REVIEWED
By Mike Buchanan at 3:50 pm, May 21, 2024

ENSOLUM

March 22, 2023

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

Re: 2022 Annual Groundwater Monitoring Report
State Com J #6
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident Number: NJK1326741691
NMOCD Administrative Order: 3RP-468

To Whom it May Concern:

Review of the 2022 Annual Groundwater Monitoring Report for State Com J #6: Content Satisfactory
1. Sampling of groundwater monitoring wells: MW-1, MW-2, MW-3 and RW-2 may be suspended from the sampling program.
2. Continue to hand bail as accumulation allows and sample remaining groundwater monitoring wells on an annual basis until concentrations reach the allowable concentrations and are below the WQCC human health standards; thereafter, increase to quarterly sampling throughout the year.
3. Continue to gauge monitoring wells and take DTW measurements on a quarterly basis.
4. Submit the 2023 annual report, if it hasn't already been submitted and submit the 2024 annual report by April 2025.

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *2022 Annual Groundwater Monitoring Report* to the New Mexico Oil Conservation Division (NMOCD) to document groundwater monitoring activities conducted at the State Com J #6 natural gas production site (Site) during 2022. The Site is located on surface managed by the New Mexico State Land Office in Unit L, Section 36, Township 31N, Range 9W, San Juan County, New Mexico (Figure 1).

SITE BACKGROUND

In 2013, the previous Site operator, ConocoPhillips Company, discovered a release of produced water and condensate originating from the San Juan C4 gas pipeline at a point that crossed an ephemeral wash (Figure 2). Upon discovery, the production wells associated with the pipeline were immediately shut in and the release location was berned to prevent surface fluids from migrating laterally. Initial actions included excavation and trenching of the pipeline and surrounding areas to remove obvious impacted soils. During their work, groundwater was encountered at the base of the excavation. In total, 275 cubic yards of impacted soil from the excavation and 60 barrels (bbls) of petroleum hydrocarbon impacted groundwater was removed from the base of the open excavation. Depth to groundwater during the excavation was approximately 5 feet below ground surface (bgs).

After initial delineation activities were conducted using a hand auger, four groundwater recovery wells (RW-1 through RW-4) and one monitoring well (MW-1) were installed at the Site in 2014. The Site recovery wells were used to remove light non-aqueous phase liquids (LNAPLs) or phase separated hydrocarbons (PSH), as referenced in this report, and dissolved phase petroleum hydrocarbons present. Mobile dual-phase extraction (MDPE) events were subsequently conducted in August 2014, November 2014, April 2015, and April 2017 to recover petroleum hydrocarbons from the release area. In total, 777 gallons of PSH was recovered from the four events. Upon request from the NMOCD, two additional monitoring wells were installed at the Site in 2016, located in down-gradient and cross-gradient locations (MW-2 and MW-3, respectively).

Since 2016, wells at the Site have been gauged and sampled on a quarterly basis. Since 2017, PSH has also been removed from recovery wells RW-1 through RW-4 by hand bailing and/or absorbent socks when present during the quarterly sampling events. In addition, GHD (former environmental consultant for the Site) used a vacuum truck to remove approximately 40 bbls of PSH and impacted water from recovery wells RW-1 through RW-4 during the fourth quarter of 2019. As presented in the *2019 Annual Groundwater Monitoring Report* prepared by GHD (dated March 3, 2020), a minimum of 0.11 gallons of PSH was removed during this event.

SITE GROUNDWATER CLEANUP STANDARDS

The NMOCD requires groundwater quality standards be met as presented by the New Mexico Water Quality Control Commission (NMWQCC) and listed in Title 20, Chapter 6, Part 2, Section 3103 (20.6.2.3103) of the New Mexico Administrative Code (NMAC). The following standards are presented for the constituents of concern (COCs) at the Site in milligrams per liter (mg/L).

- Benzene: 0.005 mg/L
- Toluene: 1.0 mg/L
- Ethylbenzene: 0.70 mg/L
- Total Xylenes: 0.62 mg/L
- Total Naphthalenes: 0.03 mg/L

In addition, NMWQCC standards state that LNAPL/PSH shall not be present floating on the groundwater.

GROUNDWATER SAMPLING ACTIVITIES AND RESULTS

Groundwater level measurements and samples were collected in January/February, May, August, and December 2022 from all on-Site wells. Samples were not collected for laboratory analysis from well RW-4 during the May 2022 sampling event due to presence of PSH.

Static groundwater level monitoring included recording depth to groundwater and depth to PSH measurements of each monitoring well using an oil/water interface probe. The interface probe was decontaminated with Alconox™ soap and rinsed with distilled water prior to each measurement to prevent cross-contamination. Groundwater elevations measured in monitoring wells during the 2022 sampling events are presented in Table 1 and were used to develop groundwater potentiometric surface maps (Figures 3, 4, 5, and 6). The inferred groundwater flow direction is to the southwest.

GROUNDWATER SAMPLING

Groundwater from each monitoring well was purged and sampled using a disposable bailer. Purging was accomplished by removing stagnant groundwater from the monitoring well prior to collecting a sample. Field measurements of groundwater quality parameters, including temperature, pH, total dissolved solids, and electrical conductivity, and were collected during the purging process and are presented in Table 2.

Following well purging, groundwater samples were placed directly into laboratory-provided containers and labeled with the date and time of collection, well designation, project name, sample collector's name, and parameters to be analyzed. Samples were immediately sealed with zero headspace and packed on ice to preserve samples. Samples were submitted to Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico for analysis of benzene,

toluene, ethylbenzene, and total xylenes (BTEX), and total naphthalenes by Environmental Protection Agency (EPA) Method 8260B. Proper chain-of-custody procedures were followed documenting the date and time sampled, sample number, type of sample, sample collector's name, preservative used, analyses required, and sample collector's signature. Analytical laboratory reports from the sampling events are included as Appendix A.

GROUNDWATER ANALYTICAL RESULTS

During the 2022 quarterly sampling events, benzene, total xylenes, and total naphthalenes concentrations in groundwater exceeded the NMWQCC standards during one or more quarters from recovery wells RW-1, RW-3, and RW-4. Toluene and ethylbenzene were not detected above the NMWQCC standard in any of these wells during the 2022 sampling events. Additionally, BTEX and total naphthalenes concentrations were not detected above laboratory reporting limits and/or NMWQCC standards during any of the 2022 quarterly sampling events in wells MW-1, MW-2, MW-3, and RW-2. Groundwater laboratory analytical results are summarized in Table 3 and presented on Figure 7.

CONCLUSIONS AND RECOMMENDATIONS

Overall, the presence of PSH and concentrations of dissolved BTEX and total naphthalenes in groundwater have decreased over time at the Site. BTEX and total naphthalenes concentrations have not been detected above laboratory reporting limits and/or NMWQCC standards in 14 consecutive quarters in wells MW-1, MW-2, MW-3. Additionally, BTEX and total naphthalene concentrations have not been detected above the NMWQCC standards in 11 consecutive quarters in well RW-2. Although still present in wells RW-1, RW-3, and RW-4, PSH and/or dissolved concentrations of BTEX/total naphthalenes appear to be stable and reducing in magnitude. Benzene was not detected in groundwater above laboratory reporting limits in well RW-1 for the last three quarters sampled in 2022. Furthermore, historical sampling of down and cross-gradient wells at the Site indicates the plume has not migrated downgradient from the original release location.

Based on current and historical data gathered at the Site, Ensolum/Hilcorp recommend the following actions:

- Cease sampling wells MW-1, MW-2, MW-3, and RW-2. Site COCs have been in compliance with NMWQCC standards for at least 11 quarters.
- Reduce sampling frequency of wells RW-1, RW-3, and RW-4 to annual. Once the presence of PSH diminishes and BTEX/naphthalene concentrations indicate compliance with NMWQCC standards, sampling frequency will again be increased to quarterly events.
- Gauge all Site wells for depth to groundwater and depth to PSH measurements on a quarterly basis and continue PSH removal via absorbent socks and hand bailing on a quarterly basis.

Ensolum appreciates the opportunity to provide these environmental services to Hilcorp. Please contact either of the undersigned with any questions.

Sincerely,

Ensolum, LLC

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Senior Managing Geologist
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Enclosed:

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Q1 2022 Groundwater Elevation Contours
Figure 4	Q2 2022 Groundwater Elevation Contours
Figure 5	Q3 2022 Groundwater Elevation Contours
Figure 6	Q4 2022 Groundwater Elevation Contours
Figure 7	2022 Groundwater Analytical Results
Table 1	Groundwater Elevations
Table 2	Groundwater Quality Measurements
Table 3	Groundwater Analytical Results
Appendix A	Analytical Laboratory Reports

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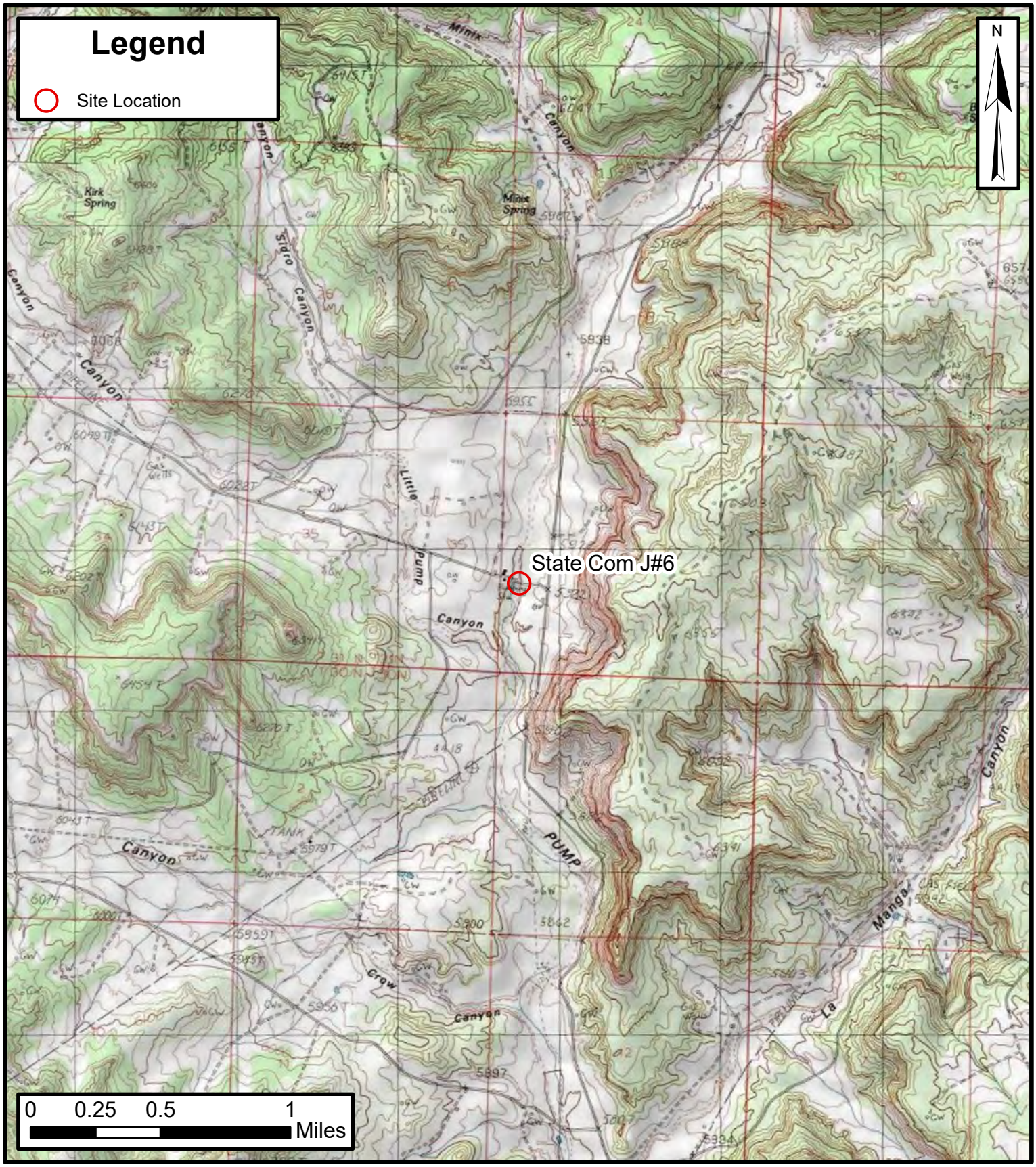
FIGURES



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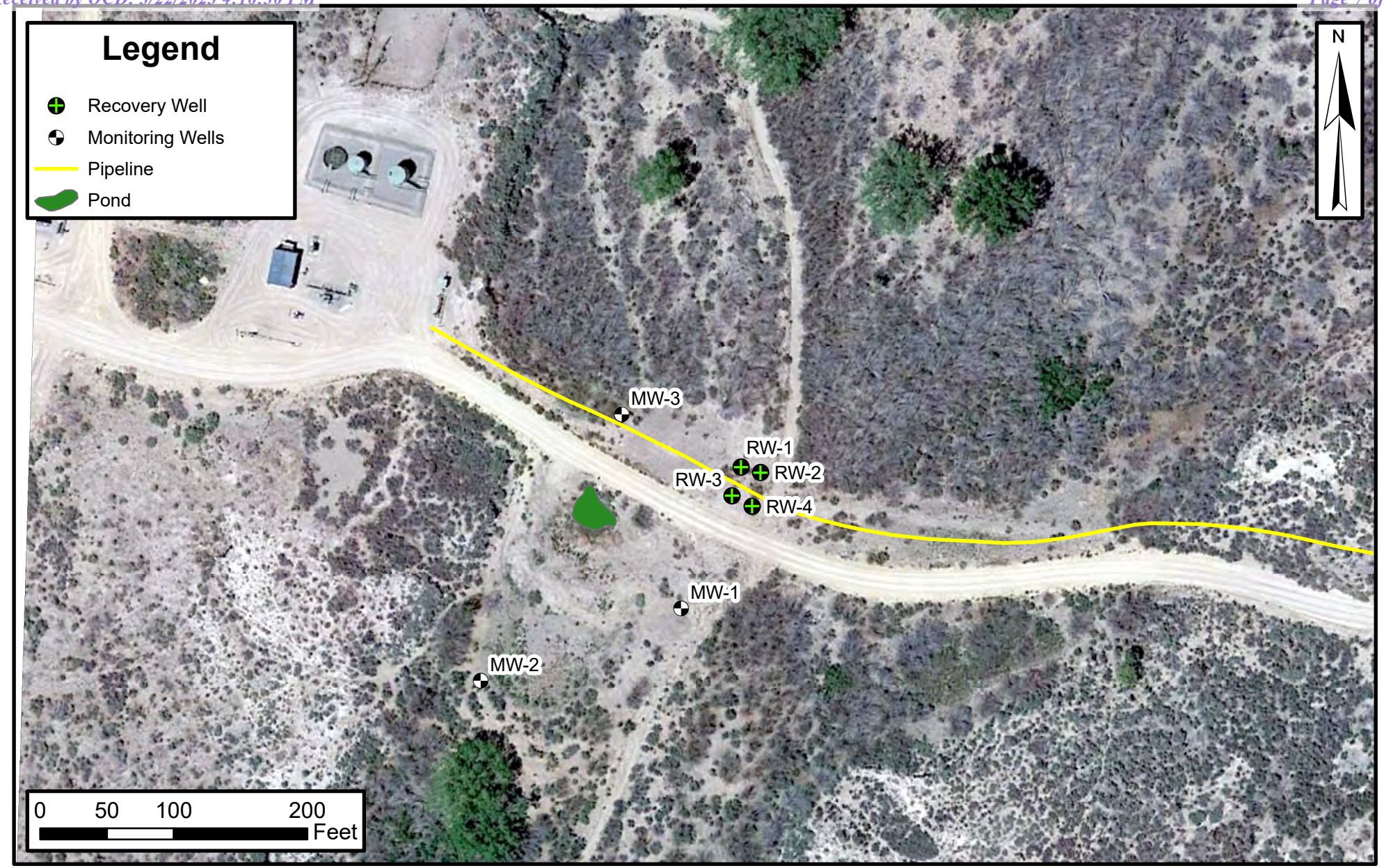
Site Location Map

State Com J#6
Hilcorp Energy Company
36.85231, -107.74007
San Juan County, New Mexico

FIGURE
1

Sources: Environmental Systems Research Institute (ESRI), National Geographic Society, i-cubed



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Site Map

State Com J#6
Hilcorp Energy Company
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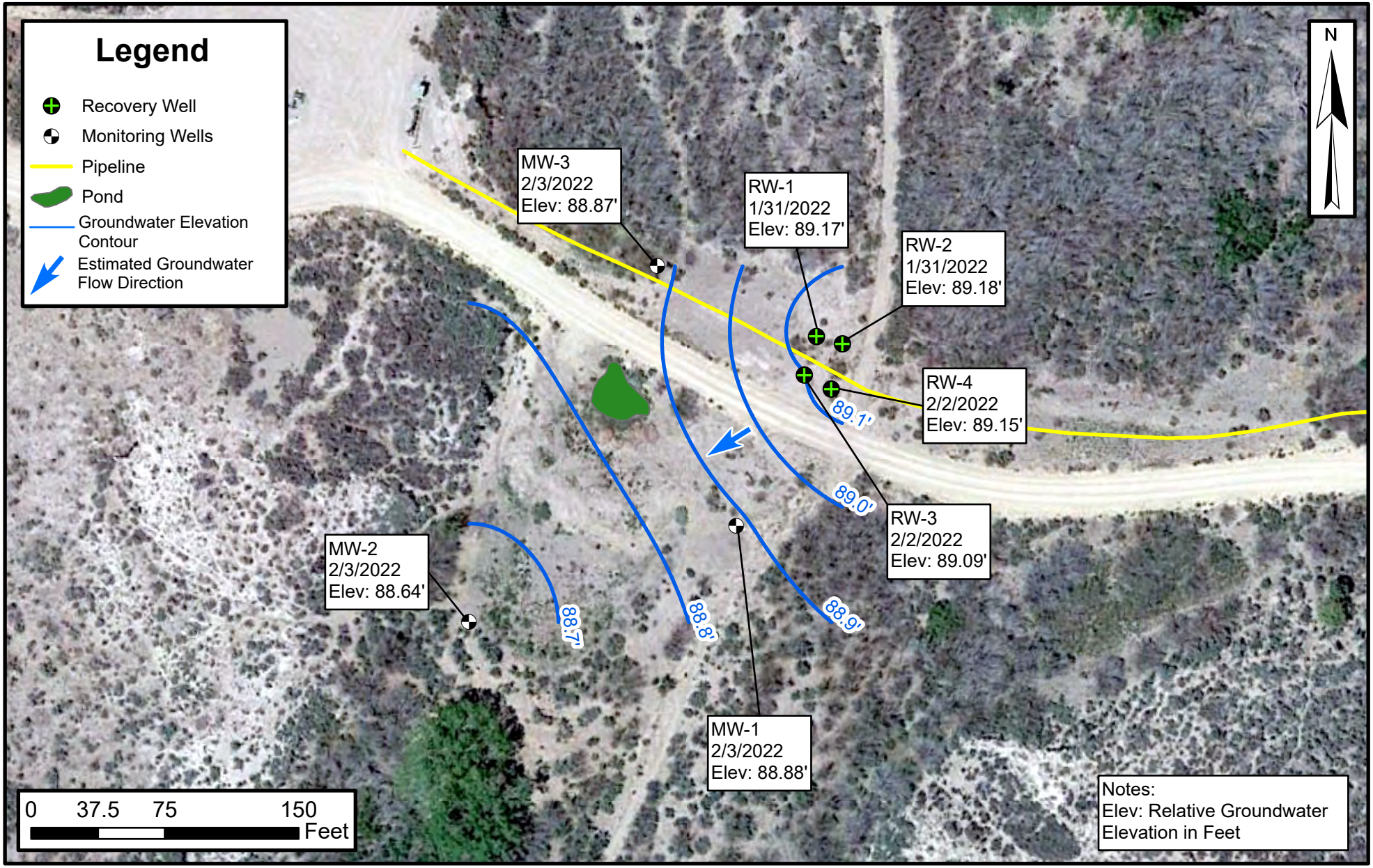
FIGURE
2

Sources: Google Earth



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Q1 2022 Groundwater Elevation Contours

State Com J#6
Hilcorp Energy Company
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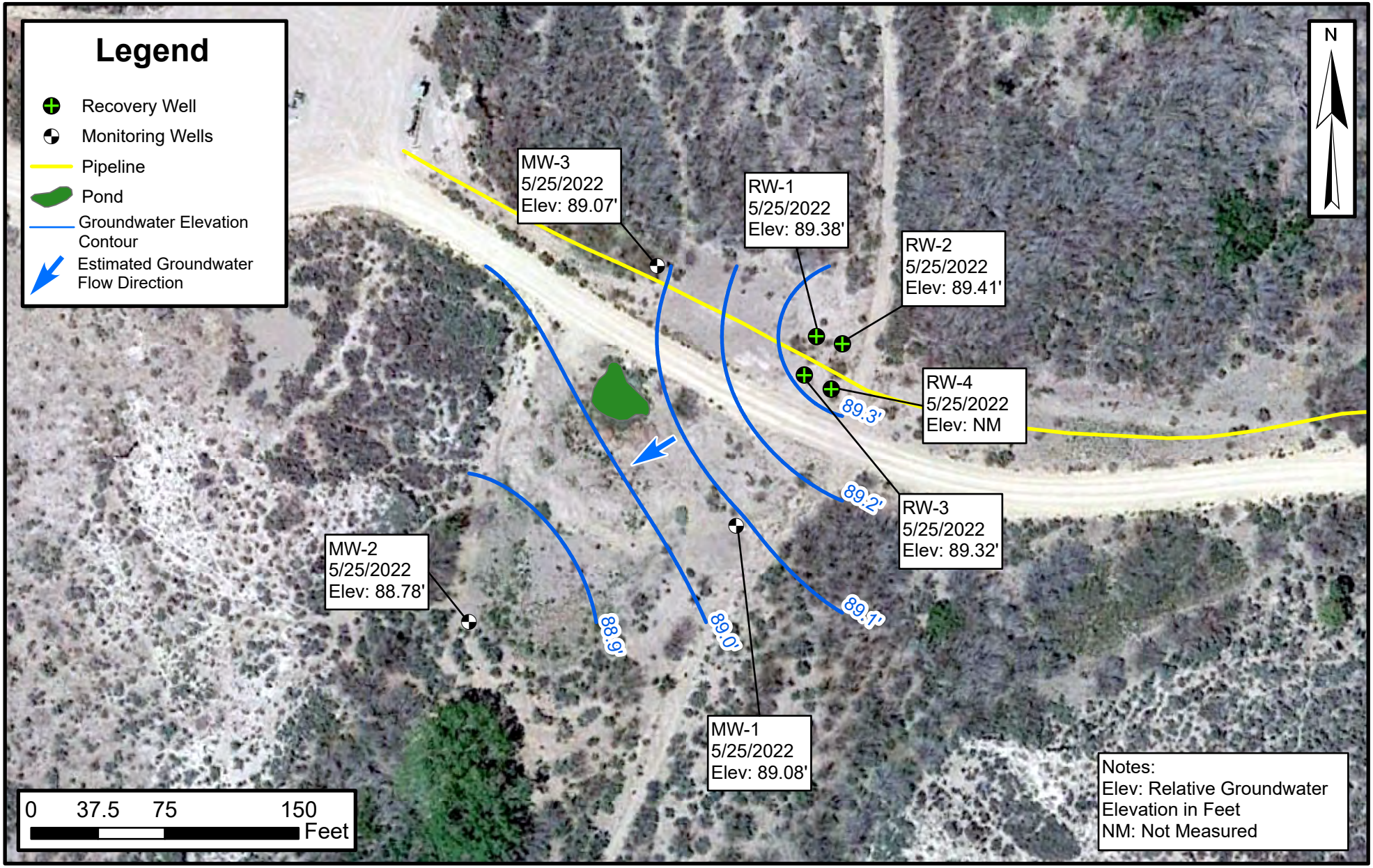
San Juan County, New Mexico

FIGURE
3

Sources: Google Earth



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Q2 2022 Groundwater Elevation Contours

State Com J#6
Hilcorp Energy Company
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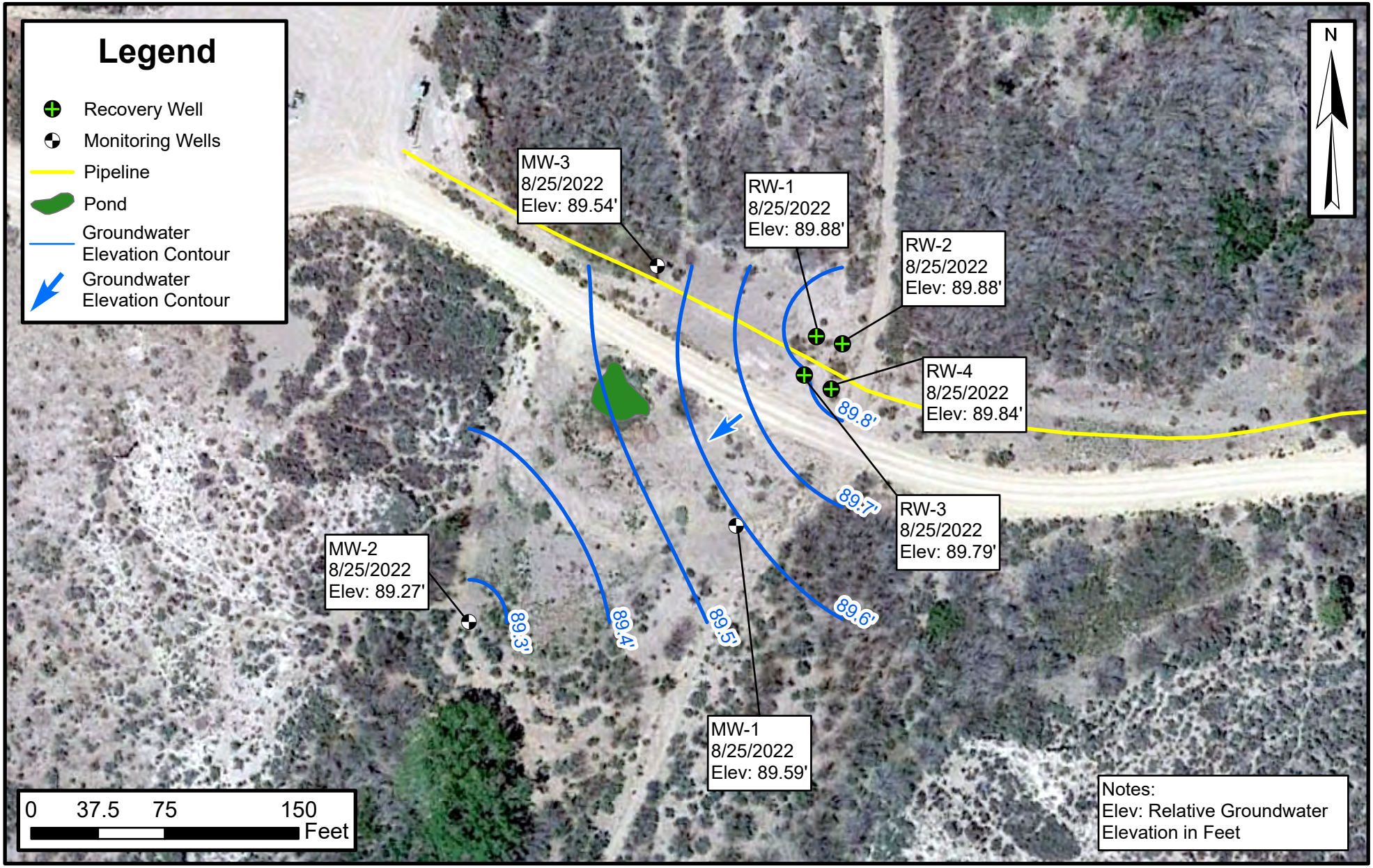
San Juan County, New Mexico

FIGURE
4

Sources: Google Earth



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Q3 2022 Groundwater Elevation Contours

State Com J#6
Hilcorp Energy Company
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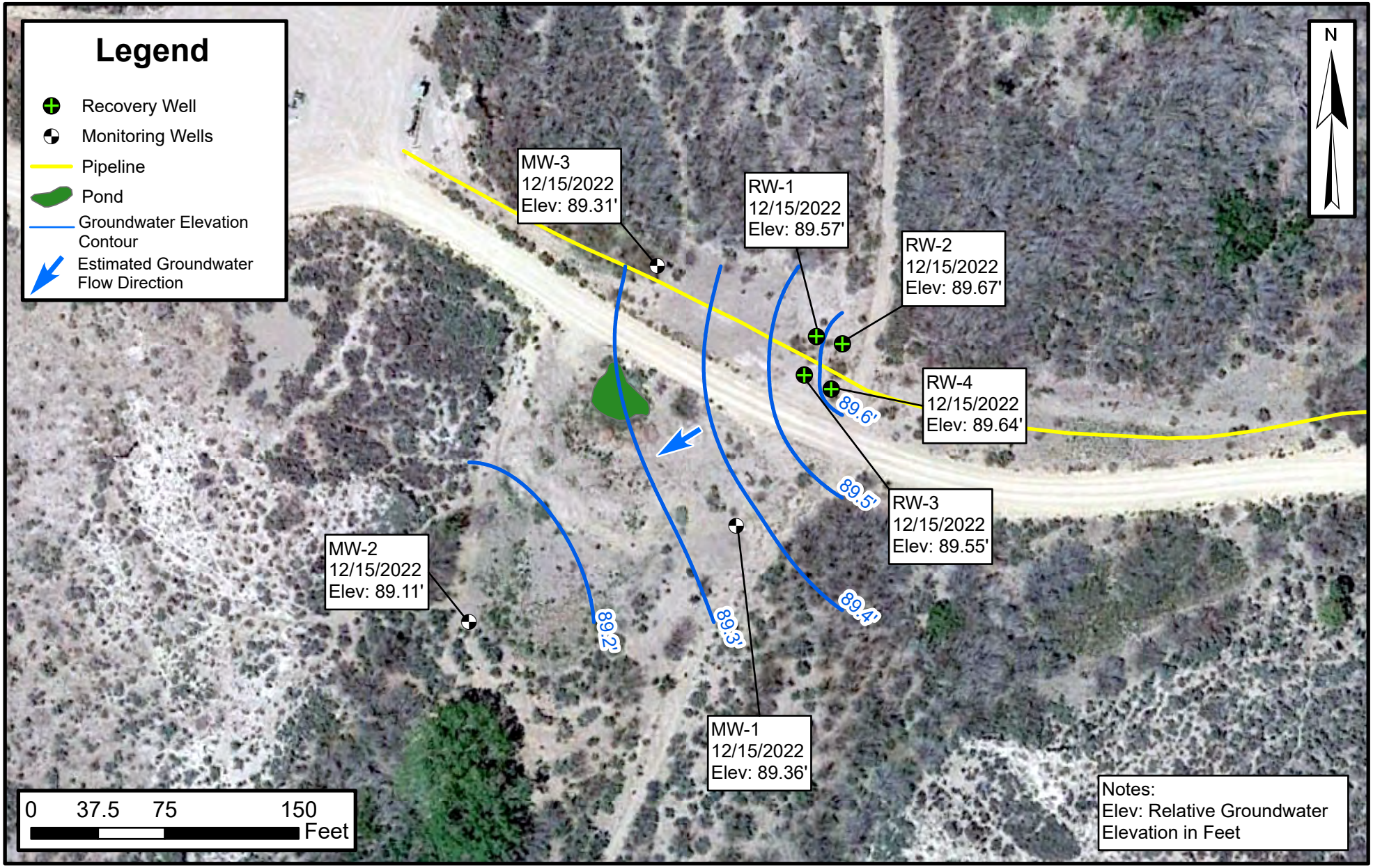
San Juan County, New Mexico

FIGURE
5

Sources: Google Earth



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Q4 2022 Groundwater Elevation Contours

State Com J#6
Hilcorp Energy Company
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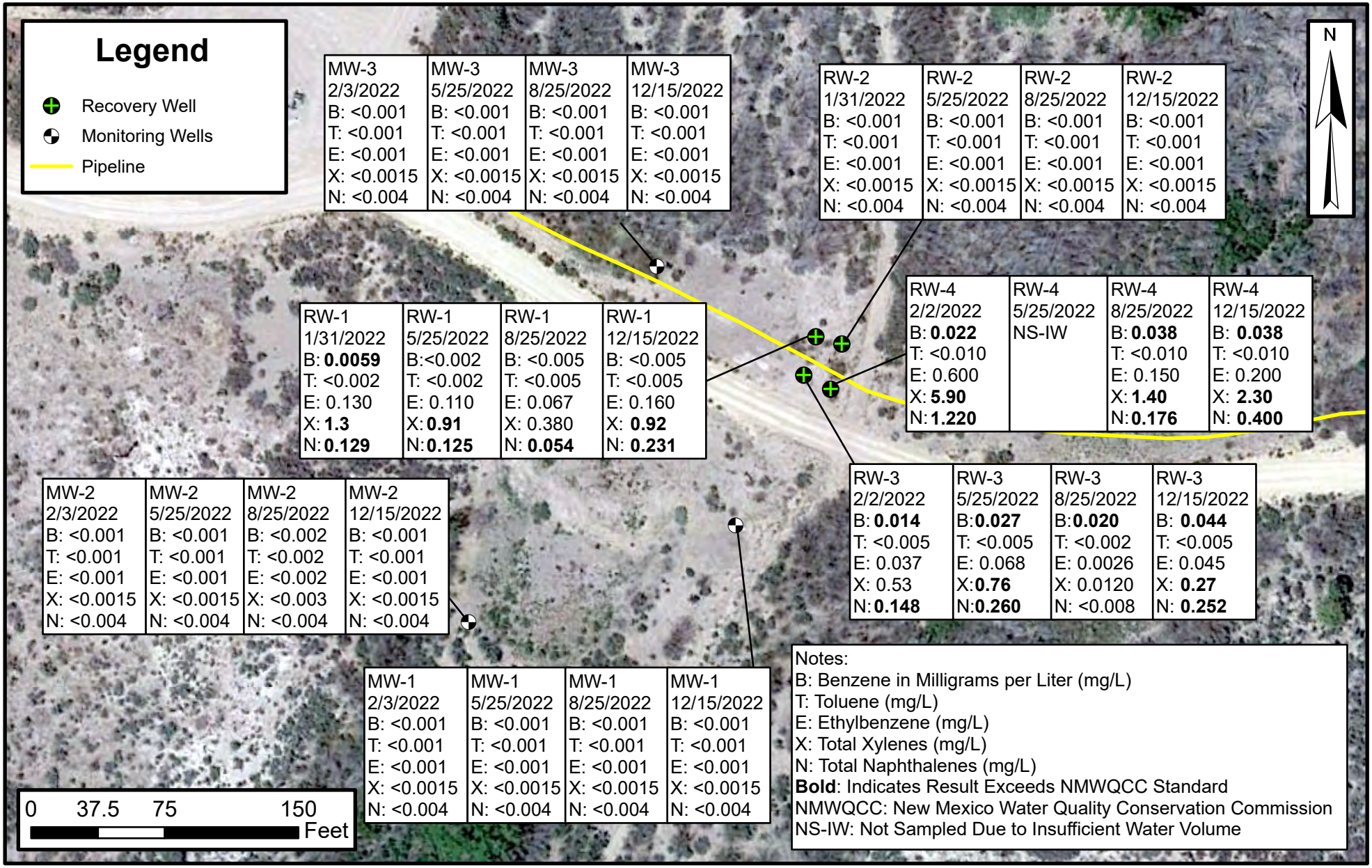
San Juan County, New Mexico

FIGURE
6

Sources: Google Earth



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2022 Groundwater Analytical Results

State Com J#6
Hilcorp Energy Company
36.85231, -107.74007
San Juan County, New Mexico

FIGURE
7

Sources: Google Earth

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TABLES

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TABLE 1
GROUNDWATER ELEVATIONS
State Com J #6
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Top of Casing Elevation (feet amsl) (1)	Date	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet amsl)
MW-1	100.00	5/12/2014	7.98	--	--	92.02
		5/20/2014	8.14	--	--	91.86
		5/27/2014	8.10	--	--	91.90
		12/17/2014	8.53	--	--	91.47
		4/21/2015	8.20	--	--	91.80
		5/14/2015	8.18	--	--	91.82
		9/22/2015	8.43	--	--	91.57
		12/2/2015	8.29	--	--	91.71
		3/30/2016	7.92	--	--	92.08
		9/8/2016	9.55	--	--	90.45
		12/1/2016	8.96	--	--	91.04
		3/9/2017	8.09	--	--	91.91
		6/15/2017	8.54	--	--	91.46
		9/27/2017	9.97	--	--	90.03
		12/6/2017	9.25	--	--	90.75
		3/15/2018	8.91	--	--	91.09
		6/27/2018	9.78	--	--	90.22
		9/5/2018	10.43	--	--	89.57
		12/20/2018	9.97	--	--	90.03
		3/9/2019	9.33	--	--	90.67
		5/29/2019	8.82	--	--	91.18
		8/21/2019	10.53	--	--	89.47
		11/21/2019	10.41	--	--	89.59
		3/28/2020	9.81	--	--	90.19
		6/3/2020	10.09	--	--	89.91
		7/28/2020	11.03	--	--	88.97
		10/9/2020	11.46	--	--	88.54
		1/18/2021	10.86	--	--	89.14
		4/22/2021	10.49	--	--	89.51
		9/21/2021	11.80	--	--	88.20
		11/29/2021	11.43	--	--	88.57
		2/3/2022	11.12	--	--	88.88
		5/25/2022	10.92	--	--	89.08
		8/25/2022	10.41	--	--	89.59
		12/15/2022	10.64	--	--	89.36

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TABLE 1
GROUNDWATER ELEVATIONS
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San Juan County, New Mexico

Well Identification	Top of Casing Elevation (feet amsl) (1)	Date	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet amsl)
MW-2	99.36	12/1/2016	8.57	--	--	90.79
		3/9/2017	7.73	--	--	91.63
		6/15/2017	8.27	--	--	91.09
		9/27/2017	9.70	--	--	89.66
		12/6/2017	8.90	--	--	90.46
		3/15/2018	8.54	--	--	90.82
		6/27/2018	9.49	--	--	89.87
		9/5/2018	10.17	--	--	89.19
		12/20/2018	9.59	--	--	89.77
		3/9/2019	8.95	--	--	90.41
		5/29/2019	8.46	--	--	90.90
		8/21/2019	10.24	--	--	89.12
		11/21/2019	10.05	--	--	89.31
		3/27/2020	9.43	--	--	89.93
		6/3/2020	10.09	--	--	89.27
		7/27/2020	10.74	--	--	88.62
		10/9/2020	11.15	--	--	88.21
		1/18/2021	10.49	--	--	88.87
		4/22/2021	10.10	--	--	89.26
		9/21/2021	11.50	--		87.86
		11/19/2021	11.11	--	--	88.25
		2/3/2022	10.72	--	--	88.64
		5/25/2022	10.58	--	--	88.78
		8/25/2022	10.09	--	--	89.27
		12/15/2022	10.25	--	--	89.11
MW-3	99.59	12/1/2016	8.51	--	--	91.08
		3/9/2017	7.64	--	--	91.95
		6/15/2017	8.05	--	--	91.54
		9/27/2017	9.51	--	--	90.08
		12/6/2017	8.80	--	--	90.79
		3/15/2018	8.47	--	--	91.12
		6/27/2018	9.31	--	--	90.28
		9/5/2018	9.99	--	--	89.60
		12/20/2018	9.51	--	--	90.08
		3/9/2019	8.95	--	--	90.64
		5/29/2019	8.36	--	--	91.23
		8/21/2019	10.07	--	--	89.52
		11/20/2019	9.98	--	--	89.61
		3/27/2020	9.38	--	--	90.21
		6/2/2020	9.63	--	--	89.96
		7/27/2020	10.59	--	--	89.00
		10/9/2020	11.03	--	--	88.56
		1/18/2021	10.44	--	--	89.15
		4/22/2021	10.07	--	--	89.52
		9/21/2021	11.40	--	--	88.19
		11/19/2021	11.08	--	--	88.51

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TABLE 1
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Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Top of Casing Elevation (feet amsl) (1)	Date	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet amsl)
MW-3	99.59	2/3/2022	10.72	--	--	88.87
		5/25/2022	10.52	--	--	89.07
		8/25/2022	10.05	--	--	89.54
		12/15/2022	10.28	--	--	89.31
RW-1	100.3	5/12/2014	7.80	--	--	92.50
		5/20/2014	7.85	--	--	92.45
		5/27/2014	7.90	7.89	0.01	92.41
		12/17/2014	8.72	8.33	0.39	91.89
		5/14/2015	7.99	--	--	92.31
		6/17/2015	7.98	7.96	0.02	92.34
		9/22/2015	8.72	8.57	0.15	91.70
		12/2/2015	8.19	8.17	0.02	92.13
		9/14/2016	10.10	9.11	0.99	90.99
		12/1/2016	--	--	--	DRY
		3/9/2017	8.01	--	--	92.29
		6/15/2017	8.50	8.35	0.15	91.92
		9/27/2017	10.82	9.60	1.22	90.46
		12/6/2017	9.59	9.09	0.50	91.11
		3/15/2018	8.98	8.83	0.15	91.44
		6/27/2018	10.11	9.52	0.59	90.66
		9/5/2018	11.01	10.18	0.83	89.95
		1/4/2019	10.12	9.77	0.35	90.46
		3/9/2019	9.32	--	--	90.98
		5/28/2019	8.72	--	--	91.58
		8/21/2019	--	--	--	DRY
		11/12/2019	--	--	--	DRY
		3/31/2020	9.81	--	--	90.49
		6/1/2020	9.97	--	--	90.33
		7/29/2020	11.42	10.87	0.55	89.32
		10/9/2020	11.36	--	--	88.94
		1/15/2021	10.87	--	--	89.43
		4/21/2021	10.49	--	--	89.81
		9/21/2021	11.82	11.79	0.03	88.50
		11/29/2021	11.43	--	--	88.87
		1/31/2022	11.13	--	--	89.17
		5/25/2022	10.92	--	--	89.38
		8/25/2022	10.42	--	--	89.88
		12/15/2022	10.73	--	--	89.57
RW-2	99.96	5/12/2014	7.45	7.44	0.01	92.52
		5/20/2014	7.67	7.66	0.01	92.30
		5/27/2014	7.56	--	--	92.40
		12/17/2014	8.39	7.98	0.41	91.90
		5/14/2015	7.65	--	--	92.31
		6/17/2015	7.61	--	--	92.35
		9/22/2015	8.25	--	--	91.71

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GROUNDWATER ELEVATIONS
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Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Top of Casing Elevation (feet amsl) (1)	Date	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet amsl)
RW-2	99.96	12/2/2015	7.82	--	--	92.14
		9/14/2016	9.68	8.77	0.91	91.01
		12/1/2016	8.65	8.51	--	91.31
		3/9/2017	7.74	--	--	92.22
		6/15/2017	8.03	--	--	91.93
		9/27/2017	10.14	9.33	0.81	90.47
		12/6/2017	9.22	8.72	0.50	91.14
		3/15/2018	8.55	8.46	0.09	91.48
		6/27/2017	9.59	9.25	0.34	90.64
		9/5/2018	10.36	9.90	0.46	89.97
		1/4/2019	9.51	--	--	90.45
		3/9/2019	8.95	--	--	91.01
		5/28/2019	8.39	--	--	91.57
		8/21/2019	10.08	--	--	89.88
		11/12/2019	10.08	--	--	89.88
		3/31/2020	9.43	--	--	90.53
		6/1/2020	9.66	--	--	90.30
		7/29/2020	10.60	--	--	89.36
		10/12/2020	11.06	--	--	88.90
		1/15/2021	10.52	--	--	89.44
		4/21/2021	10.12	--	--	89.84
		9/21/2021	11.50	--	--	88.46
		11/29/2021	11.13	--	--	88.83
		1/31/2022	10.78	--	--	89.18
		5/25/2022	10.55	--	--	89.41
		8/25/2022	10.08	--	--	89.88
		12/15/2022	10.29	--	--	89.67
RW-3	99.84	5/12/2014	7.46	--	--	92.38
		5/20/2014	7.66	--	--	92.18
		5/27/2014	7.59	--	--	92.25
		8/26/2014	10.43	8.70	1.73	90.79
		11/11/2014	8.64	8.22	0.42	91.54
		12/17/2014	8.55	7.94	0.61	91.78
		5/14/2015	7.63	7.63	0.00	92.21
		6/17/2015	7.76	7.58	0.18	92.22
		9/22/2015	8.45	8.20	0.25	91.59
		12/2/2015	8.11	7.74	0.37	92.03
		9/14/2016	9.94	8.71	1.23	90.88
		12/1/2016	8.98	8.46	0.52	91.28
		3/9/2017	7.73	7.70	0.03	92.13
		6/15/2017	7.95	--	--	91.89
		9/27/2017	10.50	9.22	1.28	90.36
		12/6/2017	9.28	8.69	0.59	91.03
		3/15/2018	8.77	8.40	0.37	91.37
		6/27/2018	9.73	9.14	0.59	90.58
		9/5/2018	10.94	9.69	1.25	89.90

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TABLE 1
GROUNDWATER ELEVATIONS
State Com J #6
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Top of Casing Elevation (feet amsl) (1)	Date	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet amsl)
RW-3	99.84	1/4/2019	9.39	--	--	90.45
		3/9/2019	8.90	--	--	90.94
		5/28/2019	8.39	--	--	91.45
		8/21/2019	--	--	--	DRY
		11/12/2019	--	--	--	DRY
		3/31/2020	9.38	--	--	90.46
		6/2/2020	9.56	--	--	90.28
		7/29/2020	10.41	10.40	0.01	89.44
		10/12/2020	10.67	--	--	89.17
		1/15/2021	10.50	10.48	0.02	89.36
		4/21/2021	10.09	--	--	89.75
		9/21/2021	11.45	11.35	0.10	88.47
		11/30/2021	11.07	--	--	88.77
		2/2/2022	10.75	--	--	89.09
		5/25/2022	10.52	--	--	89.32
		8/25/2022	10.05	--	--	89.79
		12/15/2022	10.29	--	--	89.55
RW-4	99.67	5/12/2014	7.30	7.29	0.01	92.38
		5/20/2014	8.12	7.26	0.86	92.24
		5/27/2014	7.98	7.22	0.76	92.30
		8/25/2014	9.80	8.47	1.33	90.93
		11/10/2014	8.15	7.94	0.21	91.69
		12/17/2014	8.10	7.84	0.26	91.78
		4/20/2015	7.61	7.36	0.25	92.26
		5/14/2015	7.46	--	--	92.21
		6/17/2015	7.48	7.43	0.05	92.23
		9/22/2015	8.17	8.04	0.13	91.60
		12/2/2015	7.70	7.65	0.05	92.01
		9/14/2016	9.75	8.53	1.22	90.90
		12/1/2016	8.66	8.46	0.20	91.17
		3/9/2017	7.54	7.47	0.07	92.19
		6/15/2017	7.69	--	--	-7.69
		9/27/2017	10.33	9.04	1.29	90.37
		12/6/2017	8.82	8.59	0.23	91.03
		3/15/2018	8.30	8.29	0.01	91.38
		6/27/2018	9.86	8.91	0.95	90.57
		9/5/2018	10.59	9.50	1.09	89.95
		1/4/2019	9.19	--	--	90.48
		3/9/2019	8.70	--	--	90.97
		5/28/2019	8.15	--	--	91.52

ENSOLUM

TABLE 1
GROUNDWATER ELEVATIONS
State Com J #6
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Top of Casing Elevation (feet amsl) (1)	Date	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet amsl)
RW-4	99.67	8/21/2019	--	--	--	DRY
		11/12/2019	--	--	--	DRY
		3/31/2020	9.22	--	--	90.45
		6/2/2020	9.30	--	--	90.37
		7/29/2020	10.21	--	--	89.46
		10/12/2020	10.67	--	--	89.00
		1/15/2021	10.22	10.20	0.02	89.45
		4/21/2021	9.91	--	--	89.76
		9/21/2021	11.90	11.10	0.80	87.77
		11/30/2021	10.69	--	--	88.98
		2/2/2022	10.52	--	--	89.15
		5/25/2022	NM	--	--	NM
		8/25/2022	9.83	--	--	89.84
		12/15/2022	10.03	--	--	89.64

Notes:

(1): surface elevation based on an arbitrary datum of 100 feet based on top of casing of MW-1

amsl: above mean sea level

BTOC: below top of casing

--: indicates no GWEL or PSH measured

Groundwater elevation is adjusted using a density correction factor of 0.8 when product is present

ENSOLUM

TABLE 2
GROUNDWATER QUALITY MEASUREMENTS
State Com J #6
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Date	Temperature (°C)	pH	TDS (mg/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)
MW-1	5/14/2015	11.68	7.52	3,221	4,976	--	-205.0
	5/14/2015	11.32	7.35	3,309	5,096	2.83	-205.0
	5/14/2015	11.34	7.28	3,341	5,139	1.66	-204.0
	9/22/2015	16.41	7.01	1,164	1,792	9.11	-117.5
	9/22/2015	16.42	6.98	1,177	1,811	2.96	-117.6
	9/22/2015	16.43	6.99	1,152	1,771	2.48	-117.0
	3/30/2016	10.36	7.48	1,200	1,920	5.62	-104.0
	9/8/2016	16.10	7.10	877	1,353	1.52	-91.1
	12/1/2016	12.55	7.49	--	1,664	2.64	-110.6
	3/9/2017	8.45	7.31	1,403	2,157	1.81	-158.2
	6/15/2017	11.52	7.27	1,390	2,125	0.74	-203.1
	9/27/2017	15.35	6.93	--	1,790	--	--
	12/6/2017	12.14	7.00	1,318	2,022	2.15	-69.5
	3/15/2018	9.90	7.35	--	1,790	0.62	-112.6
	6/27/2018	16.73	6.97	--	1,959	1.04	-96.4
	9/5/2018	17.10	7.46	--	1,898	4.17	-109.1
	3/9/2019	11.20	7.16	1,020	2,050	--	-24.3
	5/29/2019	15.50	7.01	1,060	2,120	--	-17.5
	8/21/2019	23.90	6.74	1,070	2,140	--	-15.4
	11/20/2019	10.30	6.35	920	1,830	--	-21.9
	3/28/2020	10.40	6.49	1,000	1,980	5.13	-9.3
	6/3/2020	20.40	6.60	--	2,020	1.00	-7.0
	7/28/2020	20.70	6.79	1,070	2,140	1.03	-9.4
	10/9/2020	20.60	6.55	1,010	2,020	2.68	-1.2
	1/18/2021	12.30	6.58	960	1,910	0.98	7.4
	4/22/2021	13.20	6.70	980	1,970	8.66	4.3
	9/21/2021	18.00	6.99	--	5,750	--	--
	11/29/2021	11.70	6.23	--	1,850	--	--
	2/3/2022	9.40	6.77	--	1,770	--	--
	5/25/2022	14.90	6.29	830	1,660	--	--
	8/25/2022	20.50	6.46	800	1,590	--	--
	12/15/2022	8.70	6.94	810	1,620	--	--
MW-2	12/1/2016	9.75	8.11	--	1,980	6.29	-128.8
	3/9/2017	7.58	7.24	1,812	2,788	1.72	-144.7
	6/15/2017	10.24	7.64	1,494	2,298	4.09	-148.3
	9/27/2017	13.76	7.12	--	2,009	--	--
	12/6/2017	11.09	6.96	1,394	2,145	4.22	-63.1
	3/15/2018	8.19	7.32	--	2,302	0.13	-75.6
	6/27/2018	12.49	7.17	--	2,104	0.57	-41.9
	9/5/2018	16.74	7.52	--	1,954	4.76	-13.1
	3/9/2019	9.80	7.24	1,090	2,180	--	-27.9
	5/29/2019	14.40	7.11	1,160	2,330	--	-17.4
	8/21/2019	22.40	7.26	1,110	2,220	--	-15.1
	11/20/2019	11.20	6.32	1,030	2,530	--	-26.6
	3/27/2020	9.90	6.92	1,110	2,220	--	-15.8
	6/3/2020	18.20	6.31	--	2,180	1.11	-17.4
	7/27/2020	24.20	6.99	1,050	2,100	1.77	-18.6
	10/9/2020	18.20	6.51	1,010	2,010	3.33	-11.0
	1/18/2021	9.10	6.85	960	1,940	1.23	-1.4
	4/22/2021	11.80	7.04	1,000	1,980	0.39	-2.7
	9/21/2021	15.70	6.90	--	6,060	--	--
	11/19/2021	13.10	6.53	--	1,920	--	--

ENSOLUM

TABLE 2
GROUNDWATER QUALITY MEASUREMENTS
State Com J #6
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Date	Temperature (°C)	pH	TDS (mg/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)
MW-2	2/3/2022	8.90	6.76	--	1,870	--	--
	5/25/2022	14.50	6.29	930	1,850	--	--
	8/25/2022	21.20	6.49	1,040	2,080	--	--
	12/15/2022	6.90	7.05	990	1,980	--	--
MW-3	12/1/2016	12.09	7.39	--	2,200	2.30	-53.7
	3/9/2017	7.48	7.42	1,709	2,614	3.58	-124.2
	6/15/2017	10.06	7.41	1,407	2,164	2.53	-149.4
	9/27/2017	12.76	7.39	--	1,914	--	--
	12/6/2017	10.06	6.93	1,339	2,060	1.74	-58.2
	3/15/2018	8.10	7.23	--	2,142	0.75	18.0
	6/27/2018	12.49	7.17	--	2,104	0.57	-41.9
	9/5/2018	14.22	7.46	--	2,064	1.17	-4.3
	3/9/2019	7.60	7.28	1,130	2,260	--	-20.6
	5/29/2019	13.10	7.03	1,300	2,590	--	-15.6
	8/21/2019	7.05	--	1,130	2,250	--	-26.0
	11/20/2019	12.80	6.31	1,300	2,390	--	-26.6
	3/27/2020	10.10	6.54	1,140	2,300	--	-16.7
	6/2/2020	19.50	6.35	1,130	2,270	1.13	-11.9
	7/27/2020	19.40	6.47	1,110	2,380	1.30	-14.7
	10/9/2020	16.90	6.55	1,030	1,910	3.46	-17.6
	1/18/2021	10.40	6.92	1,000	2,000	1.19	-13.2
	4/22/2021	13.30	7.00	1,060	2,130	7.72	-11.2
	9/21/2021	13.50	6.86	--	6,370	--	--
	11/19/2021	14.20	6.46	--	2,050	--	--
	2/3/2022	7.80	6.93	--	1,880	--	--
	5/25/2022	14.60	6.79	970	1,940	--	--
	8/25/2022	19.20	6.52	980	1,960	--	--
	12/15/2022	6.70	7.20	1,020	2,030	--	--
RW-1	3/31/2020	14.40	6.19	1,010	2,080	6.10	2.8
	6/1/2020	19.60	6.12	--	2,000	0.98	-10.1
	7/29/2020	--	--	--	--	--	--
	10/12/2020	16.20	6.70	930	1,850	3.91	-28.9
	1/15/2021	10.20	6.77	920	1,840	1.06	-37.7
	4/21/2021	13.40	6.71	1,000	2,000	--	-27.3
	9/21/2021	--	--	--	--	--	--
	11/29/2021	14.50	6.73	--	1,690	--	--
	1/31/2022	13.00	6.62	--	1,830	--	--
	5/25/2022	16.60	6.84	870	1,750	--	--
	8/25/2022	20.20	6.31	910	1,820	--	--
	12/15/2022	8.40	6.63	630	1,260	--	--
RW-2	3/31/2020	13.50	6.35	1,060	2,120	6.24	2.3
	6/2/2020	17.80	--	1,050	2,090	1.05	-1.3
	7/29/2020	19.40	6.72	1,070	2,120	1.13	-13.3
	10/12/2020	17.40	6.73	980	1,970	3.99	-6.0
	1/15/2021	10.40	7.02	960	1,930	0.99	-1.3
	4/21/2021	13.20	6.86	1,000	1,990	--	1.8
	9/21/2021	20.20	7.09	--	5,450	--	--
	11/29/2021	14.40	6.62	--	1,870	--	--
	1/31/2022	13.00	6.62	--	1,890	--	--
	5/25/2022	16.60	6.86	900	1,810	--	--
	8/25/2022	19.40	6.53	800	1,600	--	--
	12/15/2022	8.30	6.74	650	1,310	--	--

ENSOLUM

TABLE 2
GROUNDWATER QUALITY MEASUREMENTS
State Com J #6
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Date	Temperature (°C)	pH	TDS (mg/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)
RW-3	3/31/2020	14.10	6.16	1,080	2,130	7.24	6.4
	6/2/2020	19.50	6.38	--	2,130	1.06	2.6
	7/29/2020	--	--	--	--	--	--
	10/12/2020	21.90	6.49	970	1,930	3.64	12.3
	1/15/2021	13.30	6.72	950	1,900	0.99	12.3
	4/21/2021	15.20	6.67	970	1,960	8.78	9.8
	9/21/2021	--	--	--	--	--	--
	11/30/2021	15.40	6.57	--	1,530	--	--
	2/2/2022	10.90	6.70	--	1,630	--	--
	5/25/2022	18.00	6.62	800	1,590	--	--
	8/25/2022	22.50	6.45	800	1,590	--	--
	12/15/2022	8.80	6.74	530	1,070	--	--
RW-4	3/31/2020	13.40	6.28	970	1,940	6.98	-21.5
	6/2/2020	--	--	--	--	--	--
	7/29/2020	--	--	--	--	--	--
	10/12/2020	20.90	6.68	950	1,910	2.96	-34.2
	1/15/2021	11.20	6.68	940	1,880	1.02	-38.4
	4/21/2021	12.40	6.85	930	1,860	1.30	-35.2
	9/21/2021	--	--	--	--	--	--
	11/30/2021	16.20	6.53	-	1,480	--	--
	2/2/2022	11.10	6.87		1,600	--	--
	5/25/2022	**No Field Quality Measurements taken, PSH present**					
	8/25/2022	20.70	6.45	610	1,260	--	--
	12/15/2022	9.20	1.05	6,500	530	--	--

Notes:

°C: degrees Celsius
DO: dissolved oxygen
uS/cm: microsiemens per centimeter
mg/L: milligrams per liter
mV: millivolts
ORP: oxidation-reduction potential
TDS: total dissolved solids
--: data not collected
PSH: phase separated hydrocarbons

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
State Com J #6
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Total Naphthalenes (mg/L)
NMWQCC Standards		**0.005**	**1.00**	**0.70**	**0.62**	**0.03**
MW-1	5/12/2014	**0.0134**	0.0304	0.0152	0.228	0.0017
	9/23/2014	**0.01**	< 0.001	0.0033	0.0233	< 0.0005
	12/17/2014	**0.0252**	< 0.001	0.0121	0.0488	0.00085
	5/14/2015	0.0041	< 0.001	0.0056	0.0121	< 0.00045
	9/22/2015	**0.0463**	< 0.001	0.0214	0.115	0.0012
	9/8/2016	**0.0121**	< 0.001	0.0124	0.0817	0.001
	12/1/2016	<0.001	<0.001	<0.001	<0.003	<0.0005
	3/9/2017	0.0028	<0.001	<0.001	<0.003	--
	6/15/2017	**0.0431**	<0.001	0.0022	0.0038	--
	9/27/2017	**0.0067**	<0.001	0.0056	0.0338	--
	12/6/2017	<0.001	<0.001	<0.001	<0.003	--
	3/15/2018	<0.001	<0.001	<0.001	<0.003	--
	6/27/2018	0.0043	<0.001	0.005	0.0123	--
	9/5/2018	<0.001	<0.001	<0.001	<0.003	--
	12/20/2018	<0.001	<0.001	<0.001	<0.003	--
	3/15/2019	<0.001	<0.001	<0.001	<0.003	<0.005
	5/29/2019	**0.0083**	<0.001	0.0017	0.0051	<0.005
	8/21/2019	<0.001	<0.001	<0.001	<0.003	<0.005
	11/21/2019	<0.001	<0.001	<0.001	<0.003	<0.005
	3/31/2020	<0.001	<0.001	<0.001	<0.003	<0.00025
	6/3/2020	<0.001	<0.001	<0.001	<0.003	--
	7/28/2020	<0.001	<0.001	<0.001	<0.003	<0.005
	10/9/2020	<0.001	<0.001	<0.001	<0.003	<0.005
	1/18/2021	<0.001	<0.001	<0.001	<0.003	<0.005
	4/22/2021	<0.001	<0.001	<0.001	<0.0015	<0.002
	9/21/2021	<0.001	<0.001	<0.001	<0.0015	<0.002
	11/29/2021	<0.001	<0.001	<0.001	<0.0015	<0.002
	2/3/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
	5/25/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
	8/25/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
	12/15/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
MW-2	9/26/2016	<0.001	<0.001	<0.001	<0.003	<0.0005
	12/1/2016	<0.001	<0.001	<0.001	<0.003	<0.0005
	3/9/2017	<0.001	<0.001	<0.001	<0.003	--
	6/15/2017	<0.001	<0.001	<0.001	<0.003	--
	9/27/2017	<0.001	<0.001	<0.001	<0.003	--
	12/6/2017	<0.001	<0.001	<0.001	<0.003	--

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
State Com J #6
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Total Naphthalenes (mg/L)
NMWQCC Standards		**0.005**	**1.00**	**0.70**	**0.62**	**0.03**
MW-2	3/15/2018	<0.001	<0.001	<0.001	<0.003	--
	6/27/2018	<0.001	<0.001	<0.001	<0.003	--
	9/5/2018	<0.001	<0.001	<0.001	<0.003	--
	12/20/2018	<0.001	<0.001	<0.001	<0.003	--
	3/9/2019	<0.001	<0.001	<0.001	<0.003	<0.005
	5/29/2019	<0.001	<0.001	<0.001	<0.003	<0.005
	8/21/2019	<0.001	<0.001	<0.001	<0.003	<0.005
	11/21/2019	<0.001	<0.001	<0.001	<0.003	--
	3/31/2020	<0.001	<0.001	<0.001	<0.003	<0.00025
	6/3/2020	<0.001	<0.001	<0.001	<0.003	--
	7/27/2020	<0.001	<0.001	<0.001	<0.003	<0.005
	10/9/2020	<0.001	<0.001	<0.001	<0.003	<0.005
	1/18/2021	<0.001	<0.001	<0.001	<0.003	<0.005
	4/22/2021	<0.001	<0.001	<0.001	<0.0015	<0.002
	9/21/2021	<0.001	<0.001	<0.001	<0.0015	<0.002
	11/19/2021	<0.001	<0.001	<0.001	<0.0015	<0.002
	2/3/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
	5/25/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
	8/25/2022	<0.002	<0.002	<0.002	<0.003	<0.004
	12/15/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
MW-3	9/26/2016	<0.001	<0.001	<0.001	<0.003	<0.0005
	12/1/2016	<0.001	<0.001	<0.001	<0.003	<0.0005
	3/9/2017	<0.001	<0.001	<0.001	<0.003	--
	6/15/2017	<0.001	<0.001	<0.001	<0.003	--
	9/27/2017	<0.001	<0.001	<0.001	<0.003	--
	12/6/2017	<0.001	<0.001	<0.001	<0.003	--
	3/15/2018	<0.001	<0.001	<0.001	<0.003	--
	6/27/2018	<0.001	<0.001	<0.001	<0.003	--
	9/5/2018	<0.001	<0.001	<0.001	<0.003	--
	12/20/2018	<0.001	<0.001	<0.001	<0.003	--
	3/9/2019	<0.001	<0.001	<0.001	<0.003	<0.005
	5/29/2019	<0.001	<0.001	<0.001	<0.003	<0.005
	8/21/2019	<0.001	<0.001	<0.001	<0.003	<0.005
	11/20/2019	<0.001	<0.001	<0.001	<0.003	<0.005
	3/31/2020	<0.001	<0.001	<0.001	<0.003	<0.00025
	6/2/2020	<0.001	<0.001	<0.001	<0.003	--
	7/27/2020	<0.001	<0.001	<0.001	<0.003	<0.005

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
State Com J #6
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Total Naphthalenes (mg/L)
NMWQCC Standards		**0.005**	**1.00**	**0.70**	**0.62**	**0.03**
MW-3	10/9/2020	<0.001	<0.001	<0.001	<0.003	<0.005
	1/18/2021	<0.001	<0.001	<0.001	<0.003	<0.005
	4/22/2021	<0.001	<0.001	<0.001	<0.0015	<0.002
	9/21/2021	<0.001	<0.001	<0.001	<0.0015	<0.002
	11/19/2021	<0.001	<0.001	<0.001	<0.0015	<0.002
	2/3/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
	5/25/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
	8/25/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
	12/15/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
RW-1	5/12/2014	**1.88**	**6.27**	0.567	**8.96**	**0.109**
	5/14/2015	**0.688**	0.764	0.388	**5.65**	**0.121**
	3/9/2019	--	--	--	--	--
	5/28/2019	**0.349**	<0.025	0.240	**5.76**	**0.133**
	8/21/2019	**Not Sampled - PSH Present**				
	11/20/2019	**Not Sampled - PSH Present**				
	3/31/2020	**0.151**	<0.050	0.499	**6.77**	**0.291**
	6/3/2020	**0.156**	<0.050	0.511	**8.73**	**--**
	7/29/2020	**Not Sampled - PSH Present**				
	10/12/2020	**0.121**	<0.050	**1.07**	**18.1**	**0.956**
	1/18/2021	**0.0573**	<0.050	0.233	**3.30**	<0.25
	4/21/2021	**0.033**	<0.010	0.180	**2.30**	**1.052**
	9/21/2021	**Not Sampled - PSH Present**				
	11/29/2021	**0.014**	<0.008	0.180	**1.70**	**0.166**
	1/31/2022	**0.0059**	<0.002	0.130	**1.30**	**0.129**
	5/25/2022	<0.002	<0.002	0.110	**0.91**	**0.125**
	8/25/2022	<0.005	<0.005	0.067	0.380	**0.054**
	12/15/2022	<0.005	<0.005	0.160	**0.92**	**0.231**
RW-2	3/9/2019	--	--	--	--	--
	5/28/2019	**0.0404**	<0.01	0.096	**1.05**	**0.056**
	9/4/2019	**0.0083**	<0.001	0.045	0.376	**0.064**
	11/20/2019	0.0026	<0.01	0.0280	0.355	0.005
	3/31/2020	0.003	<0.001	0.0385	**0.734**	0.029
	6/1/2020	<0.010	<0.010	0.0324	0.298	--
	7/29/2020	<0.002	<0.002	0.0095	0.109	0.013
	10/12/2020	<0.001	<0.001	0.0016	0.0147	<0.500
	1/18/2021	<0.001	<0.001	0.0024	0.00929	<0.005
	4/21/2021	<0.001	<0.001	0.0023	0.0099	<0.002

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
State Com J #6
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Total Naphthalenes (mg/L)
NMWQCC Standards		**0.005**	**1.00**	**0.70**	**0.62**	**0.03**
RW-2	9/21/2021	<0.001	<0.001	<0.001	<0.0015	<0.002
	11/29/2021	<0.001	<0.001	<0.001	0.0026	<0.002
	1/31/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
	5/25/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
	8/25/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
	12/15/2022	<0.001	<0.001	<0.001	<0.0015	<0.004
RW-3	5/12/2014	**0.416**	0.889	0.153	**4.58**	**0.0596**
	3/9/2019	--	--	--	--	--
	5/28/2019	**0.386**	<0.010	0.191	**1.80**	<0.500
	8/21/2019	**Not Sampled - PSH Present**				
	11/20/2019	**Not Sampled - PSH Present**				
	3/31/2020	**0.414**	<0.100 D	0.385	**6.76**	**0.395**
	6/2/2020	**0.703**	<0.100	**2.49**	**35.7**	**--**
	7/29/2020	**Not Sampled - PSH Present**				
	10/12/2020	**1.28**	<0.100	0.466	**7.09**	<0.500
	1/18/2021	**0.160**	<0.100	0.181	**2.98**	<0.500
	4/21/2021	**0.110**	<0.005	0.180	**2.30**	**0.288**
	9/21/2021	**Not Sampled - PSH Present**				
	11/30/2021	**0.025**	<0.005	0.047	**0.66**	**0.176**
	2/2/2022	**0.014**	<0.005	0.037	0.53	**0.148**
	5/25/2022	**0.027**	<0.005	0.068	**0.76**	**0.260**
	8/25/2022	**0.020**	<0.002	0.0026	0.0120	<0.008
	12/15/2022	**0.044**	<0.005	0.045	**0.27**	**0.252**
RW-4	3/9/2019	--	--	--	--	--
	5/28/2019	**0.321**	<0.05	0.071	**5.78**	<0.250
	8/21/2019	**Not Sampled - PSH Present**				
	11/20/2019	**Not Sampled - PSH Present**				
	3/31/2020	**0.152**	<0.100 D	0.300	**5.74**	**0.385**
	6/2/2020	**Not Sampled - PSH Present**				
	7/29/2020	**Not Sampled - PSH Present**				
	10/12/2020	**0.286**	<0.100	**3.66**	**4.88**	**3.05**
	1/18/2021	<0.25	<0.25	**1.04**	**15.8**	<1.25
	4/22/2021	**0.067**	<0.01	0.250	**2.90**	**0.253**
	9/21/2021	**Not Sampled - PSH Present**				
	11/30/2021	**0.044**	<0.01	0.370	**4.60**	**0.600**

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
State Com J #6
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Total Naphthalenes (mg/L)
NMWQCC Standards		**0.005**	**1.00**	**0.70**	**0.62**	**0.03**
RW-4	2/2/2022	**0.022**	<0.010	0.600	**5.90**	**1.220**
	5/25/2022	**Not Sampled - PSH Present**				
	8/25/2022	**0.038**	<0.010	0.150	**1.40**	**0.178**
	12/15/2022	**0.038**	<0.010	0.200	**2.30**	**0.400**

Notes:

mg/L: milligrams per liter

ND: not detected, practical quantitation limit unknown

NMWQCC: New Mexico Water Quality Control Commission

--: not analyzed

<0.037: indicates result less than the stated laboratory reporting limit (PQL)

PSH: phase separated hydrocarbons

*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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APPENDIX A

Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

February 11, 2022

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

RE: State Com J6 OrderNo.: 2202220

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 7 sample(s) on 2/4/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2202220**
Date Reported: **2/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-1
Project: State Com J6 **Collection Date:** 2/3/2022 1:10:00 PM
Lab ID: 2202220-001 **Matrix:** AQUEOUS **Received Date:** 2/4/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	2/7/2022 5:00:39 PM
Toluene	ND	1.0		µg/L	1	2/7/2022 5:00:39 PM
Ethylbenzene	ND	1.0		µg/L	1	2/7/2022 5:00:39 PM
Naphthalene	ND	2.0		µg/L	1	2/7/2022 5:00:39 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	2/7/2022 5:00:39 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	2/7/2022 5:00:39 PM
Xylenes, Total	ND	1.5		µg/L	1	2/7/2022 5:00:39 PM
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	2/7/2022 5:00:39 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	2/7/2022 5:00:39 PM
Surr: Dibromofluoromethane	115	70-130		%Rec	1	2/7/2022 5:00:39 PM
Surr: Toluene-d8	107	70-130		%Rec	1	2/7/2022 5:00:39 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2202220**
Date Reported: **2/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-2
Project: State Com J6
Collection Date: 2/3/2022 10:20:00 AM
Lab ID: 2202220-002 **Matrix:** AQUEOUS **Received Date:** 2/4/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	2/7/2022 5:29:26 PM
Toluene	ND	1.0		µg/L	1	2/7/2022 5:29:26 PM
Ethylbenzene	ND	1.0		µg/L	1	2/7/2022 5:29:26 PM
Naphthalene	ND	2.0		µg/L	1	2/7/2022 5:29:26 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	2/7/2022 5:29:26 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	2/7/2022 5:29:26 PM
Xylenes, Total	ND	1.5		µg/L	1	2/7/2022 5:29:26 PM
Surr: 1,2-Dichloroethane-d4	118	70-130		%Rec	1	2/7/2022 5:29:26 PM
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	2/7/2022 5:29:26 PM
Surr: Dibromofluoromethane	122	70-130		%Rec	1	2/7/2022 5:29:26 PM
Surr: Toluene-d8	108	70-130		%Rec	1	2/7/2022 5:29:26 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2202220**
Date Reported: **2/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-3
Project: State Com J6 **Collection Date:** 2/3/2022 12:00:00 PM
Lab ID: 2202220-003 **Matrix:** AQUEOUS **Received Date:** 2/4/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	2/7/2022 5:58:08 PM
Toluene	ND	1.0		µg/L	1	2/7/2022 5:58:08 PM
Ethylbenzene	ND	1.0		µg/L	1	2/7/2022 5:58:08 PM
Naphthalene	ND	2.0		µg/L	1	2/7/2022 5:58:08 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	2/7/2022 5:58:08 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	2/7/2022 5:58:08 PM
Xylenes, Total	ND	1.5		µg/L	1	2/7/2022 5:58:08 PM
Surr: 1,2-Dichloroethane-d4	118	70-130		%Rec	1	2/7/2022 5:58:08 PM
Surr: 4-Bromofluorobenzene	110	70-130		%Rec	1	2/7/2022 5:58:08 PM
Surr: Dibromofluoromethane	117	70-130		%Rec	1	2/7/2022 5:58:08 PM
Surr: Toluene-d8	109	70-130		%Rec	1	2/7/2022 5:58:08 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2202220**
Date Reported: **2/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-1
Project: State Com J6 **Collection Date:** 1/31/2022 11:05:00 AM
Lab ID: 2202220-004 **Matrix:** AQUEOUS **Received Date:** 2/4/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	5.9	2.0		µg/L	2	2/7/2022 6:55:24 PM
Toluene	ND	2.0		µg/L	2	2/7/2022 6:55:24 PM
Ethylbenzene	130	2.0		µg/L	2	2/7/2022 6:55:24 PM
Naphthalene	53	4.0		µg/L	2	2/7/2022 6:55:24 PM
1-Methylnaphthalene	34	8.0		µg/L	2	2/7/2022 6:55:24 PM
2-Methylnaphthalene	42	8.0		µg/L	2	2/7/2022 6:55:24 PM
Xylenes, Total	1300	30		µg/L	20	2/7/2022 6:26:46 PM
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	2	2/7/2022 6:55:24 PM
Surr: 4-Bromofluorobenzene	80.2	70-130		%Rec	2	2/7/2022 6:55:24 PM
Surr: Dibromofluoromethane	95.0	70-130		%Rec	2	2/7/2022 6:55:24 PM
Surr: Toluene-d8	107	70-130		%Rec	2	2/7/2022 6:55:24 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2202220**
Date Reported: **2/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: RW-2
Project: State Com J6
Collection Date: 1/31/2022 1:05:00 PM
Lab ID: 2202220-005 **Matrix:** AQUEOUS **Received Date:** 2/4/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	2/7/2022 7:24:00 PM
Toluene	ND	1.0		µg/L	1	2/7/2022 7:24:00 PM
Ethylbenzene	ND	1.0		µg/L	1	2/7/2022 7:24:00 PM
Naphthalene	ND	2.0		µg/L	1	2/7/2022 7:24:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	2/7/2022 7:24:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	2/7/2022 7:24:00 PM
Xylenes, Total	ND	1.5		µg/L	1	2/7/2022 7:24:00 PM
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	2/7/2022 7:24:00 PM
Surr: 4-Bromofluorobenzene	127	70-130		%Rec	1	2/7/2022 7:24:00 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	2/7/2022 7:24:00 PM
Surr: Toluene-d8	101	70-130		%Rec	1	2/7/2022 7:24:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2202220**
Date Reported: **2/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-3
Project: State Com J6 **Collection Date:** 2/2/2022 12:00:00 PM
Lab ID: 2202220-006 **Matrix:** AQUEOUS **Received Date:** 2/4/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	14	5.0	D	µg/L	5	2/7/2022 8:21:01 PM
Toluene	ND	5.0	D	µg/L	5	2/7/2022 8:21:01 PM
Ethylbenzene	37	5.0	D	µg/L	5	2/7/2022 8:21:01 PM
Naphthalene	42	10	D	µg/L	5	2/7/2022 8:21:01 PM
1-Methylnaphthalene	40	20	D	µg/L	5	2/7/2022 8:21:01 PM
2-Methylnaphthalene	66	20	D	µg/L	5	2/7/2022 8:21:01 PM
Xylenes, Total	530	7.5	D	µg/L	5	2/7/2022 8:21:01 PM
Surr: 1,2-Dichloroethane-d4	99.2	70-130	D	%Rec	5	2/7/2022 8:21:01 PM
Surr: 4-Bromofluorobenzene	94.7	70-130	D	%Rec	5	2/7/2022 8:21:01 PM
Surr: Dibromofluoromethane	95.8	70-130	D	%Rec	5	2/7/2022 8:21:01 PM
Surr: Toluene-d8	103	70-130	D	%Rec	5	2/7/2022 8:21:01 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2202220**
Date Reported: **2/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-4
Project: State Com J6 **Collection Date:** 2/2/2022 1:20:00 PM
Lab ID: 2202220-007 **Matrix:** AQUEOUS **Received Date:** 2/4/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	22	10		µg/L	10	2/7/2022 9:17:51 PM
Toluene	ND	10		µg/L	10	2/7/2022 9:17:51 PM
Ethylbenzene	600	10		µg/L	10	2/7/2022 9:17:51 PM
Naphthalene	460	20		µg/L	10	2/7/2022 9:17:51 PM
1-Methylnaphthalene	260	40		µg/L	10	2/7/2022 9:17:51 PM
2-Methylnaphthalene	500	40		µg/L	10	2/7/2022 9:17:51 PM
Xylenes, Total	5900	150		µg/L	100	2/7/2022 8:49:26 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	10	2/7/2022 9:17:51 PM
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	10	2/7/2022 9:17:51 PM
Surr: Dibromofluoromethane	97.0	70-130		%Rec	10	2/7/2022 9:17:51 PM
Surr: Toluene-d8	101	70-130		%Rec	10	2/7/2022 9:17:51 PM

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2202220**
11-Feb-22

Client: HILCORP ENERGY
Project: State Com J6

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **R85654** RunNo: **85654**
Prep Date: Analysis Date: **2/7/2022** SeqNo: **3015538** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	86.6	70	130			
Toluene	20	1.0	20.00	0	98.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.3	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **R85654** RunNo: **85654**
Prep Date: Analysis Date: **2/7/2022** SeqNo: **3015549** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		109	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.2	70	130			
Surr: Toluene-d8	10		10.00		105	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2202220 RcptNo: 1

Received By: Tracy Casarrubias 2/4/2022 7:50:00 AM

Completed By: Desiree Dominguez 2/4/2022 10:03:46 AM

Reviewed By: JN 2/4/22

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Samples not frozen.
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☑ No ☐ NA ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: WPG 2/4/22

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	-1.7	Good	Yes			

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#: khoekstra@hilcorp.com

QA/QC Package: mkillough@hilcorp.com

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

X Standard ☐ Rush_____

Project Name: State Com J6

Project #:

Project Manager: Mitch Killough

Sampler: Kurt Hoekstra

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): -1.5-0.2 = -1.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2202220	BTEX Method 8260	Naphthalene, 1-Methylnaphthalene, 2- Methylnaphthalene
2-3	1:10	Water	MW-1	(3) 40ml VOA	HCL	-001	X	X
2-3	10:20	Water	MW-2	(3) 40ml VOA	HCL	-002	X	X
2-3	12:00	Water	MW-3	(3) 40ml VOA	HCL	-003	X	X
1-31	11:05	Water	RW-1	(3) 40ml VOA	HCL	-004	X	X
1-31	1:05	Water	RW-2	(3) 40ml VOA	HCL	-005	X	X
2-2	12:00	Water	RW-3	(3) 40ml VOA	HCL	-006	X	X
2-2	1:20	Water	RW-4	(3) 40ml VOA	HCL	-007	X	X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
2-3	1458	Kurt Hoekstra	Chad Ward		2/3/22	1458
2/3/22	1811	Cristen Walters			2/4/22	7:30

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 06, 2022

Mitch Killough

Hilcorp Energy
PO Box 61529
Houston, TX 77208-1529
TEL: (337) 276-7676
FAX:

RE: State Com J6 OrderNo.: 2205B89

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/26/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2205B89**
Date Reported: **6/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW-1
Project: State Com J6
Collection Date: 5/25/2022 1:15:00 PM
Lab ID: 2205B89-001 **Matrix:** AQUEOUS **Received Date:** 5/26/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	5/27/2022 6:32:00 PM	SL88329
Toluene	ND	1.0		µg/L	1	5/27/2022 6:32:00 PM	SL88329
Ethylbenzene	ND	1.0		µg/L	1	5/27/2022 6:32:00 PM	SL88329
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/27/2022 6:32:00 PM	SL88329
Naphthalene	ND	2.0		µg/L	1	5/27/2022 6:32:00 PM	SL88329
1-Methylnaphthalene	ND	4.0		µg/L	1	5/27/2022 6:32:00 PM	SL88329
2-Methylnaphthalene	ND	4.0		µg/L	1	5/27/2022 6:32:00 PM	SL88329
Xylenes, Total	ND	1.5		µg/L	1	5/27/2022 6:32:00 PM	SL88329
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%Rec	1	5/27/2022 6:32:00 PM	SL88329
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	1	5/27/2022 6:32:00 PM	SL88329
Surr: Dibromofluoromethane	101	70-130		%Rec	1	5/27/2022 6:32:00 PM	SL88329
Surr: Toluene-d8	97.3	70-130		%Rec	1	5/27/2022 6:32:00 PM	SL88329

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

Qualifiers:

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

Analytical Report
Lab Order **2205B89**
Date Reported: **6/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW-2
Project: State Com J6
Collection Date: 5/25/2022 1:41:00 PM
Lab ID: 2205B89-002 **Matrix:** AQUEOUS **Received Date:** 5/26/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	5/27/2022 6:55:00 PM	SL88329
Toluene	ND	1.0		µg/L	1	5/27/2022 6:55:00 PM	SL88329
Ethylbenzene	ND	1.0		µg/L	1	5/27/2022 6:55:00 PM	SL88329
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/27/2022 6:55:00 PM	SL88329
Naphthalene	ND	2.0		µg/L	1	5/27/2022 6:55:00 PM	SL88329
1-Methylnaphthalene	ND	4.0		µg/L	1	5/27/2022 6:55:00 PM	SL88329
2-Methylnaphthalene	ND	4.0		µg/L	1	5/27/2022 6:55:00 PM	SL88329
Xylenes, Total	ND	1.5		µg/L	1	5/27/2022 6:55:00 PM	SL88329
Surr: 1,2-Dichloroethane-d4	93.8	70-130		%Rec	1	5/27/2022 6:55:00 PM	SL88329
Surr: 4-Bromofluorobenzene	95.8	70-130		%Rec	1	5/27/2022 6:55:00 PM	SL88329
Surr: Dibromofluoromethane	101	70-130		%Rec	1	5/27/2022 6:55:00 PM	SL88329
Surr: Toluene-d8	99.5	70-130		%Rec	1	5/27/2022 6:55:00 PM	SL88329

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

Qualifiers:

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

Analytical Report
Lab Order **2205B89**
Date Reported: **6/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW-3
Project: State Com J6
Collection Date: 5/25/2022 2:08:00 PM
Lab ID: 2205B89-003 **Matrix:** AQUEOUS **Received Date:** 5/26/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	5/27/2022 7:18:00 PM	SL88329
Toluene	ND	1.0		µg/L	1	5/27/2022 7:18:00 PM	SL88329
Ethylbenzene	ND	1.0		µg/L	1	5/27/2022 7:18:00 PM	SL88329
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/27/2022 7:18:00 PM	SL88329
Naphthalene	ND	2.0		µg/L	1	5/27/2022 7:18:00 PM	SL88329
1-Methylnaphthalene	ND	4.0		µg/L	1	5/27/2022 7:18:00 PM	SL88329
2-Methylnaphthalene	ND	4.0		µg/L	1	5/27/2022 7:18:00 PM	SL88329
Xylenes, Total	ND	1.5		µg/L	1	5/27/2022 7:18:00 PM	SL88329
Surr: 1,2-Dichloroethane-d4	93.0	70-130		%Rec	1	5/27/2022 7:18:00 PM	SL88329
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	5/27/2022 7:18:00 PM	SL88329
Surr: Dibromofluoromethane	102	70-130		%Rec	1	5/27/2022 7:18:00 PM	SL88329
Surr: Toluene-d8	98.8	70-130		%Rec	1	5/27/2022 7:18:00 PM	SL88329

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

Qualifiers:

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

Analytical Report
Lab Order **2205B89**
Date Reported: **6/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: RW-1
Project: State Com J6
Collection Date: 5/25/2022 2:44:00 PM
Lab ID: 2205B89-004 **Matrix:** AQUEOUS **Received Date:** 5/26/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	2.0		µg/L	2	5/27/2022 8:04:00 PM	SL88329
Toluene	ND	2.0		µg/L	2	5/27/2022 8:04:00 PM	SL88329
Ethylbenzene	110	2.0		µg/L	2	5/27/2022 8:04:00 PM	SL88329
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	5/27/2022 8:04:00 PM	SL88329
Naphthalene	41	4.0		µg/L	2	5/27/2022 8:04:00 PM	SL88329
1-Methylnaphthalene	36	8.0		µg/L	2	5/27/2022 8:04:00 PM	SL88329
2-Methylnaphthalene	48	8.0		µg/L	2	5/27/2022 8:04:00 PM	SL88329
Xylenes, Total	910	30		µg/L	20	5/27/2022 7:41:00 PM	SL88329
Surr: 1,2-Dichloroethane-d4	86.0	70-130		%Rec	2	5/27/2022 8:04:00 PM	SL88329
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	2	5/27/2022 8:04:00 PM	SL88329
Surr: Dibromofluoromethane	92.5	70-130		%Rec	2	5/27/2022 8:04:00 PM	SL88329
Surr: Toluene-d8	112	70-130		%Rec	2	5/27/2022 8:04:00 PM	SL88329

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

Qualifiers:

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

Analytical Report
Lab Order **2205B89**
Date Reported: **6/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: RW-2
Project: State Com J6
Collection Date: 5/25/2022 3:15:00 PM
Lab ID: 2205B89-005 **Matrix:** AQUEOUS **Received Date:** 5/26/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	5/27/2022 8:51:00 PM	SL88329
Toluene	ND	1.0		µg/L	1	5/27/2022 8:51:00 PM	SL88329
Ethylbenzene	ND	1.0		µg/L	1	5/27/2022 8:51:00 PM	SL88329
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/27/2022 8:51:00 PM	SL88329
Naphthalene	ND	2.0		µg/L	1	5/27/2022 8:51:00 PM	SL88329
1-Methylnaphthalene	ND	4.0		µg/L	1	5/27/2022 8:51:00 PM	SL88329
2-Methylnaphthalene	ND	4.0		µg/L	1	5/27/2022 8:51:00 PM	SL88329
Xylenes, Total	ND	1.5		µg/L	1	5/27/2022 8:51:00 PM	SL88329
Surr: 1,2-Dichloroethane-d4	92.5	70-130		%Rec	1	5/27/2022 8:51:00 PM	SL88329
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	1	5/27/2022 8:51:00 PM	SL88329
Surr: Dibromofluoromethane	99.3	70-130		%Rec	1	5/27/2022 8:51:00 PM	SL88329
Surr: Toluene-d8	98.0	70-130		%Rec	1	5/27/2022 8:51:00 PM	SL88329

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

Qualifiers:

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

Analytical Report
Lab Order **2205B89**
Date Reported: **6/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: RW-3
Project: State Com J6
Collection Date: 5/25/2022 3:48:00 PM
Lab ID: 2205B89-006 **Matrix:** AQUEOUS **Received Date:** 5/26/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	27	5.0		µg/L	5	5/27/2022 9:14:00 PM	SL88329
Toluene	ND	5.0		µg/L	5	5/27/2022 9:14:00 PM	SL88329
Ethylbenzene	68	5.0		µg/L	5	5/27/2022 9:14:00 PM	SL88329
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	5	5/27/2022 9:14:00 PM	SL88329
Naphthalene	81	10		µg/L	5	5/27/2022 9:14:00 PM	SL88329
1-Methylnaphthalene	59	20		µg/L	5	5/27/2022 9:14:00 PM	SL88329
2-Methylnaphthalene	120	20		µg/L	5	5/27/2022 9:14:00 PM	SL88329
Xylenes, Total	760	7.5		µg/L	5	5/27/2022 9:14:00 PM	SL88329
Surr: 1,2-Dichloroethane-d4	85.8	70-130		%Rec	5	5/27/2022 9:14:00 PM	SL88329
Surr: 4-Bromofluorobenzene	90.4	70-130		%Rec	5	5/27/2022 9:14:00 PM	SL88329
Surr: Dibromofluoromethane	92.4	70-130		%Rec	5	5/27/2022 9:14:00 PM	SL88329
Surr: Toluene-d8	112	70-130		%Rec	5	5/27/2022 9:14:00 PM	SL88329

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2205B89**

06-Jun-22

Client: Hilcorp Energy

Project: State Com J6

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL88329**	RunNo: **88329**
Prep Date:	Analysis Date: **5/27/2022**	SeqNo: **3133001** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	92.3	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.4	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.0	70	130			
Surr: Dibromofluoromethane	9.2		10.00		91.7	70	130			
Surr: Toluene-d8	9.5		10.00		94.5	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL88329**	RunNo: **88329**
Prep Date:	Analysis Date: **5/27/2022**	SeqNo: **3133608** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.1	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.3	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.6	70	130			
Surr: Toluene-d8	9.4		10.00		94.0	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL88350**	RunNo: **88350**
Prep Date:	Analysis Date: **5/28/2022**	SeqNo: **3134214** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.8	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL88350**	RunNo: **88350**
Prep Date:	Analysis Date: **5/28/2022**	SeqNo: **3134215** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2205B89**

06-Jun-22

Client: Hilcorp Energy

Project: State Com J6

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL88350**	RunNo: **88350**
Prep Date:	Analysis Date: **5/28/2022**	SeqNo: **3134215** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.8	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.7	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.2	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID: **100ng lcs 2**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL88350**	RunNo: **88350**
Prep Date:	Analysis Date: **5/28/2022**	SeqNo: **3134227** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	10		10.00		99.8	70	130			

Sample ID: **mb 2**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL88350**	RunNo: **88350**
Prep Date:	Analysis Date: **5/28/2022**	SeqNo: **3134228** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.0	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.4	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Hilcorp Energy | Work Order Number: 2205B89 | RcptNo: 1

Received By: **Tracy Casarrubias** 5/26/2022 7:00:00 AM

Completed By: **Tracy Casarrubias** 5/26/2022 9:21:52 AM

Reviewed By: 5-26-22

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☑	NA ☐
5. Sample(s) in proper container(s)?	Samples not Frozen Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: KPG 5-26-22

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.4	Good	Yes			
2	-1.7	Good	Yes			
3	8.4	Good	Yes			

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:

State Com J6

Project #:

Project Manager:

Mitch Killough

Sampler: Brandon Sinclair

On Ice: ☑ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): See Remarks

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2205389	BTEX Method 8260	Naphthalene, 1-Methylnaphthalene, 2- Methylnaphthalene
5-25	1315	Water	MW-1	(3) 40ml VOA	HCL	001	X	X
	1341	Water	MW-2	(3) 40ml VOA	HCL	002	X	X
	1408	Water	MW-3	(3) 40ml VOA	HCL	003	X	X
	1444	Water	RW-1	(3) 40ml VOA	HCL	004	X	X
	1515	Water	RW-2	(3) 40ml VOA	HCL	005	X	X
	1548	Water	RW-3	(3) 40ml VOA	HCL	006	X	X
~~—~~	~~—~~	~~Water~~	~~RW-4~~	~~(3) 40ml VOA~~	~~HCL~~	~~—~~	~~X~~	~~X~~

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
5-25	1659		Mustu Walla		5/25/22	1659
5/25/22	1754	Mustu Walla				
					5/26/22	7:00

Remarks: Special Pricing See Andy

5.6 -0.2 = 5.4

-1.5 -0.2 = -1.7

8.6 -0.2 = 8.4

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 01, 2022

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

RE: State Com J6 OrderNo.: 2208G23

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/26/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-1
Project: State Com J6 **Collection Date:** 8/25/2022 3:30:00 PM
Lab ID: 2208G23-001 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Toluene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Ethylbenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Naphthalene	ND	2.0		µg/L	1	8/30/2022 3:49:38 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/30/2022 3:49:38 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/30/2022 3:49:38 PM
Acetone	ND	10		µg/L	1	8/30/2022 3:49:38 PM
Bromobenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Bromoform	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Bromomethane	ND	3.0		µg/L	1	8/30/2022 3:49:38 PM
2-Butanone	ND	10		µg/L	1	8/30/2022 3:49:38 PM
Carbon disulfide	ND	10		µg/L	1	8/30/2022 3:49:38 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Chlorobenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Chloroethane	ND	2.0		µg/L	1	8/30/2022 3:49:38 PM
Chloroform	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Chloromethane	ND	3.0		µg/L	1	8/30/2022 3:49:38 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
cis-1,2-DCE	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/30/2022 3:49:38 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Dibromomethane	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/30/2022 3:49:38 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-1
Project: State Com J6 **Collection Date:** 8/25/2022 3:30:00 PM
Lab ID: 2208G23-001 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
1,1-Dichloropropene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
2-Hexanone	ND	10		µg/L	1	8/30/2022 3:49:38 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/30/2022 3:49:38 PM
Methylene Chloride	ND	3.0		µg/L	1	8/30/2022 3:49:38 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/30/2022 3:49:38 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Styrene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/30/2022 3:49:38 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/30/2022 3:49:38 PM
Vinyl chloride	ND	1.0		µg/L	1	8/30/2022 3:49:38 PM
Xylenes, Total	ND	1.5		µg/L	1	8/30/2022 3:49:38 PM
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	8/30/2022 3:49:38 PM
Surr: 4-Bromofluorobenzene	110	70-130		%Rec	1	8/30/2022 3:49:38 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	8/30/2022 3:49:38 PM
Surr: Toluene-d8	103	70-130		%Rec	1	8/30/2022 3:49:38 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-2
Project: State Com J6 **Collection Date:** 8/25/2022 3:50:00 PM
Lab ID: 2208G23-002 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Toluene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Ethylbenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Naphthalene	ND	4.0		µg/L	2	8/30/2022 4:18:08 PM
1-Methylnaphthalene	ND	8.0		µg/L	2	8/30/2022 4:18:08 PM
2-Methylnaphthalene	ND	8.0		µg/L	2	8/30/2022 4:18:08 PM
Acetone	36	20		µg/L	2	8/30/2022 4:18:08 PM
Bromobenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Bromodichloromethane	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Bromoform	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Bromomethane	ND	6.0		µg/L	2	8/30/2022 4:18:08 PM
2-Butanone	210	20		µg/L	2	8/30/2022 4:18:08 PM
Carbon disulfide	ND	20		µg/L	2	8/30/2022 4:18:08 PM
Carbon Tetrachloride	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Chlorobenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Chloroethane	ND	4.0		µg/L	2	8/30/2022 4:18:08 PM
Chloroform	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Chloromethane	ND	6.0		µg/L	2	8/30/2022 4:18:08 PM
2-Chlorotoluene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
4-Chlorotoluene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
cis-1,2-DCE	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	8/30/2022 4:18:08 PM
Dibromochloromethane	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Dibromomethane	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,2-Dichlorobenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,3-Dichlorobenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,4-Dichlorobenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Dichlorodifluoromethane	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,1-Dichloroethane	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,1-Dichloroethene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,2-Dichloropropane	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,3-Dichloropropane	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
2,2-Dichloropropane	ND	4.0		µg/L	2	8/30/2022 4:18:08 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-2
Project: State Com J6
Collection Date: 8/25/2022 3:50:00 PM
Lab ID: 2208G23-002 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
1,1-Dichloropropene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Hexachlorobutadiene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
2-Hexanone	ND	20		µg/L	2	8/30/2022 4:18:08 PM
Isopropylbenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
4-Isopropyltoluene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
4-Methyl-2-pentanone	ND	20		µg/L	2	8/30/2022 4:18:08 PM
Methylene Chloride	ND	6.0		µg/L	2	8/30/2022 4:18:08 PM
n-Butylbenzene	ND	6.0		µg/L	2	8/30/2022 4:18:08 PM
n-Propylbenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
sec-Butylbenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Styrene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
tert-Butylbenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	8/30/2022 4:18:08 PM
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
trans-1,2-DCE	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Trichloroethene (TCE)	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Trichlorofluoromethane	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
1,2,3-Trichloropropane	ND	4.0		µg/L	2	8/30/2022 4:18:08 PM
Vinyl chloride	ND	2.0		µg/L	2	8/30/2022 4:18:08 PM
Xylenes, Total	ND	3.0		µg/L	2	8/30/2022 4:18:08 PM
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	2	8/30/2022 4:18:08 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	2	8/30/2022 4:18:08 PM
Surr: Dibromofluoromethane	110	70-130		%Rec	2	8/30/2022 4:18:08 PM
Surr: Toluene-d8	107	70-130		%Rec	2	8/30/2022 4:18:08 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-3
Project: State Com J6 **Collection Date:** 8/25/2022 4:05:00 PM
Lab ID: 2208G23-003 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Toluene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Ethylbenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Naphthalene	ND	2.0		µg/L	1	8/30/2022 5:43:46 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/30/2022 5:43:46 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/30/2022 5:43:46 PM
Acetone	63	10		µg/L	1	8/30/2022 5:43:46 PM
Bromobenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Bromoform	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Bromomethane	ND	3.0		µg/L	1	8/30/2022 5:43:46 PM
2-Butanone	16	10		µg/L	1	8/30/2022 5:43:46 PM
Carbon disulfide	ND	10		µg/L	1	8/30/2022 5:43:46 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Chlorobenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Chloroethane	ND	2.0		µg/L	1	8/30/2022 5:43:46 PM
Chloroform	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Chloromethane	ND	3.0		µg/L	1	8/30/2022 5:43:46 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
cis-1,2-DCE	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/30/2022 5:43:46 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Dibromomethane	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/30/2022 5:43:46 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-3
Project: State Com J6 **Collection Date:** 8/25/2022 4:05:00 PM
Lab ID: 2208G23-003 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
1,1-Dichloropropene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
2-Hexanone	ND	10		µg/L	1	8/30/2022 5:43:46 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/30/2022 5:43:46 PM
Methylene Chloride	ND	3.0		µg/L	1	8/30/2022 5:43:46 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/30/2022 5:43:46 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Styrene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/30/2022 5:43:46 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/30/2022 5:43:46 PM
Vinyl chloride	ND	1.0		µg/L	1	8/30/2022 5:43:46 PM
Xylenes, Total	ND	1.5		µg/L	1	8/30/2022 5:43:46 PM
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	8/30/2022 5:43:46 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	8/30/2022 5:43:46 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	8/30/2022 5:43:46 PM
Surr: Toluene-d8	108	70-130		%Rec	1	8/30/2022 5:43:46 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-1
Project: State Com J6 **Collection Date:** 8/25/2022 1:30:00 PM
Lab ID: 2208G23-004 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Toluene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Ethylbenzene	67	5.0		µg/L	5	8/30/2022 6:12:17 PM
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,2,4-Trimethylbenzene	340	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,3,5-Trimethylbenzene	34	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Naphthalene	26	10		µg/L	5	8/30/2022 6:12:17 PM
1-Methylnaphthalene	28	20		µg/L	5	8/30/2022 6:12:17 PM
2-Methylnaphthalene	ND	20		µg/L	5	8/30/2022 6:12:17 PM
Acetone	ND	50		µg/L	5	8/30/2022 6:12:17 PM
Bromobenzene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Bromodichloromethane	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Bromoform	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Bromomethane	ND	15		µg/L	5	8/30/2022 6:12:17 PM
2-Butanone	59	50		µg/L	5	8/30/2022 6:12:17 PM
Carbon disulfide	ND	50		µg/L	5	8/30/2022 6:12:17 PM
Carbon Tetrachloride	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Chlorobenzene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Chloroethane	ND	10		µg/L	5	8/30/2022 6:12:17 PM
Chloroform	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Chloromethane	ND	15		µg/L	5	8/30/2022 6:12:17 PM
2-Chlorotoluene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
4-Chlorotoluene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
cis-1,2-DCE	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
cis-1,3-Dichloropropene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/L	5	8/30/2022 6:12:17 PM
Dibromochloromethane	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Dibromomethane	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,2-Dichlorobenzene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,3-Dichlorobenzene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,4-Dichlorobenzene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Dichlorodifluoromethane	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,1-Dichloroethane	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,1-Dichloroethene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,2-Dichloropropane	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,3-Dichloropropane	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
2,2-Dichloropropane	ND	10		µg/L	5	8/30/2022 6:12:17 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-1
Project: State Com J6 **Collection Date:** 8/25/2022 1:30:00 PM
Lab ID: 2208G23-004 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
1,1-Dichloropropene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Hexachlorobutadiene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
2-Hexanone	ND	50		µg/L	5	8/30/2022 6:12:17 PM
Isopropylbenzene	16	5.0		µg/L	5	8/30/2022 6:12:17 PM
4-Isopropyltoluene	10	5.0		µg/L	5	8/30/2022 6:12:17 PM
4-Methyl-2-pentanone	ND	50		µg/L	5	8/30/2022 6:12:17 PM
Methylene Chloride	ND	15		µg/L	5	8/30/2022 6:12:17 PM
n-Butylbenzene	ND	15		µg/L	5	8/30/2022 6:12:17 PM
n-Propylbenzene	15	5.0		µg/L	5	8/30/2022 6:12:17 PM
sec-Butylbenzene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Styrene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
tert-Butylbenzene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,1,2,2-Tetrachloroethane	ND	10		µg/L	5	8/30/2022 6:12:17 PM
Tetrachloroethene (PCE)	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
trans-1,2-DCE	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
trans-1,3-Dichloropropene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,1,1-Trichloroethane	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,1,2-Trichloroethane	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Trichloroethene (TCE)	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Trichlorofluoromethane	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
1,2,3-Trichloropropane	ND	10		µg/L	5	8/30/2022 6:12:17 PM
Vinyl chloride	ND	5.0		µg/L	5	8/30/2022 6:12:17 PM
Xylenes, Total	380	7.5		µg/L	5	8/30/2022 6:12:17 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	5	8/30/2022 6:12:17 PM
Surr: 4-Bromofluorobenzene	94.4	70-130		%Rec	5	8/30/2022 6:12:17 PM
Surr: Dibromofluoromethane	110	70-130		%Rec	5	8/30/2022 6:12:17 PM
Surr: Toluene-d8	110	70-130		%Rec	5	8/30/2022 6:12:17 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-2
Project: State Com J6 **Collection Date:** 8/25/2022 2:00:00 PM
Lab ID: 2208G23-005 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Toluene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Ethylbenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,2,4-Trimethylbenzene	2.3	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Naphthalene	ND	2.0		µg/L	1	8/30/2022 6:40:52 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/30/2022 6:40:52 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/30/2022 6:40:52 PM
Acetone	ND	10		µg/L	1	8/30/2022 6:40:52 PM
Bromobenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Bromoform	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Bromomethane	ND	3.0		µg/L	1	8/30/2022 6:40:52 PM
2-Butanone	ND	10		µg/L	1	8/30/2022 6:40:52 PM
Carbon disulfide	ND	10		µg/L	1	8/30/2022 6:40:52 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Chlorobenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Chloroethane	ND	2.0		µg/L	1	8/30/2022 6:40:52 PM
Chloroform	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Chloromethane	ND	3.0		µg/L	1	8/30/2022 6:40:52 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
cis-1,2-DCE	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/30/2022 6:40:52 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Dibromomethane	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/30/2022 6:40:52 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-2
Project: State Com J6 **Collection Date:** 8/25/2022 2:00:00 PM
Lab ID: 2208G23-005 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
1,1-Dichloropropene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
2-Hexanone	ND	10		µg/L	1	8/30/2022 6:40:52 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/30/2022 6:40:52 PM
Methylene Chloride	ND	3.0		µg/L	1	8/30/2022 6:40:52 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/30/2022 6:40:52 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Styrene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/30/2022 6:40:52 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/30/2022 6:40:52 PM
Vinyl chloride	ND	1.0		µg/L	1	8/30/2022 6:40:52 PM
Xylenes, Total	2.6	1.5		µg/L	1	8/30/2022 6:40:52 PM
Surr: 1,2-Dichloroethane-d4	115	70-130		%Rec	1	8/30/2022 6:40:52 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/30/2022 6:40:52 PM
Surr: Dibromofluoromethane	114	70-130		%Rec	1	8/30/2022 6:40:52 PM
Surr: Toluene-d8	108	70-130		%Rec	1	8/30/2022 6:40:52 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-3
Project: State Com J6 **Collection Date:** 8/25/2022 12:50:00 PM
Lab ID: 2208G23-006 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	20	2.0		µg/L	2	8/30/2022 7:09:26 PM
Toluene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Ethylbenzene	2.6	2.0		µg/L	2	8/30/2022 7:09:26 PM
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,2,4-Trimethylbenzene	8.4	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Naphthalene	ND	4.0		µg/L	2	8/30/2022 7:09:26 PM
1-Methylnaphthalene	ND	8.0		µg/L	2	8/30/2022 7:09:26 PM
2-Methylnaphthalene	ND	8.0		µg/L	2	8/30/2022 7:09:26 PM
Acetone	ND	20		µg/L	2	8/30/2022 7:09:26 PM
Bromobenzene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Bromodichloromethane	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Bromoform	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Bromomethane	ND	6.0		µg/L	2	8/30/2022 7:09:26 PM
2-Butanone	ND	20		µg/L	2	8/30/2022 7:09:26 PM
Carbon disulfide	ND	20		µg/L	2	8/30/2022 7:09:26 PM
Carbon Tetrachloride	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Chlorobenzene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Chloroethane	ND	4.0		µg/L	2	8/30/2022 7:09:26 PM
Chloroform	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Chloromethane	ND	6.0		µg/L	2	8/30/2022 7:09:26 PM
2-Chlorotoluene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
4-Chlorotoluene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
cis-1,2-DCE	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	8/30/2022 7:09:26 PM
Dibromochloromethane	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Dibromomethane	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,2-Dichlorobenzene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,3-Dichlorobenzene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,4-Dichlorobenzene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Dichlorodifluoromethane	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,1-Dichloroethane	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,1-Dichloroethene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,2-Dichloropropane	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,3-Dichloropropane	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
2,2-Dichloropropane	ND	4.0		µg/L	2	8/30/2022 7:09:26 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-3
Project: State Com J6 **Collection Date:** 8/25/2022 12:50:00 PM
Lab ID: 2208G23-006 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
1,1-Dichloropropene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Hexachlorobutadiene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
2-Hexanone	ND	20		µg/L	2	8/30/2022 7:09:26 PM
Isopropylbenzene	2.4	2.0		µg/L	2	8/30/2022 7:09:26 PM
4-Isopropyltoluene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
4-Methyl-2-pentanone	ND	20		µg/L	2	8/30/2022 7:09:26 PM
Methylene Chloride	ND	6.0		µg/L	2	8/30/2022 7:09:26 PM
n-Butylbenzene	ND	6.0		µg/L	2	8/30/2022 7:09:26 PM
n-Propylbenzene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
sec-Butylbenzene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Styrene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
tert-Butylbenzene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	8/30/2022 7:09:26 PM
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
trans-1,2-DCE	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Trichloroethene (TCE)	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Trichlorofluoromethane	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
1,2,3-Trichloropropane	ND	4.0		µg/L	2	8/30/2022 7:09:26 PM
Vinyl chloride	ND	2.0		µg/L	2	8/30/2022 7:09:26 PM
Xylenes, Total	12	3.0		µg/L	2	8/30/2022 7:09:26 PM
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	2	8/30/2022 7:09:26 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	2	8/30/2022 7:09:26 PM
Surr: Dibromofluoromethane	114	70-130		%Rec	2	8/30/2022 7:09:26 PM
Surr: Toluene-d8	109	70-130		%Rec	2	8/30/2022 7:09:26 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: RW-4
Project: State Com J6
Collection Date: 8/25/2022 2:50:00 PM
Lab ID: 2208G23-007 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	38	10		µg/L	10	8/30/2022 7:37:58 PM
Toluene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Ethylbenzene	150	10		µg/L	10	8/30/2022 7:37:58 PM
Methyl tert-butyl ether (MTBE)	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,2,4-Trimethylbenzene	770	10		µg/L	10	8/30/2022 7:37:58 PM
1,3,5-Trimethylbenzene	240	10		µg/L	10	8/30/2022 7:37:58 PM
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Naphthalene	69	20		µg/L	10	8/30/2022 7:37:58 PM
1-Methylnaphthalene	49	40		µg/L	10	8/30/2022 7:37:58 PM
2-Methylnaphthalene	60	40		µg/L	10	8/30/2022 7:37:58 PM
Acetone	ND	100		µg/L	10	8/30/2022 7:37:58 PM
Bromobenzene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Bromodichloromethane	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Bromoform	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Bromomethane	ND	30		µg/L	10	8/30/2022 7:37:58 PM
2-Butanone	ND	100		µg/L	10	8/30/2022 7:37:58 PM
Carbon disulfide	ND	100		µg/L	10	8/30/2022 7:37:58 PM
Carbon Tetrachloride	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Chlorobenzene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Chloroethane	ND	20		µg/L	10	8/30/2022 7:37:58 PM
Chloroform	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Chloromethane	ND	30		µg/L	10	8/30/2022 7:37:58 PM
2-Chlorotoluene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
4-Chlorotoluene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
cis-1,2-DCE	ND	10		µg/L	10	8/30/2022 7:37:58 PM
cis-1,3-Dichloropropene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	8/30/2022 7:37:58 PM
Dibromochloromethane	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Dibromomethane	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,2-Dichlorobenzene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,3-Dichlorobenzene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,4-Dichlorobenzene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Dichlorodifluoromethane	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,1-Dichloroethane	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,1-Dichloroethene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,2-Dichloropropane	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,3-Dichloropropane	ND	10		µg/L	10	8/30/2022 7:37:58 PM
2,2-Dichloropropane	ND	20		µg/L	10	8/30/2022 7:37:58 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208G23**
Date Reported: **9/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-4
Project: State Com J6 **Collection Date:** 8/25/2022 2:50:00 PM
Lab ID: 2208G23-007 **Matrix:** AQUEOUS **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
1,1-Dichloropropene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Hexachlorobutadiene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
2-Hexanone	ND	100		µg/L	10	8/30/2022 7:37:58 PM
Isopropylbenzene	45	10		µg/L	10	8/30/2022 7:37:58 PM
4-Isopropyltoluene	21	10		µg/L	10	8/30/2022 7:37:58 PM
4-Methyl-2-pentanone	ND	100		µg/L	10	8/30/2022 7:37:58 PM
Methylene Chloride	ND	30		µg/L	10	8/30/2022 7:37:58 PM
n-Butylbenzene	ND	30		µg/L	10	8/30/2022 7:37:58 PM
n-Propylbenzene	50	10		µg/L	10	8/30/2022 7:37:58 PM
sec-Butylbenzene	13	10		µg/L	10	8/30/2022 7:37:58 PM
Styrene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
tert-Butylbenzene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	8/30/2022 7:37:58 PM
Tetrachloroethene (PCE)	ND	10		µg/L	10	8/30/2022 7:37:58 PM
trans-1,2-DCE	ND	10		µg/L	10	8/30/2022 7:37:58 PM
trans-1,3-Dichloropropene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,2,3-Trichlorobenzene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,1,1-Trichloroethane	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,1,2-Trichloroethane	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Trichloroethene (TCE)	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Trichlorofluoromethane	ND	10		µg/L	10	8/30/2022 7:37:58 PM
1,2,3-Trichloropropane	ND	20		µg/L	10	8/30/2022 7:37:58 PM
Vinyl chloride	ND	10		µg/L	10	8/30/2022 7:37:58 PM
Xylenes, Total	1400	15		µg/L	10	8/30/2022 7:37:58 PM
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	10	8/30/2022 7:37:58 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	10	8/30/2022 7:37:58 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	10	8/30/2022 7:37:58 PM
Surr: Toluene-d8	99.2	70-130		%Rec	10	8/30/2022 7:37:58 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2208G23**

01-Sep-22

Client: HILCORP ENERGY

Project: State Com J6

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R90673**	RunNo: **90673**
Prep Date:	Analysis Date: **8/30/2022**	SeqNo: **3240428** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.4	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	22	1.0	20.00	0	108	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	90.0	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.6	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		113	70	130			
Surr: Toluene-d8	11		10.00		107	70	130			

Sample ID: **2208g23-002ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-2**	Batch ID: **R90673**	RunNo: **90673**
Prep Date:	Analysis Date: **8/30/2022**	SeqNo: **3240441** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	47	2.0	40.00	0	118	70	130			
Toluene	43	2.0	40.00	0	108	70	130			
Chlorobenzene	45	2.0	40.00	0	111	70	130			
1,1-Dichloroethene	35	2.0	40.00	0	86.9	70	130			
Trichloroethene (TCE)	41	2.0	40.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	20		20.00		102	70	130			
Surr: 4-Bromofluorobenzene	21		20.00		107	70	130			
Surr: Dibromofluoromethane	23		20.00		117	70	130			
Surr: Toluene-d8	20		20.00		102	70	130			

Sample ID: **2208g23-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-2**	Batch ID: **R90673**	RunNo: **90673**
Prep Date:	Analysis Date: **8/30/2022**	SeqNo: **3240442** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	51	2.0	40.00	0	127	70	130	7.71	20	
Toluene	47	2.0	40.00	0	119	70	130	9.42	20	
Chlorobenzene	49	2.0	40.00	0	124	70	130	10.4	20	
1,1-Dichloroethene	39	2.0	40.00	0	96.6	70	130	10.5	20	
Trichloroethene (TCE)	45	2.0	40.00	0	113	70	130	10.6	20	
Surr: 1,2-Dichloroethane-d4	20		20.00		102	70	130	0	0	
Surr: 4-Bromofluorobenzene	22		20.00		108	70	130	0	0	
Surr: Dibromofluoromethane	24		20.00		118	70	130	0	0	
Surr: Toluene-d8	21		20.00		103	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208G23**
01-Sep-22

Client: HILCORP ENERGY
Project: State Com J6

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R90673**	RunNo: **90673**
Prep Date:	Analysis Date: **8/30/2022**	SeqNo: **3240462** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2208G23**

01-Sep-22

Client: HILCORP ENERGY

Project: State Com J6

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R90673**	RunNo: **90673**
Prep Date:	Analysis Date: **8/30/2022**	SeqNo: **3240462** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	11		10.00		113	70	130			
Surr: Toluene-d8	11		10.00		106	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Hilcorp Energy | Work Order Number: 2208G23 | RcptNo: 1

Received By: Cheyenne Cason 8/26/2022 8:00:00 AM

Completed By: Tracy Casarrubias 8/26/2022 8:28:59 AM

Reviewed By: SGL 8/26/22

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?			

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: KRu 8.26.22

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.7	Good	Yes			

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:

State Com J6

Project #:

Project Manager:

Mitch Killough

Sampler: Brandon Sinclair

On Ice: X Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.7-0=2.7°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2208G23	BTEX Method 8260	Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene
8-25	1530	Water	MW-1	(3) 40ml VOA	HCL	001	X	X
	1550	Water	MW-2	(3) 40ml VOA	HCL	002	X	X
	1605	Water	MW-3	(3) 40ml VOA	HCL	003	X	X
	1330	Water	RW-1	(3) 40ml VOA	HCL	004	X	X
	1405	Water	RW-2	(3) 40ml VOA	HCL	005	X	X
	1250	Water	RW-3	(3) 40ml VOA	HCL	006	X	X
	1450	Water	RW-4	(3) 40ml VOA	HCL	007	X	X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8-25	1755				8/25/22	1755
8/25/22	1900					

Remarks: Special Pricing See Andy

CMC courier 8/26/22 0800

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 30, 2022

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

RE: State Com J6 OrderNo.: 2212A26

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 7 sample(s) on 12/16/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2212A26**
Date Reported: **12/30/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-1
Project: State Com J6 **Collection Date:** 12/15/2022 1:30:00 PM
Lab ID: 2212A26-001 **Matrix:** AQUEOUS **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	12/28/2022 9:39:00 PM
Toluene	ND	1.0		µg/L	1	12/28/2022 9:39:00 PM
Ethylbenzene	ND	1.0		µg/L	1	12/28/2022 9:39:00 PM
Naphthalene	ND	2.0		µg/L	1	12/28/2022 9:39:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/28/2022 9:39:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/28/2022 9:39:00 PM
Xylenes, Total	ND	1.5		µg/L	1	12/28/2022 9:39:00 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	12/28/2022 9:39:00 PM
Surr: 4-Bromofluorobenzene	95.8	70-130		%Rec	1	12/28/2022 9:39:00 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	12/28/2022 9:39:00 PM
Surr: Toluene-d8	96.9	70-130		%Rec	1	12/28/2022 9:39:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212A26**
Date Reported: **12/30/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-2
Project: State Com J6 **Collection Date:** 12/15/2022 1:55:00 PM
Lab ID: 2212A26-002 **Matrix:** AQUEOUS **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	12/28/2022 10:02:00 PM
Toluene	ND	1.0		µg/L	1	12/28/2022 10:02:00 PM
Ethylbenzene	ND	1.0		µg/L	1	12/28/2022 10:02:00 PM
Naphthalene	ND	2.0		µg/L	1	12/28/2022 10:02:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/28/2022 10:02:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/28/2022 10:02:00 PM
Xylenes, Total	ND	1.5		µg/L	1	12/28/2022 10:02:00 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	12/28/2022 10:02:00 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/28/2022 10:02:00 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	12/28/2022 10:02:00 PM
Surr: Toluene-d8	86.1	70-130		%Rec	1	12/28/2022 10:02:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212A26**
Date Reported: **12/30/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-3
Project: State Com J6 **Collection Date:** 12/15/2022 2:15:00 PM
Lab ID: 2212A26-003 **Matrix:** AQUEOUS **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	12/28/2022 10:25:00 PM
Toluene	ND	1.0		µg/L	1	12/28/2022 10:25:00 PM
Ethylbenzene	ND	1.0		µg/L	1	12/28/2022 10:25:00 PM
Naphthalene	ND	2.0		µg/L	1	12/28/2022 10:25:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/28/2022 10:25:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/28/2022 10:25:00 PM
Xylenes, Total	ND	1.5		µg/L	1	12/28/2022 10:25:00 PM
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	12/28/2022 10:25:00 PM
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	12/28/2022 10:25:00 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	12/28/2022 10:25:00 PM
Surr: Toluene-d8	93.3	70-130		%Rec	1	12/28/2022 10:25:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212A26**
Date Reported: **12/30/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-1
Project: State Com J6 **Collection Date:** 12/15/2022 9:15:00 AM
Lab ID: 2212A26-004 **Matrix:** AQUEOUS **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	5.0	D	µg/L	5	12/28/2022 10:48:00 PM
Toluene	ND	5.0	D	µg/L	5	12/28/2022 10:48:00 PM
Ethylbenzene	160	5.0	D	µg/L	5	12/28/2022 10:48:00 PM
Naphthalene	51	10	D	µg/L	5	12/28/2022 10:48:00 PM
1-Methylnaphthalene	86	20	D	µg/L	5	12/28/2022 10:48:00 PM
2-Methylnaphthalene	94	20	D	µg/L	5	12/28/2022 10:48:00 PM
Xylenes, Total	920	7.5	D	µg/L	5	12/28/2022 10:48:00 PM
Surr: 1,2-Dichloroethane-d4	96.6	70-130	D	%Rec	5	12/28/2022 10:48:00 PM
Surr: 4-Bromofluorobenzene	110	70-130	D	%Rec	5	12/28/2022 10:48:00 PM
Surr: Dibromofluoromethane	96.0	70-130	D	%Rec	5	12/28/2022 10:48:00 PM
Surr: Toluene-d8	100	70-130	D	%Rec	5	12/28/2022 10:48:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212A26**
Date Reported: **12/30/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-2
Project: State Com J6 **Collection Date:** 12/15/2022 10:30:00 AM
Lab ID: 2212A26-005 **Matrix:** AQUEOUS **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	12/28/2022 11:11:00 PM
Toluene	ND	1.0		µg/L	1	12/28/2022 11:11:00 PM
Ethylbenzene	ND	1.0		µg/L	1	12/28/2022 11:11:00 PM
Naphthalene	ND	2.0		µg/L	1	12/28/2022 11:11:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/28/2022 11:11:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/28/2022 11:11:00 PM
Xylenes, Total	ND	1.5		µg/L	1	12/28/2022 11:11:00 PM
Surr: 1,2-Dichloroethane-d4	88.3	70-130		%Rec	1	12/28/2022 11:11:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/28/2022 11:11:00 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	12/28/2022 11:11:00 PM
Surr: Toluene-d8	80.0	70-130		%Rec	1	12/28/2022 11:11:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212A26**
Date Reported: **12/30/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-3
Project: State Com J6 **Collection Date:** 12/15/2022 11:25:00 AM
Lab ID: 2212A26-006 **Matrix:** AQUEOUS **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	44	5.0		µg/L	5	12/28/2022 11:34:00 PM
Toluene	ND	5.0		µg/L	5	12/28/2022 11:34:00 PM
Ethylbenzene	45	5.0		µg/L	5	12/28/2022 11:34:00 PM
Naphthalene	45	10		µg/L	5	12/28/2022 11:34:00 PM
1-Methylnaphthalene	87	20		µg/L	5	12/28/2022 11:34:00 PM
2-Methylnaphthalene	120	20		µg/L	5	12/28/2022 11:34:00 PM
Xylenes, Total	270	7.5		µg/L	5	12/28/2022 11:34:00 PM
Surr: 1,2-Dichloroethane-d4	94.8	70-130		%Rec	5	12/28/2022 11:34:00 PM
Surr: 4-Bromofluorobenzene	123	70-130		%Rec	5	12/28/2022 11:34:00 PM
Surr: Dibromofluoromethane	96.9	70-130		%Rec	5	12/28/2022 11:34:00 PM
Surr: Toluene-d8	105	70-130		%Rec	5	12/28/2022 11:34:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212A26**
Date Reported: **12/30/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-4
Project: State Com J6 **Collection Date:** 12/15/2022 12:10:00 PM
Lab ID: 2212A26-007 **Matrix:** AQUEOUS **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	38	10		µg/L	10	12/29/2022 12:43:00 AM
Toluene	ND	10		µg/L	10	12/29/2022 12:43:00 AM
Ethylbenzene	200	10		µg/L	10	12/29/2022 12:43:00 AM
Naphthalene	130	20		µg/L	10	12/29/2022 12:43:00 AM
1-Methylnaphthalene	100	40		µg/L	10	12/29/2022 12:43:00 AM
2-Methylnaphthalene	170	40		µg/L	10	12/29/2022 12:43:00 AM
Xylenes, Total	2300	150		µg/L	100	12/29/2022 12:20:00 AM
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%Rec	10	12/29/2022 12:43:00 AM
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	10	12/29/2022 12:43:00 AM
Surr: Dibromofluoromethane	94.6	70-130		%Rec	10	12/29/2022 12:43:00 AM
Surr: Toluene-d8	107	70-130		%Rec	10	12/29/2022 12:43:00 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2212A26**

30-Dec-22

Client: HILCORP ENERGY

Project: State Com J6

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R93604**	RunNo: **93604**
Prep Date:	Analysis Date: **12/28/2022**	SeqNo: **3377575** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	19	1.0	20.00	0	95.1	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	11		10.00		109	70	130			
Surr: Toluene-d8	9.6		10.00		96.4	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R93604**	RunNo: **93604**
Prep Date:	Analysis Date: **12/28/2022**	SeqNo: **3377576** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	11		10.00		110	70	130			
Surr: Toluene-d8	9.9		10.00		98.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Hilcorp Energy | Work Order Number: 2212A26 | RcptNo: 1

Received By: Tracy Casarrubias 12/16/2022 7:40:00 AM

Completed By: Tracy Casarrubias 12/16/2022 9:43:13 AM

Reviewed By: JK 12.16.22

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☑	No ☐	NA ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: SGL 12/16/22

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Yes			

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:

State Com J6

Project #:

Project Manager:

Mitch Killough

Sampler: Brandon Sinclair

On Ice: X Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.6-0.1= 1.5°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2212026	Analysis Request: BTEX Method 8260	Analysis Request: Naphthalene, 1-Methylnaphthalene, 2- Methylnaphthalene
12-15	1330	Water	MW-1	(3) 40ml VOA	HCL	001	X	X
	1355	Water	MW-2	(3) 40ml VOA	HCL	002	X	X
	1415	Water	MW-3	(3) 40ml VOA	HCL	003	X	X
	415	Water	RW-1	(3) 40ml VOA	HCL	004	X	X
	1030	Water	RW-2	(3) 40ml VOA	HCL	005	X	X
	1125	Water	RW-3	(3) 40ml VOA	HCL	0006	X	X
	1210	Water	RW-4	(3) 40ml VOA	HCL	007	X	X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12-15	1510		Christian Walker		12/15/22	1510
12/15/22	1816	Christian Walker			12/16/22	7:40

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.

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

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	372171
	Action Number: 199922
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2022 Annual Groundwater Monitoring Report for State Com J #6: Content Satisfactory 1. Sampling of groundwater monitoring wells: MW-1, MW-2, MW-3 and RW-2 may be suspended from the sampling program. 2. Continue to hand bail as accumulation allows and sample remaining groundwater monitoring wells on an annual basis until concentrations reach the allowable concentrations and are below the WQCC.human health standards; thereafter, increase to quarterly sampling throughout the year. 3. Continue to gauge monitoring wells and take DTW measurements on a quarterly basis. 4. Submit the 2023 annual report, if it hasn't already been submitted and submit the 2024 annual report by April 2025.	5/22/2024