ENSOLUM

July 12, 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 – Remediation System Quarterly Report
Federal 18 #1T
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident Number: NCS2103335776

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Second Quarter 2024 – Remediation System Quarterly Report* summarizing second quarter 2024 activities at the former Federal 18 #1T coalbed methane gas well (Site), located in Unit M, Section 18, Township 30 North, Range 12 West in the City of Farmington, New Mexico. The casing of the original gas well has been modified to vent gas and purge water from the Ojo Alamo and Nacimiento Formations. Since initiation of the remediation system in 2010, quarterly reports have been submitted to the New Mexico Oil Conservation Division (NMOCD) to record activities performed at the Site, as well as document well-casing pressures from nearby domestic water well SJ-01737, the volume of gas vented from the Site's well, and groundwater analytical results collected from the Site's well.

SITE BACKGROUND

As part of an ongoing effort between the NMOCD and Hilcorp (Site originally owned and operated by XTO Energy, Inc. [XTO]), the agreed upon remedial option for the Site was to install a vacuum system at the Site to vent gas from the Nacimiento formation, which overlies the Ojo Alamo Formation. Gas found in the Nacimiento formation could have originated from several contributing sources in the area including existing and/or abandoned gas wells near the Site. In agreement with the NMOCD, XTO modified the Site's production well to vent gas and recover contaminated groundwater by setting a plug at a depth of approximately 513 feet below ground surface (bgs). Perforations were made in the casing at 437 feet to 452 feet bgs and 457 feet to 473 feet bgs in order to monitor groundwater and vent gas from the Nacimiento Formation. Based on initial groundwater sampling results, XTO recommended pumping the aquifer until groundwater results were below the New Mexico Water Quality Control Commission (NMWQCC) standards for applicable chemicals of concern (COCs).

A submersible water pump was installed in the Site's well in November 2010 at a depth of approximately 485 feet bgs in order to recover impacted groundwater. Based on aquifer tests performed by XTO, the water pump was set to maintain a static water level of approximately 473 feet bgs. The water pump is plumbed into the existing water lines and stored in the on-Site 210-barrel (bbl) water tank, which is regularly emptied for off-Site disposal. A vacuum pump was subsequently installed at the Site's well to also remove gas entrained in the formation. A portable

generator was originally placed at the Site to power both the vacuum and water pumps. Generator maintenance issues led to the system being electrified on February 3, 2011.

Operation and maintenance (O&M) inspections are conducted by Hilcorp personnel regularly to check the system and verify proper water and vacuum pump operation, record water meter volumes, and verify no other Site conditions dictate system maintenance and/or adjustment. Possible pressure variations in the subsurface due to the vacuum pump are monitored using nearby water well SJ-01737. Casing pressure measurements from the SJ-01737 well are included in Table 1.

SECOND QUARTER 2024 SITE ACTIVITIES AND RESULTS

Approximately 11,902 gallons (283 bbls) of water were removed from the Site's well between the first and second quarter 2024 sampling events. To date, approximately 1,316,350 gallons (31,341 bbls) of impacted water have been removed from the Site. A water sample from the well was collected on April 11, 2024, and submitted to Eurofins Environment Testing for laboratory analysis. Specifically, the water sample was analyzed for the following COCs: volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, and xylenes (BTEX), following Environmental Protection Agency (EPA) Method 8260B, specific conductance (or electrical conductivity) following Standard Method (SM) 2510B, pH following Method SM4500-H+B, and total dissolved solids (TDS) following Method SM2540C.

Based on results from the April 2024 sampling event, benzene and TDS remain at concentrations exceeding the applicable NMWQCC standards and appear to be similar to historical results. Analytical results are summarized in Table 2, with complete laboratory reports attached as Appendix A.

The Site vacuum pump has been operating based on a setting of 690 minutes on and 30 minutes off (totaling 23 hours runtime per day). During the second quarter of 2024, the pump operated at an average flow rate of 3.1 actual cubic feet per minute (ACFM). Approximately 34,958 thousand cubic feet (MCF) of gas/air have been emitted from the Site's well since the system began operating in 2010. There were no deviations from the regular operation and maintenance activities for the system during the second quarter of 2024. Gas/air volumes vented by the system are summarized in Table 3.

RECOMMENDATIONS

O&M visits will continue to be performed by Hilcorp personnel to verify the system is operating as designed. Deviations from regular operations will be noted on field logs and included in the following quarterly report. Hilcorp will continue to remove and monitor water from the Site until benzene and TDS concentrations are compliant with NMWQCC standards for eight consecutive quarters.

We appreciate the opportunity to provide this report to the NMOCD. If you should have any questions or comments regarding this proposal, please contact the undersigned.

Ensolum, LLC

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Attachments:

Table 1	Well SJ-01737 Casing Pressure Readings
Table 2	Water Analytical Results
Table 3	Gas and Air Vented
Appendix A	Laboratory Analytical Reports

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TABLES

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TABLE 1
WELL SJ-01737 CASING PRESSURE READINGS
Federal 18 #1T
Hilcorp Energy Company
San Juan County, New Mexico

Sample Date	Casing Pressure (ounces)	Average
10/7/2022	0	0.000
10/11/2023	0	0.000
10/20/2022	0	0.000
10/31/2022	0	0.000
11/17/2022	0	0.000
12/1/2022	0	0.000
12/9/2022	0	0.000
12/16/2022	0	0.000
12/24/2022	0	0.000
12/31/2022	0	0.000
1/6/2023	0	0.000
1/12/2023	0	0.000
1/23/2023	0	0.000
2/2/2023	0	0.000
2/9/2023	0	0.000
2/23/2023	0	0.000
3/7/2023	0	0.000
3/17/2023	0	0.000
3/27/2023	0	0.000
4/6/2023	0	0.000
4/18/2023	0	0.000
4/28/2023	0	0.000
5/4/2023	0	0.000
5/10/2023	0	0.000
5/19/2023	0	0.000
6/6/2023	0	0.000
6/23/2023	0	0.000
7/7/2023	0	0.000
7/13/2023	0	0.000
7/24/2023	0	0.000
8/4/2023	0	0.000
8/10/2023	0	0.000
8/21/2023	0	0.000
9/7/2023	0	0.000
9/27/2023	0	0.000
10/14/2023	0	0.000
10/27/2023	0	0.000
11/9/2023	0	0.000
12/11/2023	0	0.000
12/27/2023	0	0.000
1/9/2024	0	0.000
1/18/2024	0	0.000
1/25/2024	0	0.000
1/31/2024	0	0.000
2/22/2024	0	0.000
3/7/2024	0	0.000
3/26/2024	0	0.000
6/10/2024	0	0.000

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TABLE 2
WATER ANALYTICAL RESULTS
Federal 18 #1T
Hilcorp Energy Company
San Juan County, New Mexico

Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylene (µg/L)	TDS (mg/L)	Electrical Conductivity (umhos/cm)	pH	Purge Water Volume (gallons)
NMWQCC Standards	**5.0**	**1,000**	**700**	**620**	**1,000**	--	**6 thru 9**	--
11/5/2010	ND	5.2	ND	ND	**1,400**	2,600	7.2	NM
9/24/2010	**150**	ND	76	**670**	--	--	--	NM
9/24/2010	**190**	170	24	210	**13,000**	18,000	6.1	NM
9/24/2010	**143**	221	63.6	**950**	--	--	--	NM
9/24/2010	**320**	377	31.8	568	**11,100**	16,000	**5.84**	NM
12/10/2011	--	--	--	--	**7,610**	8,900	6.36	3,033
1/5/2011	**67**	93	7.9	25	--	--	--	7,798
1/5/2011	**73**	99	10	39	**4,800**	6,000	6.6	7,798
1/29/2011	**60**	93	10	33	--	4,900	6.4	10,791
2/28/2011	**42**	60	6.1	20	**3,400**	4,000	6.7	14,795
4/1/2011	**23**	27	1.8	6.8	**2,700**	3,100	6.8	31,238
4/29/2011	**29**	28	2.4	7.3	**2,600**	2,900	6.9	50,217
5/31/2011	**14**	19	1.4	4.9	**2,500**	2,800	6.7	76,513
6/14/2011	**55**	81	2.8	15	**2,500**	2,700	6.7	88,120
6/30/2011	**52**	67	2.6	12	**2,500**	2,700	6.9	101,209
8/15/2011	**21**	25	1.2	5.8	**2,500**	2,600	6.8	140,267
9/2/2011	**10**	12	0.64	3.2	**2,500**	2,600	7.2	155,801
9/16/2011	**9.6**	11	0.64	3	**2,400**	2,500	7.2	168,040
9/30/2011	**7.2**	8.7	0.64	2.5	**2,500**	2,600	7	180,393
10/28/2011	**5.1**	ND	1.8	2.7	**2,300**	2,600	6.9	205,220
11/30/2011	4	ND	3.9	2	**2,500**	2,600	7.1	233,488
12/30/2011	3.4	ND	ND	2.9	**2,500**	2,500	7.5	261,391
4/3/2012	**6**	ND	ND	1.6	--	--	--	351,300
4/9/2012	--	--	--	--	**2,400**	2,400	7.4	NM
7/3/2012	**5.3**	ND	ND	ND	**2,300**	2,400	7.4	NM
7/6/2012	--	--	--	--	--	--	--	441,053
9/19/2012	--	--	--	--	--	--	--	521,271
9/27/2012	**6.2**	ND	ND	ND	**2,300**	2,500	7.1	NM
12/14/2012	--	--	--	--	--	--	--	598,540
12/31/2012	**13.9**	1.1	ND	3.3	**2,690**	2,440	7.05	604,689
1/23/2013	**160**	190	ND	26	**2,400**	2,500	8	NM
2/22/2013	**7.1**	77	ND	1.8	**2,100**	2,500	7.1	605,860
5/2/2013	**9**	6.9	ND	ND	**2,400**	2,600	7.5	612,601
8/19/2013	**20**	11	ND	2.3	**2,200**	2,600	7.2	NM
9/23/2013	**13**	11	ND	2.2	**2,300**	2,500	7.1	621,744
11/25/2013	4.6	5.2	ND	ND	**2,200**	2,700	7.7	631,430
2/4/2014	**15**	17	0.72	3.1	**2,200**	2,500	7.3	636,120
10/1/2015	**54.2**	57	1.37	9.77	**2,260**	2,640	6.98	639,410
10/20/2015	**42.3**	39.9	0.964	7.06	**2,330**	1,460	7.09	642,650
3/28/2016	**38**	34.1	0.835	4.82	**2,230**	2,570	6.86	650,850
6/14/2016	**78.3**	58.4	1.16	7.22	**2,890**	2,600	6.89	704,371
8/29/2016	**19**	ND	ND	2.18	**2,410**	2,590	7.02	763,261
11/18/2016	**13.2**	5.61	ND	2.33	**2,470**	2,580	7.03	842,610
3/31/2017	**9.61**	7.87	ND	ND	**2,300**	2,570	7.28	858,190
6/16/2017	**64.6**	29.2	0.781	5.4	**2,360**	2,570	7.05	927,854
9/7/2017	4.61	1.73	ND	ND	**2,030**	2,450	7.14	997,330
12/5/2017	**138**	51.5	1.65	9.378	**2,230**	2,590	7.2	1,080,550
3/6/2018	**19.9**	14.8	0.543	2.71	**2,290**	2,620	7.13	1,080,840
8/7/2018	**7.9**	8.06	<0.5	<1.5	**2,200**	2,300	7.19	1,082,751
1/3/2019	**7.07**	3.29	0.177	1.08	**2,080**	6,750	6.35	1,120,220
2/22/2019	**19.8**	11.1	<0.5	3.97	**2,270**	2,710	7.46	1,120,366
5/24/2019	**11.9**	10.8	ND	ND	**2,380**	2,760	7.15	1,123,853
9/10/2019	**23.2**	18.8	ND	ND	**2,260**	2,600	7.37	1,125,478
10/29/2019	**5.41**	5.68	ND	ND	**2,300**	2,530	7.09	1,127,076
2/27/2020	**20.7**	19.3	ND	ND	**2,280**	2,580	7.06	1,128,506
5/15/2020	**10.3**	8.91	ND	ND	**2,460**	2,570	7.27	1,131,033
8/25/2020	3.9	3.5	ND	ND	**2,190**	2,640	7.62	1,131,100
10/27/2020	**31.1**	24.4	ND	ND	**2,240**	2,530	7.43	1,131,119
2/17/2021	**73**	<1	<1	<1.5	**2,200**	2,400	7.42	1,131,123
6/29/2021 (2)	--	--	--	--	--	--	--	1,134,031
9/30/2021	**130**	87	<5.0	8.1	**2,300**	2,500	7.20	1,134,167
12/6/2021	**33**	20	<1.0	6.0	**2,430**	2,500	7.15	1,143,239
2/17/2022	**25**	3.1	<1.0	2.7	**2,380**	2,600	7.17	1,156,355
4/12/2022	**27**	4.3	<1.0	2.0	**2,360**	2,500	7.13	1,169,456
7/15/2022	**33**	4.3	<1.0	1.3	**2,480**	2,600	7.13	1,191,754
10/11/2022	**47**	4.6	<1.0	2.0	**2,320**	2,600	7.24	1,210,479
1/12/2023	**40**	1.7	<1.0	<1.5	**2,330**	2,600	7.17	1,229,525
5/10/2023	**32**	1.7	<1.0	<1.5	**2,320**	2,600	6.73	1,253,497
7/24/2023	**34**	1.3	<1.0	<1.5	**2,360**	2,600	7.18	1,269,880
10/27/2023	**31**	<1.0	<1.0	<1.5	**2,360**	2,600	7.17	1,288,677
1/18/2024	**47**	<1.0	<1.0	<1.5	**2,330**	2,600	7.19	1,304,447
4/11/2024	**42**	<1.0	<1.0	<1.5	**2,300**	2,600	7.20	1,316,350

Notes:

(1): initial water sample
(2): water pump not functioning
µg/L: micrograms per liter
µmhos/cm: micromhos per centimeter
mg/L: milligrams per liter
ND: not detected, practical quantitation limit unknown
NMWQCC: New Mexico Water Quality Control Commission
--: not analyzed
<: indicates result less than the stated laboratory reporting limit (RL)
*Concentrations in **bold** and shaded exceed the New Mexico Water Quality Control Commission Standards, 20.6.2 of the New Mexico Administrative Code*

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TABLE 3
GAS AND AIR VENTED
Federal 18 #1T
Hilcorp Energy Company
San Juan County, New Mexico

Date	SCFM	ACFM	Total Vented Gas and Air (MCF)
9/17/2019	3	6	26,677
10/7/2019	3	6	26,849
10/21/2019	3	6	26,969
10/28/2019	3	6	27,030
12/5/2019	3	6	27,356
12/19/2019	3	6	27,477
1/7/2020	3	6	27,954
1/17/2020	3	6	28,040
1/30/2020	3	6	28,153
2/12/2020	3	6	28,265
2/25/2020	3	6	28,377
4/3/2020	3	6	28,705
4/9/2020	3	6	28,756
4/15/2020	3	6	28,808
4/23/2020	3	6	28,877
4/30/2020	3	6	28,937
5/15/2020	3	6	29,067
5/21/2020	3	6	29,118
5/29/2020	3	6	29,179
6/5/2020	3	6	29,239
6/29/2020	0	0	Hot, not running
7/8/2020	0	0	Unit Down
8/11/2020	0	0	Unit Down
8/25/2020	0	0	Unit Down
9/16/2020	0	0	Unit Down
9/22/2020	0	0	Unit Down
10/26/2020	0	0	Unit Down
11/9/2020	0	0	Unit Down
12/8/2020	0	0	Unit Down
1/5/2021	0	0	Unit Down
1/20/2021	0	0	Unit Down
2/11/2021	0	0	Unit Down
2/17/2021	0	0	Unit Down
3/22/2021	0	0	Unit Down
*3/31/2021	5.6	7	29,241
6/29/2021	5.6	7	29,262
9/30/2021	5.6	7	29,281
12/31/2021	5.6	7	29,320
1/19/2022	5.6	7	29,328
1/24/2022	5.6	7	29,353
3/31/2022	5.6	7	29,991
6/14/2022	5.6	7	30,715
9/30/2022	5.6	7	31,759
12/31/2022	5.6	7	32,647
3/31/2023	3.1	3.9	33,132
6/30/2023	2.5	3.1	33,527
9/27/2023	2.25	2.8	33,874
12/27/2023	2.05	2.6	34,198
3/26/2024	2.75	3.5	34,628
6/10/2024	2.5	3.1	34,958

Notes:

ACFM - flow rate in actual cubic feet per minute

MCF - thousand cubic feet

SCFM - flow rate in standard cubic feet per minute

** - Pump operated from 3/23 - 3/31/2021.*

SCFM per day based on manufacture specifications.

ACFM is estimated based on site elevation and/or observed vacuum

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APPENDIX A

Laboratory Analytical Reports

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/30/2024 11:03:48 AM

JOB DESCRIPTION

Federal 18 1T

JOB NUMBER

885-2803-1

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

Generated
4/30/2024 11:03:48 AM

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

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Laboratory Job ID: 885-2803-1

Table of Contents

Definitions/Glossary

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

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: Federal 18 1T

Job ID: 885-2803-1

Job ID: 885-2803-1 Eurofins Albuquerque

Job Narrative
885-2803-1

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 4/12/2024 6:50 AM. 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 2.5°C.

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

General Chemistry
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: Federal 18 1T

Job ID: 885-2803-1

Client Sample ID: Federal 18 1T

Date Collected: 04/11/24 14:00
Date Received: 04/12/24 06:50

Lab Sample ID: 885-2803-1

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/24/24 15:31	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/24/24 15:31	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			04/24/24 15:31	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/24/24 15:31	1
1,1-Dichloroethane	ND		1.0		ug/L			04/24/24 15:31	1
1,1-Dichloroethene	ND		1.0		ug/L			04/24/24 15:31	1
1,1-Dichloropropene	ND		1.0		ug/L			04/24/24 15:31	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/24/24 15:31	1
1,2,3-Trichloropropane	ND		2.0		ug/L			04/24/24 15:31	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/24/24 15:31	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/24/24 15:31	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/24/24 15:31	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			04/24/24 15:31	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/24/24 15:31	1
1,2-Dichloroethane (EDC)	ND		1.0		ug/L			04/24/24 15:31	1
1,2-Dichloropropane	ND		1.0		ug/L			04/24/24 15:31	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/24/24 15:31	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/24/24 15:31	1
1,3-Dichloropropane	ND		1.0		ug/L			04/24/24 15:31	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/24/24 15:31	1
1-Methylnaphthalene	ND		4.0		ug/L			04/24/24 15:31	1
2,2-Dichloropropane	ND		2.0		ug/L			04/24/24 15:31	1
2-Butanone	ND		10		ug/L			04/24/24 15:31	1
2-Chlorotoluene	ND		1.0		ug/L			04/24/24 15:31	1
2-Hexanone	ND		10		ug/L			04/24/24 15:31	1
2-Methylnaphthalene	ND		4.0		ug/L			04/24/24 15:31	1
4-Chlorotoluene	ND		1.0		ug/L			04/24/24 15:31	1
4-Isopropyltoluene	ND		1.0		ug/L			04/24/24 15:31	1
4-Methyl-2-pentanone	ND		10		ug/L			04/24/24 15:31	1
Acetone	ND		10		ug/L			04/24/24 15:31	1
Benzene	**42**		1.0		ug/L			04/24/24 15:31	1
Bromobenzene	ND		1.0		ug/L			04/24/24 15:31	1
Bromodichloromethane	ND		1.0		ug/L			04/24/24 15:31	1
Dibromochloromethane	ND		1.0		ug/L			04/24/24 15:31	1
Bromoform	ND		1.0		ug/L			04/24/24 15:31	1
Bromomethane	ND		3.0		ug/L			04/24/24 15:31	1
Carbon disulfide	ND		10		ug/L			04/24/24 15:31	1
Carbon tetrachloride	ND		1.0		ug/L			04/24/24 15:31	1
Chlorobenzene	ND		1.0		ug/L			04/24/24 15:31	1
Chloroethane	ND		2.0		ug/L			04/24/24 15:31	1
Chloroform	ND		1.0		ug/L			04/24/24 15:31	1
Chloromethane	ND		3.0		ug/L			04/24/24 15:31	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/24/24 15:31	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			04/24/24 15:31	1
Dibromomethane	ND		1.0		ug/L			04/24/24 15:31	1
Dichlorodifluoromethane	ND		1.0		ug/L			04/24/24 15:31	1
Ethylbenzene	ND		1.0		ug/L			04/24/24 15:31	1
Hexachlorobutadiene	ND		1.0		ug/L			04/24/24 15:31	1
Isopropylbenzene	ND		1.0		ug/L			04/24/24 15:31	1

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

Client Sample ID: Federal 18 1T

Date Collected: 04/11/24 14:00
Date Received: 04/12/24 06:50

Lab Sample ID: 885-2803-1

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Methyl-tert-butyl Ether (MTBE)	ND		1.0		ug/L			04/24/24 15:31	1
Methylene Chloride	ND		3.0		ug/L			04/24/24 15:31	1
n-Butylbenzene	ND		3.0		ug/L			04/24/24 15:31	1
N-Propylbenzene	ND		1.0		ug/L			04/24/24 15:31	1
Naphthalene	ND		2.0		ug/L			04/24/24 15:31	1
sec-Butylbenzene	ND		1.0		ug/L			04/24/24 15:31	1
Styrene	ND		1.0		ug/L			04/24/24 15:31	1
tert-Butylbenzene	ND		1.0		ug/L			04/24/24 15:31	1
Tetrachloroethene (PCE)	ND		1.0		ug/L			04/24/24 15:31	1
Toluene	ND		1.0		ug/L			04/24/24 15:31	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/24/24 15:31	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			04/24/24 15:31	1
Trichloroethene (TCE)	ND		1.0		ug/L			04/24/24 15:31	1
Trichlorofluoromethane	ND		1.0		ug/L			04/24/24 15:31	1
Vinyl chloride	ND		1.0		ug/L			04/24/24 15:31	1
Xylenes, Total	ND		1.5		ug/L			04/24/24 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*04/24/24 15:31*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*04/24/24 15:31*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*04/24/24 15:31*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*04/24/24 15:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**2300**		100		mg/L			04/17/24 11:49	1
Specific Conductance (SM 2510B)	**2600**		10		umhos/cm			04/22/24 12:02	1
pH (SM 4500 H+ B)	**7.2**	**HF**	0.1		SU			04/22/24 12:02	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

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

Lab Sample ID: MB 885-3896/3
Matrix: Water
Analysis Batch: 3896

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			04/24/24 14:17	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/24/24 14:17	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			04/24/24 14:17	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/24/24 14:17	1
1,1-Dichloroethane	ND		1.0		ug/L			04/24/24 14:17	1
1,1-Dichloroethene	ND		1.0		ug/L			04/24/24 14:17	1
1,1-Dichloropropene	ND		1.0		ug/L			04/24/24 14:17	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/24/24 14:17	1
1,2,3-Trichloropropane	ND		2.0		ug/L			04/24/24 14:17	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/24/24 14:17	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/24/24 14:17	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/24/24 14:17	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			04/24/24 14:17	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/24/24 14:17	1
1,2-Dichloroethane (EDC)	ND		1.0		ug/L			04/24/24 14:17	1
1,2-Dichloropropane	ND		1.0		ug/L			04/24/24 14:17	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/24/24 14:17	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/24/24 14:17	1
1,3-Dichloropropane	ND		1.0		ug/L			04/24/24 14:17	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/24/24 14:17	1
1-Methylnaphthalene	ND		4.0		ug/L			04/24/24 14:17	1
2,2-Dichloropropane	ND		2.0		ug/L			04/24/24 14:17	1
2-Butanone	ND		10		ug/L			04/24/24 14:17	1
2-Chlorotoluene	ND		1.0		ug/L			04/24/24 14:17	1
2-Hexanone	ND		10		ug/L			04/24/24 14:17	1
2-Methylnaphthalene	ND		4.0		ug/L			04/24/24 14:17	1
4-Chlorotoluene	ND		1.0		ug/L			04/24/24 14:17	1
4-Isopropyltoluene	ND		1.0		ug/L			04/24/24 14:17	1
4-Methyl-2-pentanone	ND		10		ug/L			04/24/24 14:17	1
Acetone	ND		10		ug/L			04/24/24 14:17	1
Benzene	ND		1.0		ug/L			04/24/24 14:17	1
Bromobenzene	ND		1.0		ug/L			04/24/24 14:17	1
Bromodichloromethane	ND		1.0		ug/L			04/24/24 14:17	1
Dibromochloromethane	ND		1.0		ug/L			04/24/24 14:17	1
Bromoform	ND		1.0		ug/L			04/24/24 14:17	1
Bromomethane	ND		3.0		ug/L			04/24/24 14:17	1
Carbon disulfide	ND		10		ug/L			04/24/24 14:17	1
Carbon tetrachloride	ND		1.0		ug/L			04/24/24 14:17	1
Chlorobenzene	ND		1.0		ug/L			04/24/24 14:17	1
Chloroethane	ND		2.0		ug/L			04/24/24 14:17	1
Chloroform	ND		1.0		ug/L			04/24/24 14:17	1
Chloromethane	ND		3.0		ug/L			04/24/24 14:17	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/24/24 14:17	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			04/24/24 14:17	1
Dibromomethane	ND		1.0		ug/L			04/24/24 14:17	1
Dichlorodifluoromethane	ND		1.0		ug/L			04/24/24 14:17	1
Ethylbenzene	ND		1.0		ug/L			04/24/24 14:17	1
Hexachlorobutadiene	ND		1.0		ug/L			04/24/24 14:17	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

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

Lab Sample ID: MB 885-3896/3
Matrix: Water
Analysis Batch: 3896

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			04/24/24 14:17	1
Methyl-tert-butyl Ether (MTBE)	ND		1.0		ug/L			04/24/24 14:17	1
Methylene Chloride	ND		3.0		ug/L			04/24/24 14:17	1
n-Butylbenzene	ND		3.0		ug/L			04/24/24 14:17	1
N-Propylbenzene	ND		1.0		ug/L			04/24/24 14:17	1
Naphthalene	ND		2.0		ug/L			04/24/24 14:17	1
sec-Butylbenzene	ND		1.0		ug/L			04/24/24 14:17	1
Styrene	ND		1.0		ug/L			04/24/24 14:17	1
tert-Butylbenzene	ND		1.0		ug/L			04/24/24 14:17	1
Tetrachloroethene (PCE)	ND		1.0		ug/L			04/24/24 14:17	1
Toluene	ND		1.0		ug/L			04/24/24 14:17	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/24/24 14:17	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			04/24/24 14:17	1
Trichloroethene (TCE)	ND		1.0		ug/L			04/24/24 14:17	1
Trichlorofluoromethane	ND		1.0		ug/L			04/24/24 14:17	1
Vinyl chloride	ND		1.0		ug/L			04/24/24 14:17	1
Xylenes, Total	ND		1.5		ug/L			04/24/24 14:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*04/24/24 14:17*	*1*
Toluene-d8 (Surr)	*93*		*70 - 130*		*04/24/24 14:17*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*04/24/24 14:17*	*1*
Dibromofluoromethane (Surr)	*108*		*70 - 130*		*04/24/24 14:17*	*1*

Lab Sample ID: STOBLK 885-3896/27
Matrix: Water
Analysis Batch: 3896

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			04/25/24 00:04	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/25/24 00:04	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			04/25/24 00:04	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/25/24 00:04	1
1,1-Dichloroethane	ND		1.0		ug/L			04/25/24 00:04	1
1,1-Dichloroethene	ND		1.0		ug/L			04/25/24 00:04	1
1,1-Dichloropropene	ND		1.0		ug/L			04/25/24 00:04	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/25/24 00:04	1
1,2,3-Trichloropropane	ND		2.0		ug/L			04/25/24 00:04	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/25/24 00:04	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/25/24 00:04	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/25/24 00:04	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			04/25/24 00:04	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/25/24 00:04	1
1,2-Dichloroethane (EDC)	ND		1.0		ug/L			04/25/24 00:04	1
1,2-Dichloropropane	ND		1.0		ug/L			04/25/24 00:04	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/25/24 00:04	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/25/24 00:04	1
1,3-Dichloropropane	ND		1.0		ug/L			04/25/24 00:04	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

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

Lab Sample ID: STOBLK 885-3896/27
Matrix: Water
Analysis Batch: 3896

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

Analyte	STOBLK Result	STOBLK Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0		ug/L			04/25/24 00:04	1
1-Methylnaphthalene	ND		4.0		ug/L			04/25/24 00:04	1
2,2-Dichloropropane	ND		2.0		ug/L			04/25/24 00:04	1
2-Butanone	ND		10		ug/L			04/25/24 00:04	1
2-Chlorotoluene	ND		1.0		ug/L			04/25/24 00:04	1
2-Hexanone	ND		10		ug/L			04/25/24 00:04	1
2-Methylnaphthalene	ND		4.0		ug/L			04/25/24 00:04	1
4-Chlorotoluene	ND		1.0		ug/L			04/25/24 00:04	1
4-Isopropyltoluene	ND		1.0		ug/L			04/25/24 00:04	1
4-Methyl-2-pentanone	ND		10		ug/L			04/25/24 00:04	1
Acetone	ND		10		ug/L			04/25/24 00:04	1
Benzene	ND		1.0		ug/L			04/25/24 00:04	1
Bromobenzene	ND		1.0		ug/L			04/25/24 00:04	1
Bromodichloromethane	ND		1.0		ug/L			04/25/24 00:04	1
Dibromochloromethane	ND		1.0		ug/L			04/25/24 00:04	1
Bromoform	ND		1.0		ug/L			04/25/24 00:04	1
Bromomethane	ND		3.0		ug/L			04/25/24 00:04	1
Carbon disulfide	ND		10		ug/L			04/25/24 00:04	1
Carbon tetrachloride	ND		1.0		ug/L			04/25/24 00:04	1
Chlorobenzene	ND		1.0		ug/L			04/25/24 00:04	1
Chloroethane	ND		2.0		ug/L			04/25/24 00:04	1
Chloroform	ND		1.0		ug/L			04/25/24 00:04	1
Chloromethane	ND		3.0		ug/L			04/25/24 00:04	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/25/24 00:04	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			04/25/24 00:04	1
Dibromomethane	ND		1.0		ug/L			04/25/24 00:04	1
Dichlorodifluoromethane	ND		1.0		ug/L			04/25/24 00:04	1
Ethylbenzene	ND		1.0		ug/L			04/25/24 00:04	1
Hexachlorobutadiene	ND		1.0		ug/L			04/25/24 00:04	1
Isopropylbenzene	ND		1.0		ug/L			04/25/24 00:04	1
Methyl-tert-butyl Ether (MTBE)	ND		1.0		ug/L			04/25/24 00:04	1
Methylene Chloride	ND		3.0		ug/L			04/25/24 00:04	1
n-Butylbenzene	ND		3.0		ug/L			04/25/24 00:04	1
N-Propylbenzene	ND		1.0		ug/L			04/25/24 00:04	1
Naphthalene	ND		2.0		ug/L			04/25/24 00:04	1
sec-Butylbenzene	ND		1.0		ug/L			04/25/24 00:04	1
Styrene	ND		1.0		ug/L			04/25/24 00:04	1
tert-Butylbenzene	ND		1.0		ug/L			04/25/24 00:04	1
Tetrachloroethene (PCE)	ND		1.0		ug/L			04/25/24 00:04	1
Toluene	ND		1.0		ug/L			04/25/24 00:04	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/25/24 00:04	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			04/25/24 00:04	1
Trichloroethene (TCE)	ND		1.0		ug/L			04/25/24 00:04	1
Trichlorofluoromethane	ND		1.0		ug/L			04/25/24 00:04	1
Vinyl chloride	ND		1.0		ug/L			04/25/24 00:04	1
Xylenes, Total	ND		1.5		ug/L			04/25/24 00:04	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

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

Lab Sample ID: STOBLK 885-3896/27
Matrix: Water
Analysis Batch: 3896

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

Surrogate	STOBLK %Recovery	STOBLK Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		04/25/24 00:04	1
Toluene-d8 (Surr)	96		70 - 130		04/25/24 00:04	1
4-Bromofluorobenzene (Surr)	103		70 - 130		04/25/24 00:04	1
Dibromofluoromethane (Surr)	100		70 - 130		04/25/24 00:04	1

Lab Sample ID: STOBLK 885-3896/28
Matrix: Water
Analysis Batch: 3896

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			04/25/24 00:28	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/25/24 00:28	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			04/25/24 00:28	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/25/24 00:28	1
1,1-Dichloroethane	ND		1.0		ug/L			04/25/24 00:28	1
1,1-Dichloroethene	ND		1.0		ug/L			04/25/24 00:28	1
1,1-Dichloropropene	ND		1.0		ug/L			04/25/24 00:28	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/25/24 00:28	1
1,2,3-Trichloropropane	ND		2.0		ug/L			04/25/24 00:28	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/25/24 00:28	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/25/24 00:28	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/25/24 00:28	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			04/25/24 00:28	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/25/24 00:28	1
1,2-Dichloroethane (EDC)	ND		1.0		ug/L			04/25/24 00:28	1
1,2-Dichloropropane	ND		1.0		ug/L			04/25/24 00:28	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/25/24 00:28	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/25/24 00:28	1
1,3-Dichloropropane	ND		1.0		ug/L			04/25/24 00:28	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/25/24 00:28	1
1-Methylnaphthalene	ND		4.0		ug/L			04/25/24 00:28	1
2,2-Dichloropropane	ND		2.0		ug/L			04/25/24 00:28	1
2-Butanone	ND		10		ug/L			04/25/24 00:28	1
2-Chlorotoluene	ND		1.0		ug/L			04/25/24 00:28	1
2-Hexanone	ND		10		ug/L			04/25/24 00:28	1
2-Methylnaphthalene	ND		4.0		ug/L			04/25/24 00:28	1
4-Chlorotoluene	ND		1.0		ug/L			04/25/24 00:28	1
4-Isopropyltoluene	ND		1.0		ug/L			04/25/24 00:28	1
4-Methyl-2-pentanone	ND		10		ug/L			04/25/24 00:28	1
Acetone	ND		10		ug/L			04/25/24 00:28	1
Benzene	ND		1.0		ug/L			04/25/24 00:28	1
Bromobenzene	ND		1.0		ug/L			04/25/24 00:28	1
Bromodichloromethane	ND		1.0		ug/L			04/25/24 00:28	1
Dibromochloromethane	ND		1.0		ug/L			04/25/24 00:28	1
Bromoform	ND		1.0		ug/L			04/25/24 00:28	1
Bromomethane	ND		3.0		ug/L			04/25/24 00:28	1
Carbon disulfide	ND		10		ug/L			04/25/24 00:28	1
Carbon tetrachloride	ND		1.0		ug/L			04/25/24 00:28	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

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

Lab Sample ID: STOBLK 885-3896/28
Matrix: Water
Analysis Batch: 3896

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

Analyte	STOBLK Result	STOBLK Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0		ug/L			04/25/24 00:28	1
Chloroethane	ND		2.0		ug/L			04/25/24 00:28	1
Chloroform	ND		1.0		ug/L			04/25/24 00:28	1
Chloromethane	ND		3.0		ug/L			04/25/24 00:28	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/25/24 00:28	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			04/25/24 00:28	1
Dibromomethane	ND		1.0		ug/L			04/25/24 00:28	1
Dichlorodifluoromethane	ND		1.0		ug/L			04/25/24 00:28	1
Ethylbenzene	ND		1.0		ug/L			04/25/24 00:28	1
Hexachlorobutadiene	ND		1.0		ug/L			04/25/24 00:28	1
Isopropylbenzene	ND		1.0		ug/L			04/25/24 00:28	1
Methyl-tert-butyl Ether (MTBE)	ND		1.0		ug/L			04/25/24 00:28	1
Methylene Chloride	ND		3.0		ug/L			04/25/24 00:28	1
n-Butylbenzene	ND		3.0		ug/L			04/25/24 00:28	1
N-Propylbenzene	ND		1.0		ug/L			04/25/24 00:28	1
Naphthalene	ND		2.0		ug/L			04/25/24 00:28	1
sec-Butylbenzene	ND		1.0		ug/L			04/25/24 00:28	1
Styrene	ND		1.0		ug/L			04/25/24 00:28	1
tert-Butylbenzene	ND		1.0		ug/L			04/25/24 00:28	1
Tetrachloroethene (PCE)	ND		1.0		ug/L			04/25/24 00:28	1
Toluene	ND		1.0		ug/L			04/25/24 00:28	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/25/24 00:28	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			04/25/24 00:28	1
Trichloroethene (TCE)	ND		1.0		ug/L			04/25/24 00:28	1
Trichlorofluoromethane	ND		1.0		ug/L			04/25/24 00:28	1
Vinyl chloride	ND		1.0		ug/L			04/25/24 00:28	1
Xylenes, Total	ND		1.5		ug/L			04/25/24 00:28	1

Surrogate	*STOBLK %Recovery*	*STOBLK Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*04/25/24 00:28*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*04/25/24 00:28*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*04/25/24 00:28*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*04/25/24 00:28*	*1*

Lab Sample ID: LCS 885-3896/2
Matrix: Water
Analysis Batch: 3896

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	20.1		ug/L		100	70 - 130		
Benzene			20.1	21.0		ug/L		105	70 - 130		
Chlorobenzene			20.1	21.1		ug/L		105	70 - 130		
Toluene			20.2	20.4		ug/L		101	70 - 130		
Trichloroethene (TCE)			20.2	19.9		ug/L		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*
Toluene-d8 (Surr)	*96*		*70 - 130*

QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

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

Lab Sample ID: LCS 885-3896/2
Matrix: Water
Analysis Batch: 3896

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
Dibromofluoromethane (Surr)	*105*		*70 - 130*

Lab Sample ID: 885-2803-1 MS
Matrix: Water
Analysis Batch: 3896

Client Sample ID: Federal 18 1T
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	ND		20.1	19.8		ug/L		98	70 - 130
Benzene	42		20.1	65.5		ug/L		118	70 - 130
Chlorobenzene	ND		20.1	21.1		ug/L		105	70 - 130
Toluene	ND		20.2	21.3		ug/L		103	70 - 130
Trichloroethene (TCE)	ND		20.2	20.7		ug/L		103	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*107*		*70 - 130*

Lab Sample ID: 885-2803-1 MSD
Matrix: Water
Analysis Batch: 3896

Client Sample ID: Federal 18 1T
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	ND		20.1	18.5		ug/L		92	70 - 130	7	20
Benzene	42		20.1	62.1		ug/L		101	70 - 130	5	20
Chlorobenzene	ND		20.1	20.5		ug/L		102	70 - 130	3	20
Toluene	ND		20.2	20.5		ug/L		98	70 - 130	4	20
Trichloroethene (TCE)	ND		20.2	19.5		ug/L		96	70 - 130	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
Dibromofluoromethane (Surr)	*105*		*70 - 130*

Method: 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 885-3446/1
Matrix: Water
Analysis Batch: 3446

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		50		mg/L			04/17/24 11:49	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

Method: 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 885-3446/2
Matrix: Water
Analysis Batch: 3446

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1020		mg/L		102	80 - 120

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: LCS 885-3720/4
Matrix: Water
Analysis Batch: 3720

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	101	102		umhos/cm		102	85 - 115

Lab Sample ID: MRL 885-3720/3
Matrix: Water
Analysis Batch: 3720

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	9.61	ND		umhos/cm		92	50 - 150

QC Association Summary

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

GC/MS VOA

Analysis Batch: 3896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2803-1	Federal 18 1T	Total/NA	Water	8260B	
MB 885-3896/3	Method Blank	Total/NA	Water	8260B	
STOBLK 885-3896/27	Method Blank	Total/NA	Water	8260B	
STOBLK 885-3896/28	Method Blank	Total/NA	Water	8260B	
LCS 885-3896/2	Lab Control Sample	Total/NA	Water	8260B	
885-2803-1 MS	Federal 18 1T	Total/NA	Water	8260B	
885-2803-1 MSD	Federal 18 1T	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 3446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2803-1	Federal 18 1T	Total/NA	Water	2540C	
MB 885-3446/1	Method Blank	Total/NA	Water	2540C	
LCS 885-3446/2	Lab Control Sample	Total/NA	Water	2540C	

Analysis Batch: 3720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2803-1	Federal 18 1T	Total/NA	Water	SM 2510B	
LCS 885-3720/4	Lab Control Sample	Total/NA	Water	SM 2510B	
MRL 885-3720/3	Lab Control Sample	Total/NA	Water	SM 2510B	

Analysis Batch: 3721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2803-1	Federal 18 1T	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

Client Sample ID: Federal 18 1T

Date Collected: 04/11/24 14:00
Date Received: 04/12/24 06:50

Lab Sample ID: 885-2803-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	3896	CM	EET ALB	04/24/24 15:31
Total/NA	Analysis	2540C		1	3446	KB	EET ALB	04/17/24 11:49
Total/NA	Analysis	SM 2510B		1	3720	DL	EET ALB	04/22/24 12:02
Total/NA	Analysis	SM 4500 H+ B		1	3721	DL	EET ALB	04/22/24 12:02

Laboratory References:

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

Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

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
2540C		Water	Total Dissolved Solids
8260B		Water	1,1,1,2-Tetrachloroethane
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1,2,2-Tetrachloroethane
8260B		Water	1,1,2-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,1-Dichloropropene
8260B		Water	1,2,3-Trichlorobenzene
8260B		Water	1,2,3-Trichloropropane
8260B		Water	1,2,4-Trichlorobenzene
8260B		Water	1,2,4-Trimethylbenzene
8260B		Water	1,2-Dibromo-3-Chloropropane
8260B		Water	1,2-Dibromoethane (EDB)
8260B		Water	1,2-Dichlorobenzene
8260B		Water	1,2-Dichloroethane (EDC)
8260B		Water	1,2-Dichloropropane
8260B		Water	1,3,5-Trimethylbenzene
8260B		Water	1,3-Dichlorobenzene
8260B		Water	1,3-Dichloropropane
8260B		Water	1,4-Dichlorobenzene
8260B		Water	1-Methylnaphthalene
8260B		Water	2,2-Dichloropropane
8260B		Water	2-Butanone
8260B		Water	2-Chlorotoluene
8260B		Water	2-Hexanone
8260B		Water	2-Methylnaphthalene
8260B		Water	4-Chlorotoluene
8260B		Water	4-Isopropyltoluene
8260B		Water	4-Methyl-2-pentanone
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Bromobenzene
8260B		Water	Bromodichloromethane
8260B		Water	Bromoform
8260B		Water	Bromomethane
8260B		Water	Carbon disulfide
8260B		Water	Carbon tetrachloride
8260B		Water	Chlorobenzene
8260B		Water	Chloroethane
8260B		Water	Chloroform
8260B		Water	Chloromethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	cis-1,3-Dichloropropene
8260B		Water	Dibromochloromethane

Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: Federal 18 1T

Job ID: 885-2803-1

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		Water	Dibromomethane
8260B		Water	Dichlorodifluoromethane
8260B		Water	Ethylbenzene
8260B		Water	Hexachlorobutadiene
8260B		Water	Isopropylbenzene
8260B		Water	Methylene Chloride
8260B		Water	Methyl-tert-butyl Ether (MTBE)
8260B		Water	Naphthalene
8260B		Water	n-Butylbenzene
8260B		Water	N-Propylbenzene
8260B		Water	sec-Butylbenzene
8260B		Water	Styrene
8260B		Water	tert-Butylbenzene
8260B		Water	Tetrachloroethene (PCE)
8260B		Water	Toluene
8260B		Water	trans-1,2-Dichloroethene
8260B		Water	trans-1,3-Dichloropropene
8260B		Water	Trichloroethene (TCE)
8260B		Water	Trichlorofluoromethane
8260B		Water	Vinyl chloride
8260B		Water	Xylenes, Total
SM 2510B		Water	Specific Conductance
SM 4500 H+ B		Water	pH

Oregon	NELAP	NM100001	02-26-25

Chain-of-Custody Record

Client: Hilcorp Farmington NM

Mailing Address: 382 Road 3100 Aztec, NM 87410

Billing Address: PO Box 61529 Houston, TX 77208

Phone #: 505-486-9543

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:
X Standard ☐ Rush_____

Project Name:
Federal 18 1T

Project #:

Project Manager:
Mitch Killough

Sampler: Brandon Sinclair
On Ice: ☑ Yes ☐ No 400
# of Coolers: 1
Cooler Temp(Including CF): 2.5 + 0 = 2.5 °

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
885-2803 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	pH, Specific Conductance, TDS	8260 Full Suite
4-11	1400	Water	Federal 18 1T DAD 4.12.24	(3) 40ml VOA (1) 500ml Plastic	HCl Cool	-1	X	X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/11/24	1706				4/11/24	1706
4/11/24	1800			courier	4/12/24	0:50

Remarks: Special Pricing See Andy

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: 885-2803-1

Login Number: 2803 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Proctor, Nancy

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.	True	
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.	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 363604

CONDITIONS

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	372171
	Action Number: 363604
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Accepted for the record. See app ID 389165 for most updated status.	10/28/2024