.000088	0.00119	0.000105	0.00130	0.016
Average				0.000045	0.00052	0.000055	0.00066	0.036

Mass Recovery

Date	Total Operational Hours ⁽³⁾	Delta Hours	Benzene (pounds)	Toluene (pounds)	Ethylbenzene (pounds)	Total Xylenes (pounds)	TVPH (pounds)	TVPH (tons)
9/24/2021	1.5	1.5	0.000057	0.00027	0.000057	0.0012	0.25	0.00013
12/2/2021	1,588	1,586	0.047	0.38	0.094	1.3	140	0.070
3/15/2022	3,887	2,299	0.052	0.41	0.12	1.2	59	0.029
6/16/2022	6,097	2,210	0.035	0.11	0.042	0.33	26	0.013
9/21/2022 ⁽¹⁾	8,366	2,269	0.037	0.11	0.045	0.29	29	0.014
12/10/2022 ⁽²⁾	10,089	1,724	0.12	1.2	0.087	0.94	30	0.015
3/9/2023	12,068	1,979	0.15	2.0	0.16	1.1	49	0.025
6/22/2023	14,541	2,473	0.12	1.7	0.15	1.1	53	0.026
8/23/2023	15,680	1,138	0.057	0.71	0.058	1.0	19	0.010
11/27/2023	17,980	2,300	0.063	0.95	0.093	1.5	25	0.013
3/5/2024	20,622	2,642	0.176	2.56	0.238	3.0	40	0.020
6/13/2024	22,681	2,059	0.180	2.44	0.217	2.7	32	0.016
Total Mass Recovery to Date			1.03	12.5	1.30	14.3	503	0.25

Notes:

- (1): PID measurement, SVE system hours, and flow rates were collected during operation and maintenance visit on 9/21/2022
- (2): PID measurement, SVE system hours, and flow rates were collected during operation and maintenance visit on 12/10/2022
- (3): total operational hours are a summation of runtime hours collected from several blower runtime meters
- cf: cubic feet
- cfm: cubic feet per minute
- µg/L: micrograms per liter
- lb/hr: pounds per hour
- : not sampled
- PID: photoionization detector
- ppm: parts per million
- TVPH: total volatile petroleum hydrocarbons
- gray: laboratory reporting limit used for calculating emissions



APPENDIX A

Field Notes

LAMBE 2C SVE SYSTEM
BIWEEKLY O&M FORM

DATE: 4-4
TIME ONSITE: _____

O&M PERSONNEL: B Sinclair
TIME OFFSITE: _____

SVE SYSTEM - MONTHLY O&M	
SVE ALARMS:	<div>KO TANK HIGH LEVEL</div>

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	12638.51	1403
Inlet Vacuum (IWC)	18	
K/O Tank Vacuum (IWC)	17	
Inlet Flow Rotameter (scfm)	44	
Inlet PID	43.2	
Exhaust PID	2.4	
K/O Tank Liquid Level		
K/O Liquid Drained (gallons)		
Clean/Dry Air Filter (check)		

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

Change in Well Operation:	
---------------------------	--

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE01	3.52	38.1	

COMMENTS/OTHER MAINTENANCE:

LAMBE 2C SVE SYSTEM
BIWEEKLY O&M FORM

DATE: 4-16
TIME ONSITE: _____

O&M PERSONNEL: B Sinclair
TIME OFFSITE: _____

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: _____ KO TANK HIGH LEVEL

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	12926.03	1335
Inlet Vacuum (IWC)	17	
K/O Tank Vacuum (IWC)	17	
Inlet Flow Rotameter (scfm)	45	
Inlet PID	56.9	
Exhaust PID	0.3	
K/O Tank Liquid Level		
K/O Liquid Drained (gallons)	1	
Clean/Dry Air Filter (check)		

SVE SYSTEM - QUARTERLY SAMPLING

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

Change in Well Operation:

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE01	3.59	48.2	

COMMENTS/OTHER MAINTENANCE:

Bailed MW-1, 3, 6, 7

LAMBE 2C SVE SYSTEM
BIWEEKLY O&M FORMDATE: 5-13
TIME ONSITE: _____O&M PERSONNEL: B Sindair
TIME OFFSITE: _____

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: _____
KO TANK HIGH LEVEL

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	13573.97	1345
Inlet Vacuum (IWC)	18	
K/O Tank Vacuum (IWC)	14	
Inlet Flow Rotameter (scfm)	45	
Inlet PID	5.8	
Exhaust PID	0.5	
K/O Tank Liquid Level		
K/O Liquid Drained (gallons)		
Clean/Dry Air Filter (check)		

SVE SYSTEM - QUARTERLY SAMPLING

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

OPERATING WELLS

Change in Well Operation: _____

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE01		7.0	

COMMENTS/OTHER MAINTENANCE:

LAMBE 2C SVE SYSTEM
BIWEEKLY O&M FORMDATE: 5-22
TIME ONSITE: _____O&M PERSONNEL: B Sinclair
TIME OFFSITE: _____

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: _____ KO TANK HIGH LEVEL

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	13791.92	1541
Inlet Vacuum (IWC)	16	
K/O Tank Vacuum (IWC)	14	
Inlet Flow Rotameter (scfm)	4.5	
Inlet PID	31.9	
Exhaust PID	0.6	
K/O Tank Liquid Level		
K/O Liquid Drained (gallons)		
Clean/Dry Air Filter (check)		

SVE SYSTEM - QUARTERLY SAMPLING

SAMPLE ID: _____ SAMPLE TIME: _____

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

OPERATING WELLS

Change in Well Operation:

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE01		34.1	

COMMENTS/OTHER MAINTENANCE:

LAMBE 2C SVE SYSTEM
BIWEEKLY O&M FORM

DATE: 6-13
TIME ONSITE:

O&M PERSONNEL: B Sinclair
TIME OFFSITE:

SVE SYSTEM - MONTHLY O&M	
SVE ALARMS:	KO TANK HIGH LEVEL

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	14315.27	1212
Inlet Vacuum (IWC)	16	
K/O Tank Vacuum (IWC)	13	
Inlet Flow Rotameter (scfm)	4.5	
Inlet PID	30.1	
Exhaust PID	2.9	
K/O Tank Liquid Level		
K/O Liquid Drained (gallons)		
Clean/Dry Air Filter (check)		

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

Change in Well Operation:			
LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE01		16.7	

COMMENTS/OTHER MAINTENANCE:

LAMBE 2C SVE SYSTEM
BIWEEKLY O&M FORM

DATE: 6/25/2024
TIME ONSITE: 1530

O&M PERSONNEL: _____
TIME OFFSITE: _____

SVE SYSTEM - MONTHLY O&M

SVE ALARMS: — KO TANK HIGH LEVEL

SVE SYSTEM	READING	TIME
Blower Hours (take photo)	<u>14600.40</u>	
Inlet Vacuum (IWC)	<u>16</u>	
K/O Tank Vacuum (IWC)	<u>14</u>	
Inlet Flow Rotameter (scfm)	<u>45</u>	
Inlet PID	<u>27.1</u>	
Exhaust PID	<u>1.1</u>	
K/O Tank Liquid Level	<u>—</u>	
K/O Liquid Drained (gallons)	<u>—</u>	
Clean/Dry Air Filter (check)	<u>—</u>	

SVE SYSTEM - QUARTERLY SAMPLING

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

Change in Well Operation:

LOCATION	VACUUM (IWC)	PID HEADSPACE (PPM)	ADJUSTMENTS
SVE01		<u>6.2</u>	



COMMENTS/OTHER MAINTENANCE:



APPENDIX B

Project Photographs

PROJECT PHOTOGRAPHS
Lambe 2C
San Juan County, New Mexico
Hilcorp Energy Company

<p>Photograph 1</p> <p>Runtime meter taken on March 19, 2024 at 4:07 PM Hours = 12,256.63</p>	
<p>Photograph 2</p> <p>Runtime meter taken on June 13, 2024 at 12:12 PM Hours = 14,315.27</p>	



APPENDIX C

Laboratory Analytical Reports



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 7/9/2024 5:14:09 PM

JOB DESCRIPTION

Lambe 2C

JOB NUMBER

885-6350-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.
Released to Imaging: 8/2/2024 1:00:27 PM

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



Generated
7/9/2024 5:14:09 PM

Authorized for release by
Michelle Garcia, Project Manager
michelle.garcia@et.eurofinsus.com
(505)345-3975

Client: Hilcorp Energy
Project/Site: Lambe 2C

Laboratory Job ID: 885-6350-1

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Definitions/Glossary

Client: Hilcorp Energy
Project/Site: Lambe 2C

Job ID: 885-6350-1

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

Eurofins Albuquerque

Case Narrative

Client: Hilcorp Energy
Project: Lambe 2C

Job ID: 885-6350-1

Job ID: 885-6350-1

Eurofins Albuquerque

Job Narrative 885-6350-1

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 6/15/2024 1:00 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 26.3°C.

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.

Gasoline Range Organics

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

GC/MS VOA

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

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Client Sample Results

Client: Hilcorp Energy
Project/Site: Lambe 2C

Job ID: 885-6350-1

Client Sample ID: SVE-1

Lab Sample ID: 885-6350-1

Date Collected: 06/13/24 12:00

Matrix: Air

Date Received: 06/15/24 13:00

Sample Container: Tedlar Bag 1L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	57		5.0	ug/L			06/27/24 19:35	1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		52 - 172		06/27/24 19:35	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		0.10	ug/L			06/27/24 19:35	1
1,1,1-Trichloroethane	ND		0.10	ug/L			06/27/24 19:35	1
1,1,2,2-Tetrachloroethane	ND		0.20	ug/L			06/27/24 19:35	1
1,1,2-Trichloroethane	ND		0.10	ug/L			06/27/24 19:35	1
1,1-Dichloroethane	ND		0.10	ug/L			06/27/24 19:35	1
1,1-Dichloroethene	ND		0.10	ug/L			06/27/24 19:35	1
1,1-Dichloropropene	ND		0.10	ug/L			06/27/24 19:35	1
1,2,3-Trichlorobenzene	ND		0.10	ug/L			06/27/24 19:35	1
1,2,3-Trichloropropane	ND		0.20	ug/L			06/27/24 19:35	1
1,2,4-Trichlorobenzene	ND		0.10	ug/L			06/27/24 19:35	1
1,2,4-Trimethylbenzene	0.40		0.10	ug/L			06/27/24 19:35	1
1,2-Dibromo-3-Chloropropane	ND		0.20	ug/L			06/27/24 19:35	1
1,2-Dibromoethane (EDB)	ND		0.10	ug/L			06/27/24 19:35	1
1,2-Dichlorobenzene	ND		0.10	ug/L			06/27/24 19:35	1
1,2-Dichloroethane (EDC)	ND		0.10	ug/L			06/27/24 19:35	1
1,2-Dichloropropane	ND		0.10	ug/L			06/27/24 19:35	1
1,3,5-Trimethylbenzene	0.40		0.10	ug/L			06/27/24 19:35	1
1,3-Dichlorobenzene	ND		0.10	ug/L			06/27/24 19:35	1
1,3-Dichloropropane	ND		0.10	ug/L			06/27/24 19:35	1
1,4-Dichlorobenzene	ND		0.10	ug/L			06/27/24 19:35	1
1-Methylnaphthalene	ND		0.40	ug/L			06/27/24 19:35	1
2,2-Dichloropropane	ND		0.20	ug/L			06/27/24 19:35	1
2-Butanone	ND		1.0	ug/L			06/27/24 19:35	1
2-Chlorotoluene	ND		0.10	ug/L			06/27/24 19:35	1
2-Hexanone	ND		1.0	ug/L			06/27/24 19:35	1
2-Methylnaphthalene	ND		0.40	ug/L			06/27/24 19:35	1
4-Chlorotoluene	ND		0.10	ug/L			06/27/24 19:35	1
4-Isopropyltoluene	ND		0.10	ug/L			06/27/24 19:35	1
4-Methyl-2-pentanone	ND		1.0	ug/L			06/27/24 19:35	1
Acetone	ND		1.0	ug/L			06/27/24 19:35	1
Benzene	0.35		0.10	ug/L			06/27/24 19:35	1
Bromobenzene	ND		0.10	ug/L			06/27/24 19:35	1
Bromodichloromethane	ND		0.10	ug/L			06/27/24 19:35	1
Dibromochloromethane	ND		0.10	ug/L			06/27/24 19:35	1
Bromoform	ND		0.10	ug/L			06/27/24 19:35	1
Bromomethane	ND		0.30	ug/L			06/27/24 19:35	1
Carbon disulfide	ND		1.0	ug/L			06/27/24 19:35	1
Carbon tetrachloride	ND		0.10	ug/L			06/27/24 19:35	1
Chlorobenzene	ND		0.10	ug/L			06/27/24 19:35	1
Chloroethane	ND		0.20	ug/L			06/27/24 19:35	1

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Client Sample Results

Client: Hilcorp Energy
Project/Site: Lambe 2C

Job ID: 885-6350-1

Client Sample ID: SVE-1

Lab Sample ID: 885-6350-1

Date Collected: 06/13/24 12:00

Matrix: Air

Date Received: 06/15/24 13:00

Sample Container: Tedlar Bag 1L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		0.10	ug/L			06/27/24 19:35	1
Chloromethane	ND		0.30	ug/L			06/27/24 19:35	1
cis-1,2-Dichloroethene	ND		0.10	ug/L			06/27/24 19:35	1
cis-1,3-Dichloropropene	ND		0.10	ug/L			06/27/24 19:35	1
Dibromomethane	ND		0.10	ug/L			06/27/24 19:35	1
Dichlorodifluoromethane	ND		0.10	ug/L			06/27/24 19:35	1
Ethylbenzene	0.34		0.10	ug/L			06/27/24 19:35	1
Hexachlorobutadiene	ND		0.10	ug/L			06/27/24 19:35	1
Isopropylbenzene	ND		0.10	ug/L			06/27/24 19:35	1
Methyl-tert-butyl Ether (MTBE)	ND		0.10	ug/L			06/27/24 19:35	1
Methylene Chloride	ND		0.30	ug/L			06/27/24 19:35	1
n-Butylbenzene	ND		0.30	ug/L			06/27/24 19:35	1
N-Propylbenzene	ND		0.10	ug/L			06/27/24 19:35	1
Naphthalene	ND		0.20	ug/L			06/27/24 19:35	1
sec-Butylbenzene	ND		0.10	ug/L			06/27/24 19:35	1
Styrene	ND		0.10	ug/L			06/27/24 19:35	1
tert-Butylbenzene	ND		0.10	ug/L			06/27/24 19:35	1
Tetrachloroethene (PCE)	ND		0.10	ug/L			06/27/24 19:35	1
Toluene	4.2		0.10	ug/L			06/27/24 19:35	1
trans-1,2-Dichloroethene	ND		0.10	ug/L			06/27/24 19:35	1
trans-1,3-Dichloropropene	ND		0.10	ug/L			06/27/24 19:35	1
Trichloroethene (TCE)	ND		0.10	ug/L			06/27/24 19:35	1
Trichlorofluoromethane	ND		0.10	ug/L			06/27/24 19:35	1
Vinyl chloride	ND		0.10	ug/L			06/27/24 19:35	1
Xylenes, Total	4.4		0.15	ug/L			06/27/24 19:35	1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 130		06/27/24 19:35	1
Toluene-d8 (Surr)	105		70 - 130		06/27/24 19:35	1
4-Bromofluorobenzene (Surr)	102		70 - 130		06/27/24 19:35	1
Dibromofluoromethane (Surr)	100		70 - 130		06/27/24 19:35	1

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QC Sample Results

Client: Hilcorp Energy
Project/Site: Lambe 2C

Job ID: 885-6350-1

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

Lab Sample ID: MB 885-7599/3

Matrix: Air

Analysis Batch: 7599

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			06/27/24 17:09	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		52 - 172				06/27/24 17:09	1

Lab Sample ID: LCS 885-7599/2

Matrix: Air

Analysis Batch: 7599

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	475		ug/L		95	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	107		52 - 172				

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

Lab Sample ID: MB 885-7511/28

Matrix: Air

Analysis Batch: 7511

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			06/27/24 17:09	1
1,1,1-Trichloroethane	ND		0.10	ug/L			06/27/24 17:09	1
1,1,2,2-Tetrachloroethane	ND		0.20	ug/L			06/27/24 17:09	1
1,1,2-Trichloroethane	ND		0.10	ug/L			06/27/24 17:09	1
1,1-Dichloroethane	ND		0.10	ug/L			06/27/24 17:09	1
1,1-Dichloroethene	ND		0.10	ug/L			06/27/24 17:09	1
1,1-Dichloropropene	ND		0.10	ug/L			06/27/24 17:09	1
1,2,3-Trichlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,2,3-Trichloropropane	ND		0.20	ug/L			06/27/24 17:09	1
1,2,4-Trichlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,2,4-Trimethylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,2-Dibromo-3-Chloropropane	ND		0.20	ug/L			06/27/24 17:09	1
1,2-Dibromoethane (EDB)	ND		0.10	ug/L			06/27/24 17:09	1
1,2-Dichlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,2-Dichloroethane (EDC)	ND		0.10	ug/L			06/27/24 17:09	1
1,2-Dichloropropane	ND		0.10	ug/L			06/27/24 17:09	1
1,3,5-Trimethylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,3-Dichlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,3-Dichloropropane	ND		0.10	ug/L			06/27/24 17:09	1
1,4-Dichlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
1-Methylnaphthalene	ND		0.40	ug/L			06/27/24 17:09	1
2,2-Dichloropropane	ND		0.20	ug/L			06/27/24 17:09	1
2-Butanone	ND		1.0	ug/L			06/27/24 17:09	1
2-Chlorotoluene	ND		0.10	ug/L			06/27/24 17:09	1
2-Hexanone	ND		1.0	ug/L			06/27/24 17:09	1

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QC Sample Results

Client: Hilcorp Energy
Project/Site: Lambe 2C

Job ID: 885-6350-1

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

Lab Sample ID: MB 885-7511/28

Matrix: Air

Analysis Batch: 7511

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.40	ug/L			06/27/24 17:09	1
4-Chlorotoluene	ND		0.10	ug/L			06/27/24 17:09	1
4-Isopropyltoluene	ND		0.10	ug/L			06/27/24 17:09	1
4-Methyl-2-pentanone	ND		1.0	ug/L			06/27/24 17:09	1
Acetone	ND		1.0	ug/L			06/27/24 17:09	1
Benzene	ND		0.10	ug/L			06/27/24 17:09	1
Bromobenzene	ND		0.10	ug/L			06/27/24 17:09	1
Bromodichloromethane	ND		0.10	ug/L			06/27/24 17:09	1
Dibromochloromethane	ND		0.10	ug/L			06/27/24 17:09	1
Bromoform	ND		0.10	ug/L			06/27/24 17:09	1
Bromomethane	ND		0.30	ug/L			06/27/24 17:09	1
Carbon disulfide	ND		1.0	ug/L			06/27/24 17:09	1
Carbon tetrachloride	ND		0.10	ug/L			06/27/24 17:09	1
Chlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
Chloroethane	ND		0.20	ug/L			06/27/24 17:09	1
Chloroform	ND		0.10	ug/L			06/27/24 17:09	1
Chloromethane	ND		0.30	ug/L			06/27/24 17:09	1
cis-1,2-Dichloroethene	ND		0.10	ug/L			06/27/24 17:09	1
cis-1,3-Dichloropropene	ND		0.10	ug/L			06/27/24 17:09	1
Dibromomethane	ND		0.10	ug/L			06/27/24 17:09	1
Dichlorodifluoromethane	ND		0.10	ug/L			06/27/24 17:09	1
Ethylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
Hexachlorobutadiene	ND		0.10	ug/L			06/27/24 17:09	1
Isopropylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
Methyl-tert-butyl Ether (MTBE)	ND		0.10	ug/L			06/27/24 17:09	1
Methylene Chloride	ND		0.30	ug/L			06/27/24 17:09	1
n-Butylbenzene	ND		0.30	ug/L			06/27/24 17:09	1
N-Propylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
Naphthalene	ND		0.20	ug/L			06/27/24 17:09	1
sec-Butylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
Styrene	ND		0.10	ug/L			06/27/24 17:09	1
tert-Butylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
Tetrachloroethene (PCE)	ND		0.10	ug/L			06/27/24 17:09	1
Toluene	ND		0.10	ug/L			06/27/24 17:09	1
trans-1,2-Dichloroethene	ND		0.10	ug/L			06/27/24 17:09	1
trans-1,3-Dichloropropene	ND		0.10	ug/L			06/27/24 17:09	1
Trichloroethene (TCE)	ND		0.10	ug/L			06/27/24 17:09	1
Trichlorofluoromethane	ND		0.10	ug/L			06/27/24 17:09	1
Vinyl chloride	ND		0.10	ug/L			06/27/24 17:09	1
Xylenes, Total	ND		0.15	ug/L			06/27/24 17:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		06/27/24 17:09	1
Toluene-d8 (Surr)	95		70 - 130		06/27/24 17:09	1
4-Bromofluorobenzene (Surr)	95		70 - 130		06/27/24 17:09	1
Dibromofluoromethane (Surr)	105		70 - 130		06/27/24 17:09	1

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QC Sample Results

Client: Hilcorp Energy
Project/Site: Lambe 2C

Job ID: 885-6350-1

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

Lab Sample ID: MB 885-7511/5

Matrix: Air

Analysis Batch: 7511

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			06/27/24 17:09	1
1,1,1-Trichloroethane	ND		1.0	ug/L			06/27/24 17:09	1
1,1,2,2-Tetrachloroethane	ND		2.0	ug/L			06/27/24 17:09	1
1,1,2-Trichloroethane	ND		1.0	ug/L			06/27/24 17:09	1
1,1-Dichloroethane	ND		1.0	ug/L			06/27/24 17:09	1
1,1-Dichloroethene	ND		1.0	ug/L			06/27/24 17:09	1
1,1-Dichloropropene	ND		1.0	ug/L			06/27/24 17:09	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,2,3-Trichloropropane	ND		2.0	ug/L			06/27/24 17:09	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,2-Dibromo-3-Chloropropane	ND		2.0	ug/L			06/27/24 17:09	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			06/27/24 17:09	1
1,2-Dichlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,2-Dichloroethane (EDC)	ND		1.0	ug/L			06/27/24 17:09	1
1,2-Dichloropropane	ND		1.0	ug/L			06/27/24 17:09	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,3-Dichlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,3-Dichloropropane	ND		1.0	ug/L			06/27/24 17:09	1
1,4-Dichlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
1-Methylnaphthalene	ND		4.0	ug/L			06/27/24 17:09	1
2,2-Dichloropropane	ND		2.0	ug/L			06/27/24 17:09	1
2-Butanone	ND		10	ug/L			06/27/24 17:09	1
2-Chlorotoluene	ND		1.0	ug/L			06/27/24 17:09	1
2-Hexanone	ND		10	ug/L			06/27/24 17:09	1
2-Methylnaphthalene	ND		4.0	ug/L			06/27/24 17:09	1
4-Chlorotoluene	ND		1.0	ug/L			06/27/24 17:09	1
4-Isopropyltoluene	ND		1.0	ug/L			06/27/24 17:09	1
4-Methyl-2-pentanone	ND		10	ug/L			06/27/24 17:09	1
Acetone	ND		10	ug/L			06/27/24 17:09	1
Benzene	ND		1.0	ug/L			06/27/24 17:09	1
Bromobenzene	ND		1.0	ug/L			06/27/24 17:09	1
Bromodichloromethane	ND		1.0	ug/L			06/27/24 17:09	1
Dibromochloromethane	ND		1.0	ug/L			06/27/24 17:09	1
Bromoform	ND		1.0	ug/L			06/27/24 17:09	1
Bromomethane	ND		3.0	ug/L			06/27/24 17:09	1
Carbon disulfide	ND		10	ug/L			06/27/24 17:09	1
Carbon tetrachloride	ND		1.0	ug/L			06/27/24 17:09	1
Chlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
Chloroethane	ND		2.0	ug/L			06/27/24 17:09	1
Chloroform	ND		1.0	ug/L			06/27/24 17:09	1
Chloromethane	ND		3.0	ug/L			06/27/24 17:09	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			06/27/24 17:09	1
cis-1,3-Dichloropropene	ND		1.0	ug/L			06/27/24 17:09	1
Dibromomethane	ND		1.0	ug/L			06/27/24 17:09	1
Dichlorodifluoromethane	ND		1.0	ug/L			06/27/24 17:09	1
Ethylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
Hexachlorobutadiene	ND		1.0	ug/L			06/27/24 17:09	1

Eurofins Albuquerque

QC Sample Results

Client: Hilcorp Energy
Project/Site: Lambe 2C

Job ID: 885-6350-1

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

Lab Sample ID: MB 885-7511/5
Matrix: Air
Analysis Batch: 7511

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
Methyl-tert-butyl Ether (MTBE)	ND		1.0	ug/L			06/27/24 17:09	1
Methylene Chloride	ND		3.0	ug/L			06/27/24 17:09	1
n-Butylbenzene	ND		3.0	ug/L			06/27/24 17:09	1
N-Propylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
Naphthalene	ND		2.0	ug/L			06/27/24 17:09	1
sec-Butylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
Styrene	ND		1.0	ug/L			06/27/24 17:09	1
tert-Butylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
Tetrachloroethene (PCE)	ND		1.0	ug/L			06/27/24 17:09	1
Toluene	ND		1.0	ug/L			06/27/24 17:09	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			06/27/24 17:09	1
trans-1,3-Dichloropropene	ND		1.0	ug/L			06/27/24 17:09	1
Trichloroethene (TCE)	ND		1.0	ug/L			06/27/24 17:09	1
Trichlorofluoromethane	ND		1.0	ug/L			06/27/24 17:09	1
Vinyl chloride	ND		1.0	ug/L			06/27/24 17:09	1
Xylenes, Total	ND		1.5	ug/L			06/27/24 17:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		06/27/24 17:09	1
Toluene-d8 (Surr)	95		70 - 130		06/27/24 17:09	1
4-Bromofluorobenzene (Surr)	95		70 - 130		06/27/24 17:09	1
Dibromofluoromethane (Surr)	105		70 - 130		06/27/24 17:09	1

Lab Sample ID: LCS 885-7511/3
Matrix: Air
Analysis Batch: 7511

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	21.9		ug/L		109	70 - 130
Benzene	20.1	22.8		ug/L		113	70 - 130
Chlorobenzene	20.1	22.9		ug/L		114	70 - 130
Toluene	20.2	21.9		ug/L		108	70 - 130
Trichloroethene (TCE)	20.2	22.1		ug/L		110	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 130
Toluene-d8 (Surr)	95		70 - 130
4-Bromofluorobenzene (Surr)	96		70 - 130
Dibromofluoromethane (Surr)	103		70 - 130

Eurofins Albuquerque

QC Association Summary

Client: Hilcorp Energy
Project/Site: Lambe 2C

Job ID: 885-6350-1

GC/MS VOA

Analysis Batch: 7511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6350-1	SVE-1	Total/NA	Air	8260B	
MB 885-7511/28	Method Blank	Total/NA	Air	8260B	
MB 885-7511/5	Method Blank	Total/NA	Air	8260B	
LCS 885-7511/3	Lab Control Sample	Total/NA	Air	8260B	

Analysis Batch: 7599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6350-1	SVE-1	Total/NA	Air	8015M/D	
MB 885-7599/3	Method Blank	Total/NA	Air	8015M/D	
LCS 885-7599/2	Lab Control Sample	Total/NA	Air	8015M/D	

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Lab Chronicle

Client: Hilcorp Energy
Project/Site: Lambe 2C

Job ID: 885-6350-1

Client Sample ID: SVE-1

Date Collected: 06/13/24 12:00

Date Received: 06/15/24 13:00

Lab Sample ID: 885-6350-1

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015M/D		1	7599	CM	EET ALB	06/27/24 19:35
Total/NA	Analysis	8260B		1	7511	CM	EET ALB	06/27/24 19:35

Laboratory References:
= , 1120 South 27th Street, Billings, MT 59101, TEL (406)252-6325
EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

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Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: Lambe 2C

Job ID: 885-6350-1

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
8015M/D		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

Eurofins Albuquerque

Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: Lambe 2C

Job ID: 885-6350-1

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
8015M/D		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: Lambe 2C

Job ID: 885-6350-1

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

Eurofins Albuquerque



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ANALYTICAL SUMMARY REPORT

June 21, 2024

Hall Environmental

4901 Hawkins St NE Ste D

Albuquerque, NM 87109-4372

Work Order: B24061609

Quote ID: B15626

Project Name: Lambe 2C, 88501698

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 6/18/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24061609-001	SVE-1 (885-6350-1)	06/13/24 12:00	06/18/24	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 So. 27th Street, 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.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.



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LABORATORY ANALYTICAL REPORT
Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Lambe 2C, 88501698
Lab ID: B24061609-001
Client Sample ID: SVE-1 (885-6350-1)

Report Date: 06/21/24
Collection Date: 06/13/24 12:00
Date Received: 06/18/24
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.67	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
Nitrogen	78.06	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
Carbon Dioxide	0.25	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
Hexanes plus	0.02	Mol %		0.01		GPA 2261-95	06/19/24 10:01 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	06/19/24 10:01 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	06/19/24 10:01 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	06/19/24 10:01 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	06/19/24 10:01 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	06/19/24 10:01 / jrj
Hexanes plus	0.008	gpm		0.001		GPA 2261-95	06/19/24 10:01 / jrj
GPM Total	0.008	gpm		0.001		GPA 2261-95	06/19/24 10:01 / jrj
GPM Pentanes plus	0.008	gpm		0.001		GPA 2261-95	06/19/24 10:01 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	1			1		GPA 2261-95	06/19/24 10:01 / jrj
Net BTU per cu ft @ std cond. (LHV)	1			1		GPA 2261-95	06/19/24 10:01 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	06/19/24 10:01 / jrj
Pseudo-critical Temperature, deg R	239			1		GPA 2261-95	06/19/24 10:01 / jrj
Specific Gravity @ 60/60F	0.999			0.001		D3588-81	06/19/24 10:01 / jrj
Air, %	99.03			0.01		GPA 2261-95	06/19/24 10:01 / jrj
- The analysis was not corrected for air.							

COMMENTS

-
-
- 06/19/24 10:01 / 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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 Gillette, WY **307.686.7175** • Helena, MT **406.442.0711**

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental

Work Order: B24061609

Report Date: 06/21/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: GPA 2261-95										Batch: R423086
Lab ID:	B24061609-001ADUP	12 Sample Duplicate			Run: GCNGA-B_240619A				06/19/24 10:50	
Oxygen		21.7	Mol %	0.01				0.1	20	
Nitrogen		78.0	Mol %	0.01				0	20	
Carbon Dioxide		0.25	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		0.02	Mol %	0.01				0.0	20	
Lab ID:	LCS061924	11 Laboratory Control Sample			Run: GCNGA-B_240619A				06/19/24 03:57	
Oxygen		0.64	Mol %	0.01	128	70	130			
Nitrogen		6.00	Mol %	0.01	100	70	130			
Carbon Dioxide		1.00	Mol %	0.01	101	70	130			
Methane		75.1	Mol %	0.01	100	70	130			
Ethane		5.81	Mol %	0.01	97	70	130			
Propane		5.04	Mol %	0.01	102	70	130			
Isobutane		1.57	Mol %	0.01	78	70	130			
n-Butane		2.00	Mol %	0.01	100	70	130			
Isopentane		1.01	Mol %	0.01	101	70	130			
n-Pentane		1.01	Mol %	0.01	101	70	130			
Hexanes plus		0.84	Mol %	0.01	105	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

B24061609

Login completed by: Danielle N. Harris

Date Received: 6/18/2024

Reviewed by: cindy

Received by: CMJ

Reviewed Date: 6/21/2024

Carrier name: FedEx NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	13.0°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

Standard Reporting Procedures:

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

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

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

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.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

Eurofins Albuquerque

1901 Hawkins NE
Albuquerque, NM 87109
Phone: 505-345-3975 Fax:

Chain of Custody Record



Environment Testing

[illegible]

Ver: 04/02/2024

Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-6350-1

Login Number: 6350

List Source: Eurofins Albuquerque

List Number: 1

Creator: McQuiston, Steven

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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.	False	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (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 363142

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 363142
	Action Type: [REPORT] Alternative Remediation Report (C-141AR)

CONDITIONS

Created By	Condition	Condition Date
nvez	1. Continue O&M schedule as stated in report. 2. Submit next quarterly report by October 15, 2024.	8/2/2024