REVIEWED
By Mike Buchanan at 9:33 am, May 30, 2024

ENSOLUM

March 26, 2024

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

Re: 2023 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

Review of the 2023 Annual Groundwater Monitoring Report for State Com J #6: Content Satisfactory
1. Sampling may be suspended in monitoring wells: MW-1, MW-2, MW-3 and RW-2 as COCs have been in compliance and below the human health standards.
2. RW-1, RW-3 and RW-4 may be reduced to annual sampling events until the human health standards in WQCC are below the human health standards.
3. Continue to hand bail and recover LNAPL as well as gauge PSH and DTW.
4. Submit the next annual groundwater report by April 2025.

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *2023 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 2023. The Site is located on surface managed by the New Mexico State Land Office in Unit L, Section 36, Township 31 North, Range 9 West, 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 product lines associated with the pipeline were immediately shut in and the release location was bermed to prevent surface fluids from migrating laterally. Initial actions included excavation and trenching of the pipeline and surrounding areas to remove obvious impacted soil. 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 were 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 November 2017 to recover petroleum hydrocarbons from the release area. In total, 777 gallons of PSH were 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 Naphthalene: 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 March, June, August, and November 2023 from all on-Site wells. Samples were not collected for laboratory analysis from well RW-1, RW-3 and RW-4 during the June 2023 sampling event due to the 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 2023 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 were recorded 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 naphthalene following 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 2023 quarterly sampling events, benzene, total xylenes, and total naphthalene 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 2023 sampling events. Additionally, BTEX and total naphthalene concentrations were not detected above laboratory reporting limits and/or NMWQCC standards during any of the 2023 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 naphthalene in groundwater have decreased over time at the Site. BTEX and total naphthalene concentrations have not been detected above laboratory reporting limits and/or NMWQCC standards in 15 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 12 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 or total naphthalene 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 and the first and last two quarters in 2023. 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 collected 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 12 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 Geologist
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Enclosed:

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Q1 2023 Groundwater Elevation Contours
Figure 4	Q2 2023 Groundwater Elevation Contours
Figure 5	Q3 2023 Groundwater Elevation Contours
Figure 6	Q4 2023 Groundwater Elevation Contours
Figure 7	2023 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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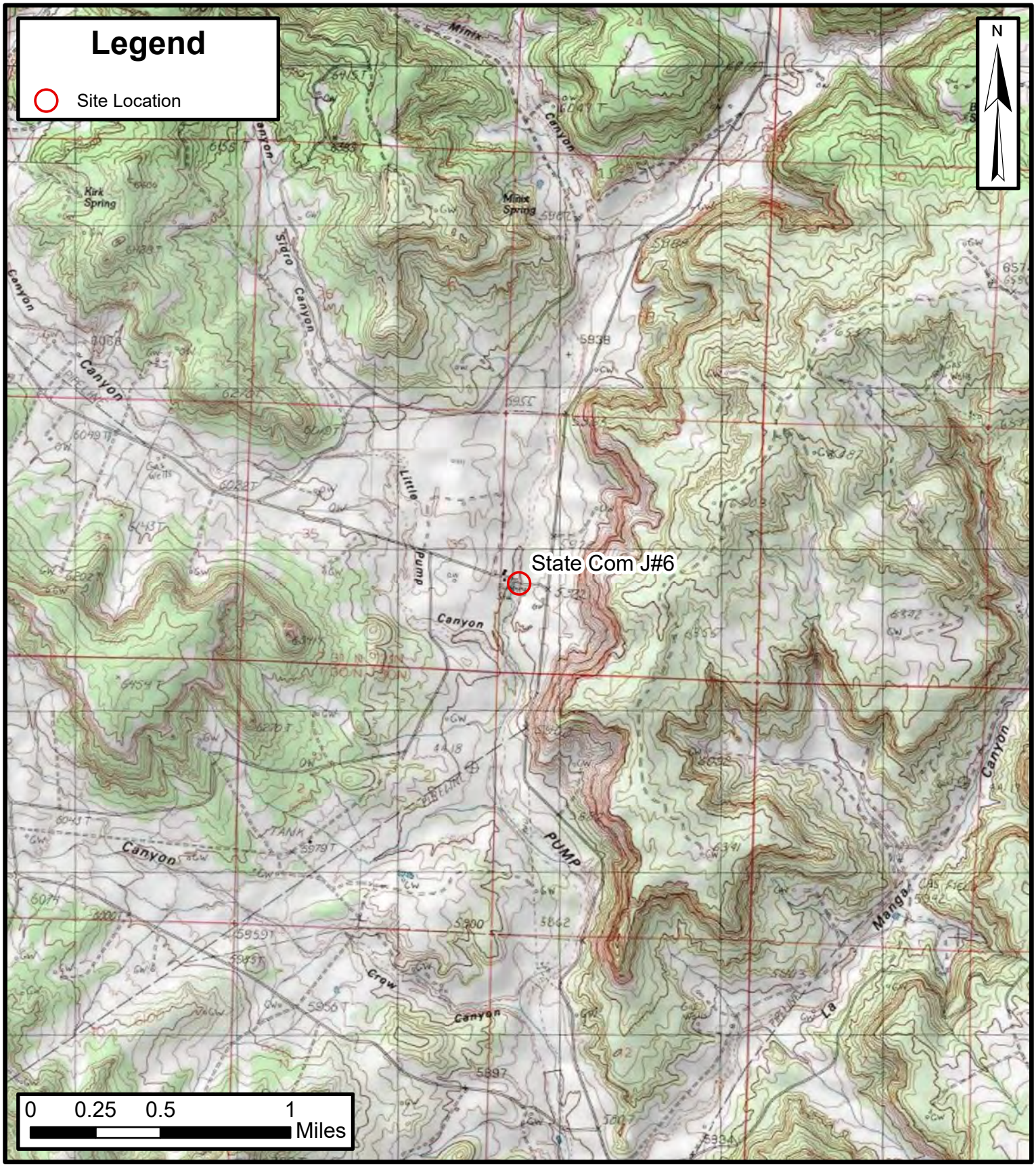
FIGURES



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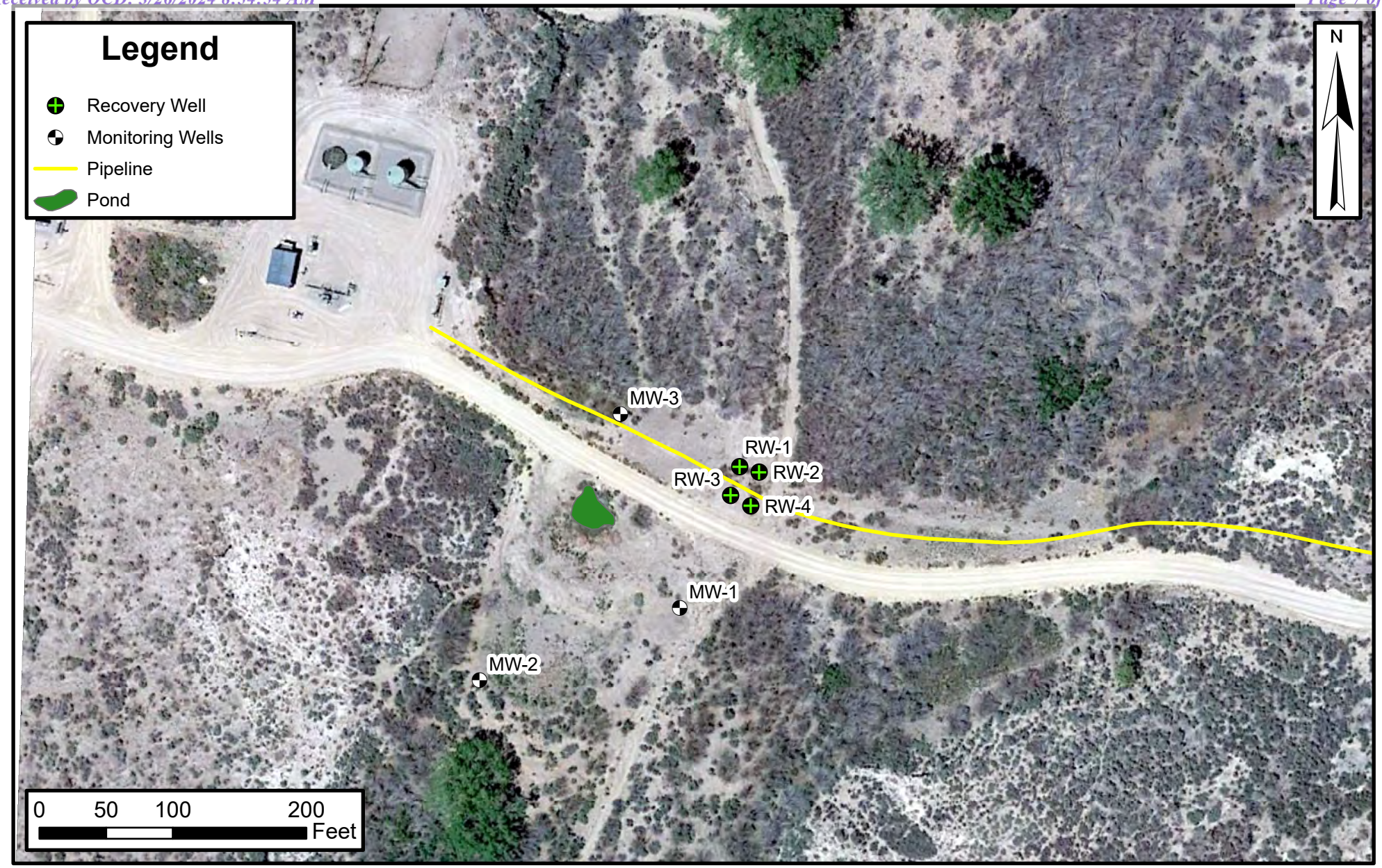
Site Location Map

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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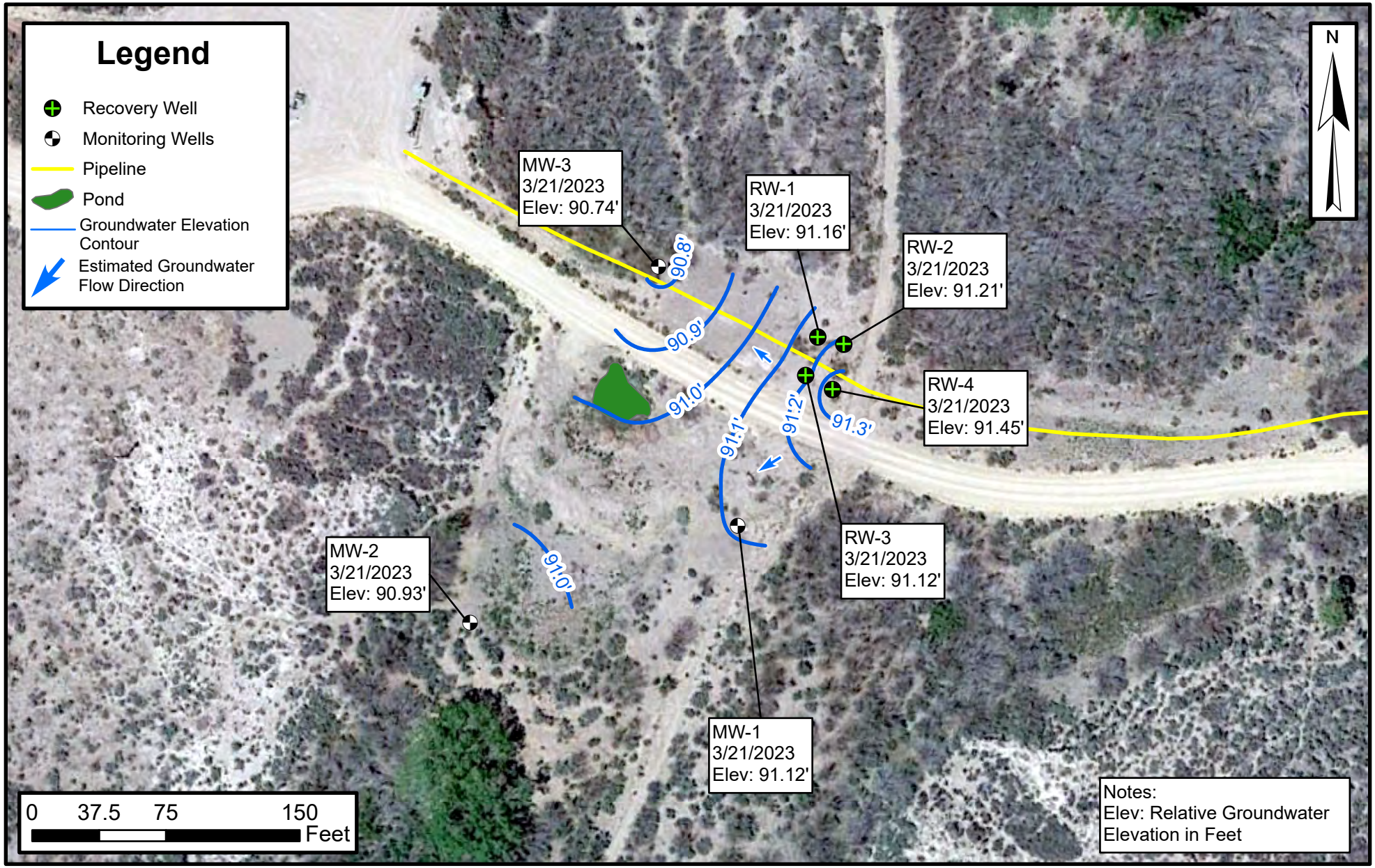
Site Map

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

FIGURE
2

Sources: Google Earth



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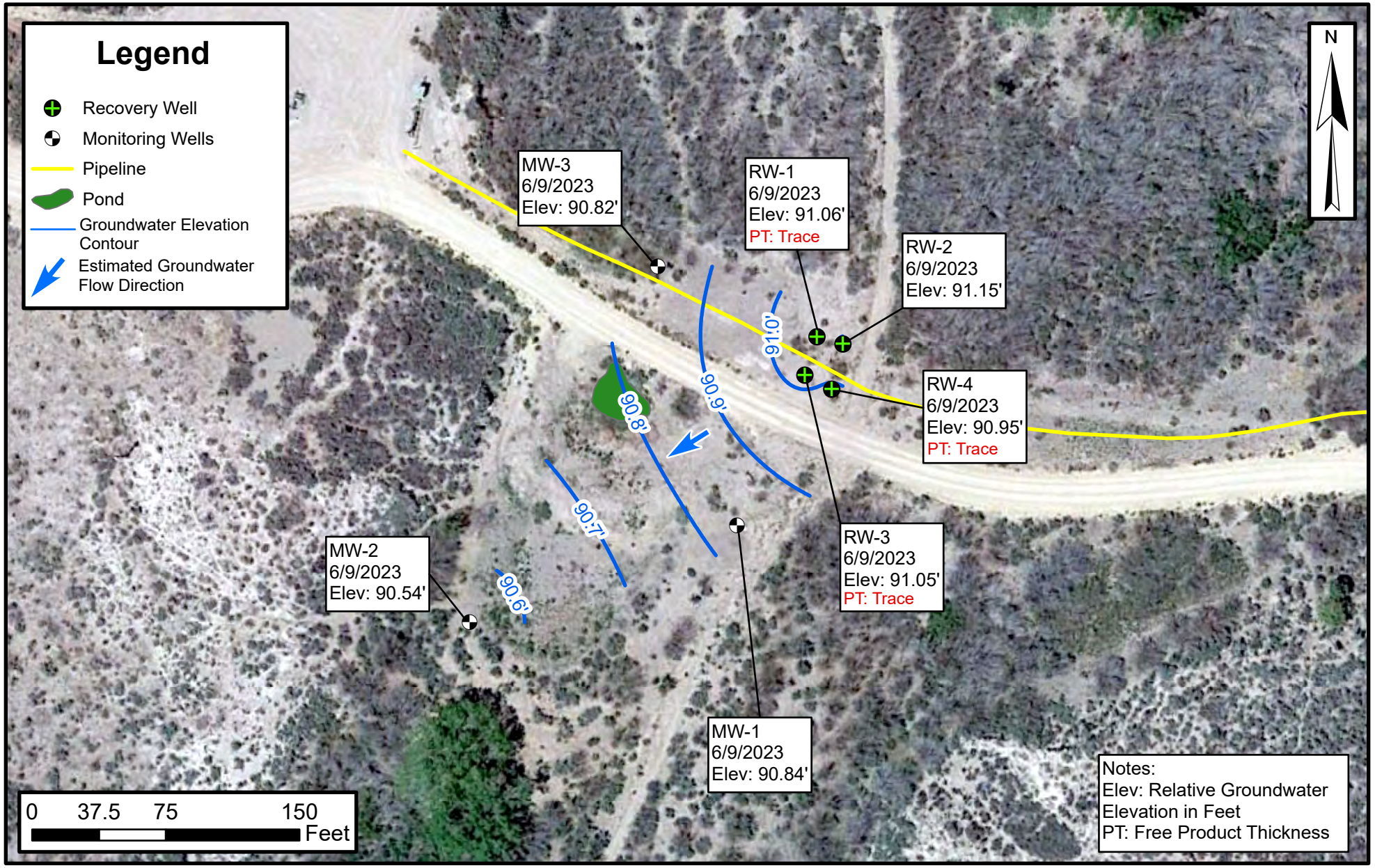
Q1 2023 Groundwater Elevation Contours

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

FIGURE
3

Sources: Google Earth



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Q2 2023 Groundwater Elevation Contours

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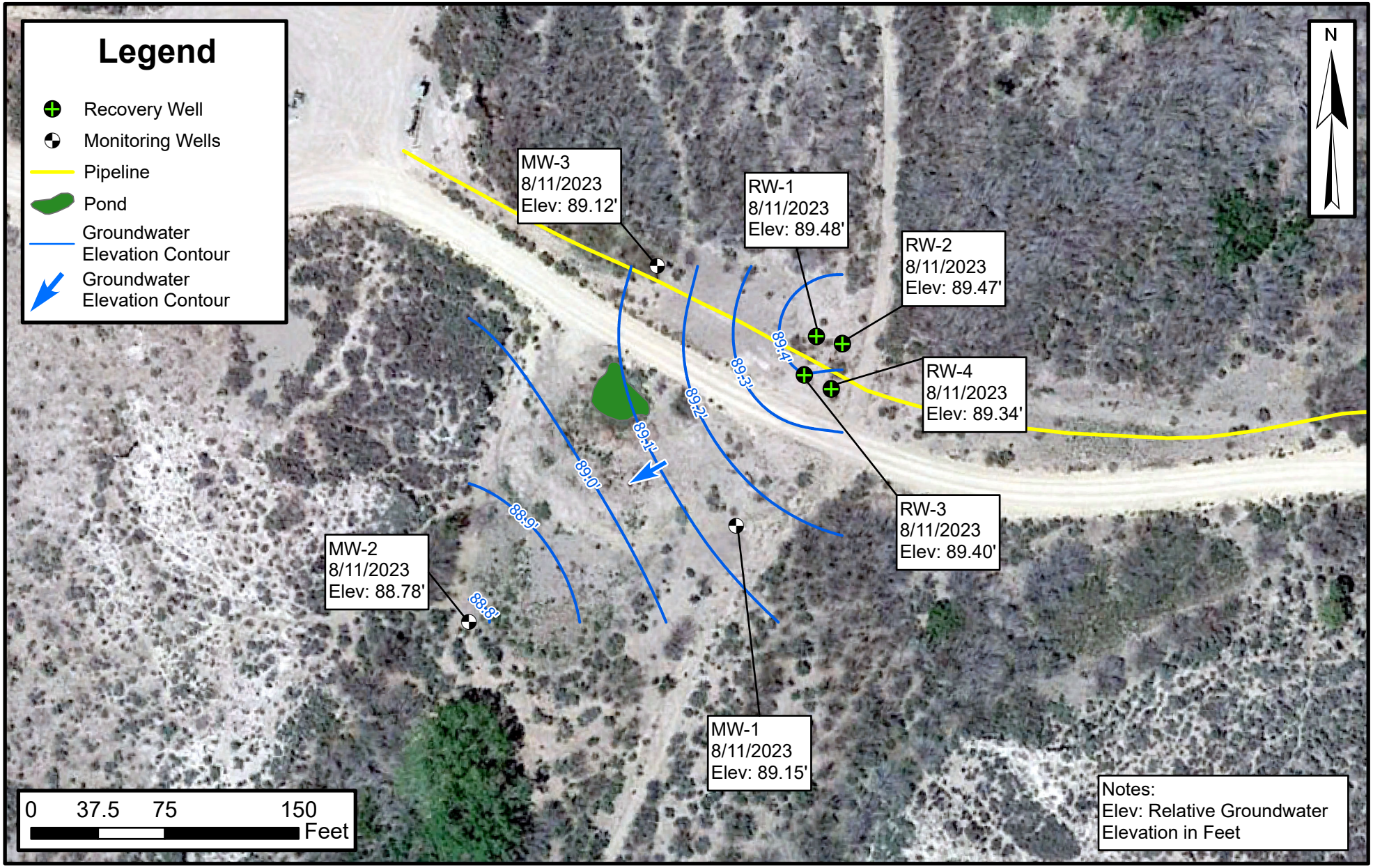
San Juan County, New Mexico

FIGURE
4

Sources: Google Earth



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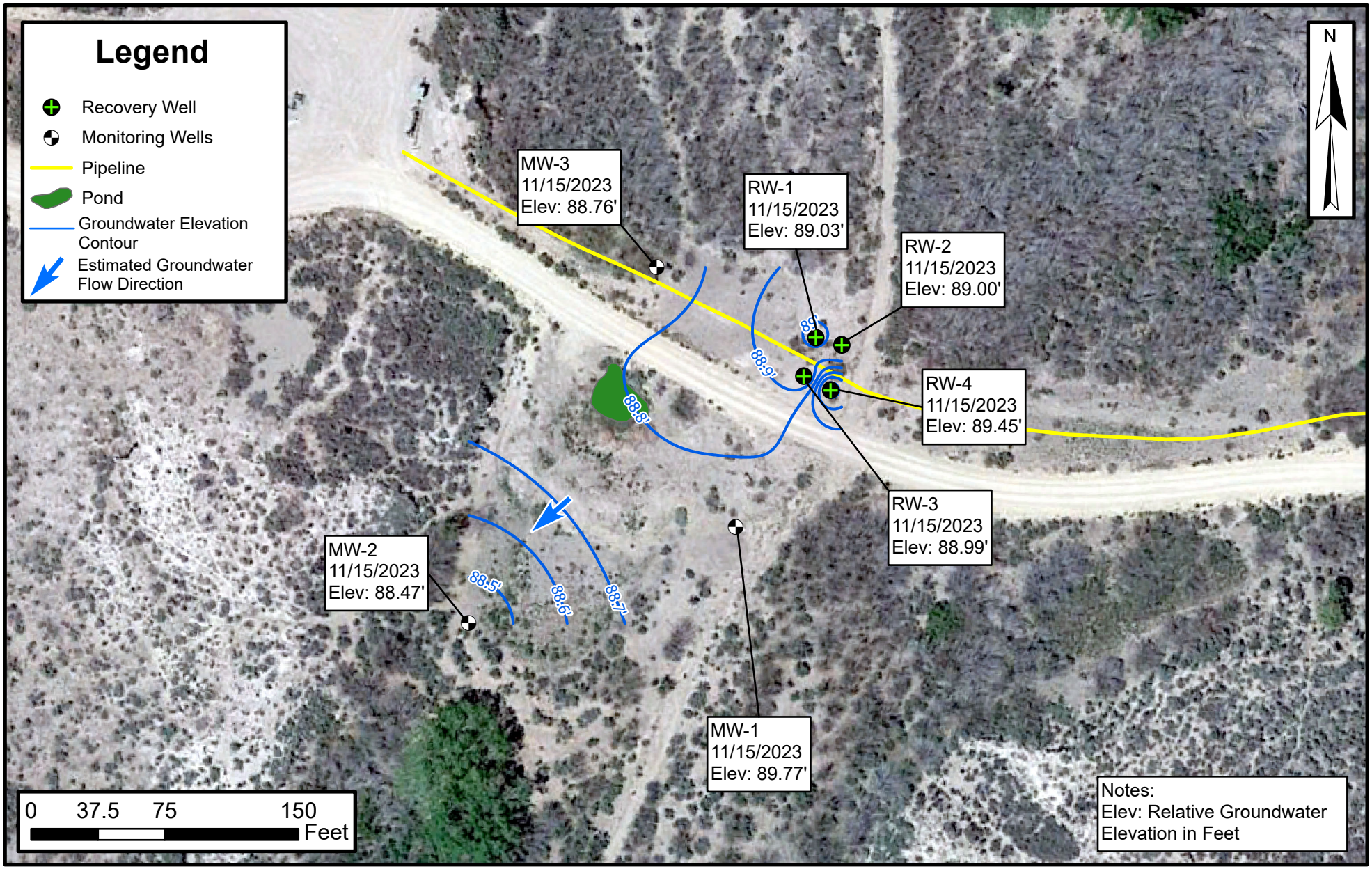
Q3 2023 Groundwater Elevation Contours

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

FIGURE
5

Sources: Google Earth



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Q4 2023 Groundwater Elevation Contours

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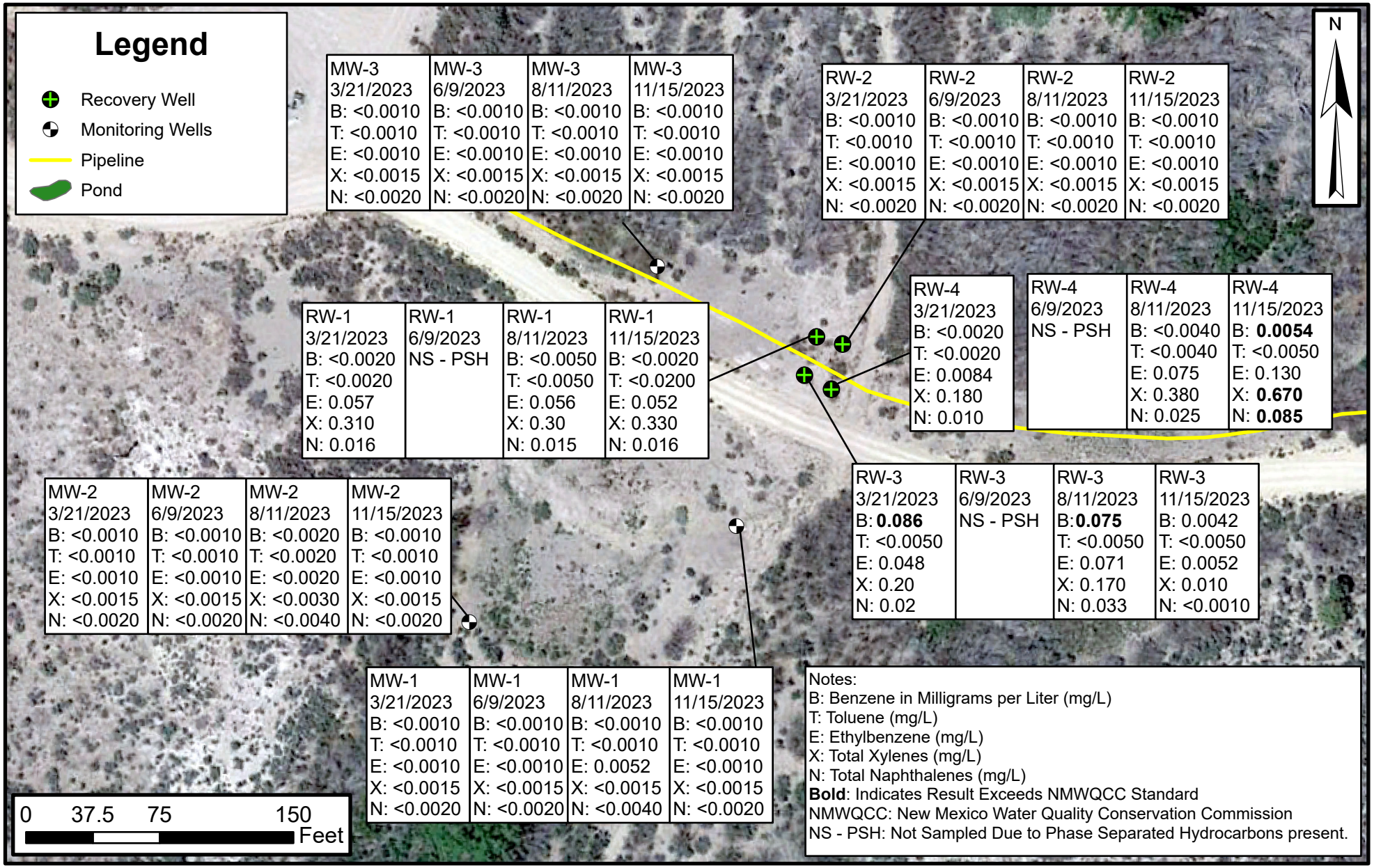
San Juan County, New Mexico

FIGURE
6

Sources: Google Earth



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2023 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
		3/21/2023	8.88	--	--	91.12
		6/9/2023	9.16	--	--	90.84
		8/11/2023	10.85	--	--	89.15
		11/15/2023	11.23	--	--	88.77

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TABLE 1
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)
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
		3/21/2023	8.43	--	--	90.93
		6/9/2023	8.82	--	--	90.54
		8/11/2023	10.58	--	--	88.78
		11/15/2023	10.89	--	--	88.47
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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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
		3/21/2023	8.85	--	--	90.74
		6/9/2023	8.77	--	--	90.82
		8/11/2023	10.47	--	--	89.12
		11/15/2023	10.83	--	--	88.76
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
		3/21/2023	9.14	--	--	91.16
		6/9/2023	9.24	Trace	Trace	91.06
		6/11/2023	10.82	--	--	89.48
		11/15/2023	11.27	--	--	89.03
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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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
		3/21/2023	8.75	--	--	91.21
		6/9/2023	8.81	--	--	91.15
		8/11/2023	10.49	--	--	89.47
		11/15/2023	10.96	--	--	89.00
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

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-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
		3/21/2023	8.72	--	--	91.12
		6/9/2023	8.79	Trace	Trace	91.05
		8/11/2023	10.44	--	--	89.40
		11/15/2023	10.85	--	--	88.99
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
		3/21/2023	8.22	--	--	91.45
		6/9/2023	8.72	Trace	Trace	90.95
		8/11/2023	10.33	--	--	89.34
		11/15/2023	11.22	--	--	88.45

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	--	--
	3/21/2023	5.00	7.46	370	730	--	--
	6/9/2023	15.50	7.42	--	1,300	9.91	28.9
	8/11/2023	30.90	8.01	0.92	1,408	1.61	-154.1
	11/15/2023	20.68	7.70	1.31	2,012	2.87	-137.7
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	--	--
	3/21/2023	6.70	7.20	930	1,860	--	--
	6/9/2023	11.66	7.73	--	1,468	4.20	-169.9
	8/11/2023	31.24	7.87	1.61	2,472	2.12	-99.6
	11/15/2023	20.19	7.58	2.00	3,076	2.97	-99.8
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	--	--
	3/21/2023	6.40	7.18	1,060	2,120	--	--
	6/9/2023	13.03	7.38	--	3,390	8.37	-134.1
	8/11/2023	31.35	7.66	0.01	15.29	1.75	-76.2
	11/15/2023	19.50	7.67	2.03	3,116	2.67	-71.3
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	--	--
	3/21/2023	6.20	6.37	1,200	2,410	--	--
	6/9/2023	No Field Quality Measurements taken, PSH present					
	6/9/2023	26.41	7.22	2.04	3,131	4.56	-82.2
	11/15/2023	20.46	7.49	1.67	2,576	2.12	61.0
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	--	--
	3/21/2023	5.90	6.82	390	780	--	--
	6/9/2023	12.83	7.45	--	220	8.33	-29.1
	8/11/2023	28.58	7.48	1.25	1,919	5.82	-104.8
	11/15/2023	20.45	7.75	1.36	2,094	3.39	-54.5

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	--	--
	3/21/2023	7.10	6.93	620	1,230	--	--
	6/9/2023	No Field Quality Measurements taken, PSH present					
	8/11/2023	29.85	7.94	1.07	1,636	1.44	-235.9
	11/15/2023	20.10	7.78	1.38	2,120	1.61	-108.9
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	--	--
	3/21/2023	6.10	7.18	700	1,400	--	--
	6/9/2023	No Field Quality Measurements taken, PSH present					
	8/11/2023	30.63	7.91	0.48	703	0.37	-242.3
	11/15/2023	20.29	7.96	0.68	1,044	0.29	-115.3

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
	3/21/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
	6/9/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
	8/11/2023	0.0061	<0.0020	0.0052	<0.0030	<0.0040
	11/15/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
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	--

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**
	12/6/2017	<0.001	<0.001	<0.001	<0.003	--
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
	3/21/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
	6/9/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
	8/11/2023	<0.0020	<0.0020	<0.0020	<0.0030	<0.0040
	11/15/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
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

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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**
	6/2/2020	<0.001	<0.001	<0.001	<0.003	--
	7/27/2020	<0.001	<0.001	<0.001	<0.003	<0.005
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
	3/21/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
	6/9/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
	8/11/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
	11/15/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
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**
	3/21/2023	<0.0020	<0.0020	0.057	0.310	0.016
	6/9/2023	**Not Sampled - PSH Present**				
	8/11/2023	<0.0050	<0.0050	0.056	0.30	0.015
	11/15/2023	<0.0020	<0.0020	0.052	0.330	0.016
	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**

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	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
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
	3/21/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
	6/9/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
	8/11/2023	<0.0020	<0.0020	<0.0020	<0.0030	<0.0040
	11/15/2023	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020
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**
	3/21/2023	**0.086**	<0.0050	0.048	0.20	0.02
	6/9/2023	**Not Sampled - PSH Present**				
	8/11/2023	**0.075**	<0.0050	0.071	0.170	0.033
	11/15/2023	0.0042	<0.0050	0.0052	0.010	<0.0010
	3/9/2019	--	--	--	--	--
	5/28/2019	**0.321**	<0.05	0.071	**5.78**	<0.250

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	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**
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**
	3/21/2023	<0.0020	<0.0020	0.0084	0.180	0.010
	6/9/2023	**Not Sampled - PSH Present**				
	8/11/2023	<0.0040	<0.0040	0.075	0.380	0.025
	11/15/2023	**0.0054**	<0.0050	0.130	**0.670**	**0.085**

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*

ENSOLUM

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: www.hallenvironmental.com

March 28, 2023

Mitch Killough

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

RE: State Com J6 OrderNo.: 2303B01

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 7 sample(s) on 3/22/2023 for the analyses presented in the following report.

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

Please 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 **2303B01**
Date Reported: **3/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW-1
Project: State Com J6
Collection Date: 3/21/2023 2:00:00 PM
Lab ID: 2303B01-001 **Matrix:** AQUEOUS **Received Date:** 3/22/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**	
Benzene	ND	1.0		µg/L	1	3/25/2023 12:39:16 AM	SL95564
Toluene	ND	1.0		µg/L	1	3/25/2023 12:39:16 AM	SL95564
Ethylbenzene	ND	1.0		µg/L	1	3/25/2023 12:39:16 AM	SL95564
Naphthalene	ND	2.0		µg/L	1	3/25/2023 12:39:16 AM	SL95564
1-Methylnaphthalene	ND	4.0		µg/L	1	3/25/2023 12:39:16 AM	SL95564
2-Methylnaphthalene	ND	4.0		µg/L	1	3/25/2023 12:39:16 AM	SL95564
Xylenes, Total	ND	1.5		µg/L	1	3/25/2023 12:39:16 AM	SL95564
Surr: 1,2-Dichloroethane-d4	99.0	70-130		%Rec	1	3/25/2023 12:39:16 AM	SL95564
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	3/25/2023 12:39:16 AM	SL95564
Surr: Dibromofluoromethane	101	70-130		%Rec	1	3/25/2023 12:39:16 AM	SL95564
Surr: Toluene-d8	95.4	70-130		%Rec	1	3/25/2023 12:39:16 AM	SL95564

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 **2303B01**
Date Reported: **3/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW-2
Project: State Com J6
Collection Date: 3/21/2023 2:37:00 PM
Lab ID: 2303B01-002 **Matrix:** AQUEOUS **Received Date:** 3/22/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**	
Benzene	ND	1.0		µg/L	1	3/25/2023 1:09:02 AM	SL95564
Toluene	ND	1.0		µg/L	1	3/25/2023 1:09:02 AM	SL95564
Ethylbenzene	ND	1.0		µg/L	1	3/25/2023 1:09:02 AM	SL95564
Naphthalene	ND	2.0		µg/L	1	3/25/2023 1:09:02 AM	SL95564
1-Methylnaphthalene	ND	4.0		µg/L	1	3/25/2023 1:09:02 AM	SL95564
2-Methylnaphthalene	ND	4.0		µg/L	1	3/25/2023 1:09:02 AM	SL95564
Xylenes, Total	ND	1.5		µg/L	1	3/25/2023 1:09:02 AM	SL95564
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	3/25/2023 1:09:02 AM	SL95564
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	1	3/25/2023 1:09:02 AM	SL95564
Surr: Dibromofluoromethane	107	70-130		%Rec	1	3/25/2023 1:09:02 AM	SL95564
Surr: Toluene-d8	97.0	70-130		%Rec	1	3/25/2023 1:09:02 AM	SL95564

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 **2303B01**
Date Reported: **3/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW-3
Project: State Com J6
Collection Date: 3/21/2023 3:02:00 PM
Lab ID: 2303B01-003 **Matrix:** AQUEOUS **Received Date:** 3/22/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**	
Benzene	ND	1.0		µg/L	1	3/25/2023 1:38:39 AM	SL95564
Toluene	ND	1.0		µg/L	1	3/25/2023 1:38:39 AM	SL95564
Ethylbenzene	ND	1.0		µg/L	1	3/25/2023 1:38:39 AM	SL95564
Naphthalene	ND	2.0		µg/L	1	3/25/2023 1:38:39 AM	SL95564
1-Methylnaphthalene	ND	4.0		µg/L	1	3/25/2023 1:38:39 AM	SL95564
2-Methylnaphthalene	ND	4.0		µg/L	1	3/25/2023 1:38:39 AM	SL95564
Xylenes, Total	ND	1.5		µg/L	1	3/25/2023 1:38:39 AM	SL95564
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	3/25/2023 1:38:39 AM	SL95564
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	3/25/2023 1:38:39 AM	SL95564
Surr: Dibromofluoromethane	103	70-130		%Rec	1	3/25/2023 1:38:39 AM	SL95564
Surr: Toluene-d8	96.4	70-130		%Rec	1	3/25/2023 1:38:39 AM	SL95564

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 **2303B01**
Date Reported: **3/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: RW-1
Project: State Com J6
Collection Date: 3/21/2023 11:45:00 AM
Lab ID: 2303B01-004 **Matrix:** AQUEOUS **Received Date:** 3/22/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**	
Benzene	ND	2.0		µg/L	2	3/27/2023 11:18:03 AM	SL95580
Toluene	ND	2.0		µg/L	2	3/27/2023 11:18:03 AM	SL95580
Ethylbenzene	57	2.0		µg/L	2	3/27/2023 11:18:03 AM	SL95580
Naphthalene	16	4.0		µg/L	2	3/27/2023 11:18:03 AM	SL95580
1-Methylnaphthalene	26	8.0		µg/L	2	3/27/2023 11:18:03 AM	SL95580
2-Methylnaphthalene	25	8.0		µg/L	2	3/27/2023 11:18:03 AM	SL95580
Xylenes, Total	310	3.0		µg/L	2	3/27/2023 11:18:03 AM	SL95580
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	2	3/27/2023 11:18:03 AM	SL95580
Surr: 4-Bromofluorobenzene	130	70-130		%Rec	2	3/27/2023 11:18:03 AM	SL95580
Surr: Dibromofluoromethane	99.6	70-130		%Rec	2	3/27/2023 11:18:03 AM	SL95580
Surr: Toluene-d8	106	70-130		%Rec	2	3/27/2023 11:18:03 AM	SL95580

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 **2303B01**
Date Reported: **3/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: RW-2
Project: State Com J6
Collection Date: 3/21/2023 12:52:00 PM
Lab ID: 2303B01-005 **Matrix:** AQUEOUS **Received Date:** 3/22/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**	
Benzene	ND	1.0		µg/L	1	3/25/2023 2:37:53 AM	SL95564
Toluene	ND	1.0		µg/L	1	3/25/2023 2:37:53 AM	SL95564
Ethylbenzene	ND	1.0		µg/L	1	3/25/2023 2:37:53 AM	SL95564
Naphthalene	ND	2.0		µg/L	1	3/25/2023 2:37:53 AM	SL95564
1-Methylnaphthalene	ND	4.0		µg/L	1	3/25/2023 2:37:53 AM	SL95564
2-Methylnaphthalene	ND	4.0		µg/L	1	3/25/2023 2:37:53 AM	SL95564
Xylenes, Total	ND	1.5		µg/L	1	3/25/2023 2:37:53 AM	SL95564
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	3/25/2023 2:37:53 AM	SL95564
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	3/25/2023 2:37:53 AM	SL95564
Surr: Dibromofluoromethane	103	70-130		%Rec	1	3/25/2023 2:37:53 AM	SL95564
Surr: Toluene-d8	97.8	70-130		%Rec	1	3/25/2023 2:37:53 AM	SL95564

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 **2303B01**
Date Reported: **3/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: RW-3
Project: State Com J6
Collection Date: 3/21/2023 10:24:00 AM
Lab ID: 2303B01-006 **Matrix:** AQUEOUS **Received Date:** 3/22/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**	
Benzene	86	5.0		µg/L	5	3/25/2023 3:37:20 AM	SL95564
Toluene	ND	5.0		µg/L	5	3/25/2023 3:37:20 AM	SL95564
Ethylbenzene	48	5.0		µg/L	5	3/25/2023 3:37:20 AM	SL95564
Naphthalene	24	10		µg/L	5	3/25/2023 3:37:20 AM	SL95564
1-Methylnaphthalene	36	20		µg/L	5	3/25/2023 3:37:20 AM	SL95564
2-Methylnaphthalene	47	20		µg/L	5	3/25/2023 3:37:20 AM	SL95564
Xylenes, Total	200	7.5		µg/L	5	3/25/2023 3:37:20 AM	SL95564
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	5	3/25/2023 3:37:20 AM	SL95564
Surr: 4-Bromofluorobenzene	162	70-130	S	%Rec	5	3/25/2023 3:37:20 AM	SL95564
Surr: Dibromofluoromethane	99.7	70-130		%Rec	5	3/25/2023 3:37:20 AM	SL95564
Surr: Toluene-d8	105	70-130		%Rec	5	3/25/2023 3:37:20 AM	SL95564

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 **2303B01**
Date Reported: **3/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: RW-4
Project: State Com J6
Collection Date: 3/21/2023 9:12:00 AM
Lab ID: 2303B01-007 **Matrix:** AQUEOUS **Received Date:** 3/22/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**	
Benzene	ND	2.0		µg/L	2	3/27/2023 12:17:45 PM	SL95580
Toluene	ND	2.0		µg/L	2	3/27/2023 12:17:45 PM	SL95580
Ethylbenzene	8.4	2.0		µg/L	2	3/27/2023 12:17:45 PM	SL95580
Naphthalene	10	4.0		µg/L	2	3/27/2023 12:17:45 PM	SL95580
1-Methylnaphthalene	27	8.0		µg/L	2	3/27/2023 12:17:45 PM	SL95580
2-Methylnaphthalene	45	8.0		µg/L	2	3/27/2023 12:17:45 PM	SL95580
Xylenes, Total	180	3.0		µg/L	2	3/27/2023 12:17:45 PM	SL95580
Surr: 1,2-Dichloroethane-d4	117	70-130		%Rec	2	3/27/2023 12:17:45 PM	SL95580
Surr: 4-Bromofluorobenzene	303	70-130	S	%Rec	2	3/27/2023 12:17:45 PM	SL95580
Surr: Dibromofluoromethane	104	70-130		%Rec	2	3/27/2023 12:17:45 PM	SL95580
Surr: Toluene-d8	126	70-130		%Rec	2	3/27/2023 12:17:45 PM	SL95580

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#: **2303B01**
28-Mar-23

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: **SL95564** RunNo: **95564**
Prep Date: Analysis Date: **3/24/2023** SeqNo: **3456964** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	21	1.0	20.00	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.1	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.7		10.00		97.0	70	130			

Sample ID: **mb2** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **SL95564** RunNo: **95564**
Prep Date: Analysis Date: **3/25/2023** SeqNo: **3456976** 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	9.9		10.00		99.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **SL95580** RunNo: **95580**
Prep Date: Analysis Date: **3/27/2023** SeqNo: **3458308** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.4	70	130			
Surr: Toluene-d8	9.7		10.00		96.6	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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2303B01**
28-Mar-23

Client: Hilcorp Energy
Project: State Com J6

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **SL95580** RunNo: **95580**
Prep Date: Analysis Date: **3/27/2023** SeqNo: **3458309** 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		100	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.7		10.00		97.3	70	130			

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.		

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: 2303B01 | RcptNo: 1

Received By: Tracy Casarrubias 3/22/2023 6:30:00 AM
Completed By: Tracy Casarrubias 3/22/2023 6:57:49 AM
Reviewed By: Nancy Dale Proctor 3-22-23

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: JM 3/22/23

Special Handling (if applicable)

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

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

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.8	Good	Yes	Yogi		

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 yogi

# of Coolers: 1

Cooler Temp(including CF): 0.8 - 0 = 0.8 °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. 2303B01	BTEX Method 8260	Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene
3-21	1400	Water	MW-1	(3) 40ml VOA	HCL	001	X	X
	1437	Water	MW-2	(3) 40ml VOA	HCL	002	X	X
	1502	Water	MW-3	(3) 40ml VOA	HCL	003	X	X
	1145	Water	RW-1	(3) 40ml VOA	HCL	004	X	X
	1252	Water	RW-2	(3) 40ml VOA	HCL	005	X	X
	1024	Water	RW-3	(3) 40ml VOA	HCL	006	X	X
	912	Water	RW-4	(3) 40ml VOA	HCL	007	X	X

Date:	Time:	Relinquished by:	Received by:	Via:	Date Time
3-21	1603				3/21/23 1603
3/21/23	1756			Courier	3/22/23 6:30

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 26, 2023

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

RE: State Com J 6 OrderNo.: 2306562

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 4 sample(s) on 6/10/2023 for the analyses presented in the following report.

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

Please 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 **2306562**
Date Reported: **6/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-1
Project: State Com J 6
Collection Date: 6/9/2023 12:57:00 PM
Lab ID: 2306562-001 **Matrix:** AQUEOUS **Received Date:** 6/10/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **CCM**
Benzene	2.0	1.0		µg/L	1	6/20/2023 3:33:00 PM
Toluene	ND	1.0		µg/L	1	6/20/2023 3:33:00 PM
Ethylbenzene	ND	1.0		µg/L	1	6/20/2023 3:33:00 PM
Naphthalene	ND	2.0		µg/L	1	6/20/2023 3:33:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	6/20/2023 3:33:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	6/20/2023 3:33:00 PM
Xylenes, Total	ND	1.5		µg/L	1	6/20/2023 3:33:00 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	6/20/2023 3:33:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	6/20/2023 3:33:00 PM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	6/20/2023 3:33:00 PM
Surr: Toluene-d8	97.0	70-130		%Rec	1	6/20/2023 3:33:00 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 **2306562**
Date Reported: **6/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-2
Project: State Com J 6
Collection Date: 6/9/2023 1:36:00 PM
Lab ID: 2306562-002 **Matrix:** AQUEOUS **Received Date:** 6/10/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	6/20/2023 4:47:00 PM
Toluene	ND	1.0		µg/L	1	6/20/2023 4:47:00 PM
Ethylbenzene	ND	1.0		µg/L	1	6/20/2023 4:47:00 PM
Naphthalene	ND	2.0		µg/L	1	6/20/2023 4:47:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	6/20/2023 4:47:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	6/20/2023 4:47:00 PM
Xylenes, Total	ND	1.5		µg/L	1	6/20/2023 4:47:00 PM
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	6/20/2023 4:47:00 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	6/20/2023 4:47:00 PM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	6/20/2023 4:47:00 PM
Surr: Toluene-d8	98.2	70-130		%Rec	1	6/20/2023 4:47:00 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 **2306562**
Date Reported: **6/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-3
Project: State Com J 6 **Collection Date:** 6/9/2023 2:14:00 PM
Lab ID: 2306562-003 **Matrix:** AQUEOUS **Received Date:** 6/10/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	6/20/2023 5:12:00 PM
Toluene	ND	1.0		µg/L	1	6/20/2023 5:12:00 PM
Ethylbenzene	ND	1.0		µg/L	1	6/20/2023 5:12:00 PM
Naphthalene	ND	2.0		µg/L	1	6/20/2023 5:12:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	6/20/2023 5:12:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	6/20/2023 5:12:00 PM
Xylenes, Total	ND	1.5		µg/L	1	6/20/2023 5:12:00 PM
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	6/20/2023 5:12:00 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	6/20/2023 5:12:00 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	6/20/2023 5:12:00 PM
Surr: Toluene-d8	98.1	70-130		%Rec	1	6/20/2023 5:12:00 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 **2306562**
Date Reported: **6/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: RW-2
Project: State Com J 6
Collection Date: 6/9/2023 2:40:00 PM
Lab ID: 2306562-004 **Matrix:** AQUEOUS **Received Date:** 6/10/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	6/20/2023 5:37:00 PM
Toluene	ND	1.0		µg/L	1	6/20/2023 5:37:00 PM
Ethylbenzene	ND	1.0		µg/L	1	6/20/2023 5:37:00 PM
Naphthalene	ND	2.0		µg/L	1	6/20/2023 5:37:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	6/20/2023 5:37:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	6/20/2023 5:37:00 PM
Xylenes, Total	ND	1.5		µg/L	1	6/20/2023 5:37:00 PM
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	6/20/2023 5:37:00 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	6/20/2023 5:37:00 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	6/20/2023 5:37:00 PM
Surr: Toluene-d8	97.0	70-130		%Rec	1	6/20/2023 5:37:00 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.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306562**

26-Jun-23

Client: HILCORP ENERGY

Project: State Com J 6

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **LCSW** Batch ID: **SL97577** RunNo: **97577**

Prep Date: Analysis Date: **6/20/2023** SeqNo: **3548144** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		99.9	70	130			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **PBW** Batch ID: **SL97577** RunNo: **97577**

Prep Date: Analysis Date: **6/20/2023** SeqNo: **3548145** 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		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID: **2306562-001ams** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **MW-1** Batch ID: **SL97577** RunNo: **97577**

Prep Date: Analysis Date: **6/20/2023** SeqNo: **3548147** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	2.000	106	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.8		10.00		98.0	70	130			

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#: **2306562**

26-Jun-23

Client: HILCORP ENERGY

Project: State Com J 6

Sample ID: **2306562-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **MW-1**	Batch ID: **SL97577**	RunNo: **97577**
Prep Date:	Analysis Date: **6/20/2023**	SeqNo: **3548153** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	2.000	101	70	130	5.09	20	
Toluene	19	1.0	20.00	0	95.1	70	130	5.01	20	
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		104	70	130	0	0	
Surr: Toluene-d8	9.7		10.00		97.1	70	130	0	0	

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.		

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: 2306562 RcptNo: 1

Received By: Juan Rojas 6/10/2023 7:20:00 AM

Completed By: Cheyenne Cason 6/12/2023 7:38:32 AM

Reviewed By: CMC 6/12/23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

SCM 06/12/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

No address or phone number isted on COC - CMC 6/12/23

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.5	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Hilcorp Energy Company

Attn: Mitch Killough

Mailing Address:

Phone #:

email or Fax#: MKillough@hilcorp.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: State Com J #6

Project #:

Project Manager: Stuart Hyde

Sampler: Al Thomson

On Ice: ☐ Yes ☐ No

# of Coolers: 1 Yogi

Cooler Temp(including CF): 3.4+0.1=3.5 (°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. 2306562	BTEX / ~~MTBE~~ / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Naphthalenes	Naphthalenes/BTEX 8260
6-7-23	12:57	AQ	MW-1	3x VOAs	HCl	001												X
6-9	13:36	↓	MW-2	↓	↓	002												X
6-9	14:14	↓	MW-3	↓	↓	003												X
6-9	14:40	↓	RW-2	↓	↓	004												X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/9/23	15:50				6/9/23	1550
6/9/23	1746			Courier	6/10/23	7:20

Remarks: CC: shyde@ensolum.com athomson@ensolum.com

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

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

August 18, 2023

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

RE: State Com J 6 OrderNo.: 2308734

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/12/2023 for the analyses presented in the following report.

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

Please 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 **2308734**
Date Reported: **8/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-1
Project: State Com J 6 **Collection Date:** 8/11/2023 1:15:00 PM
Lab ID: 2308734-001 **Matrix:** AQUEOUS **Received Date:** 8/12/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	6.1	2.0		µg/L	2	8/16/2023 4:26:37 PM
Toluene	ND	2.0		µg/L	2	8/16/2023 4:26:37 PM
Ethylbenzene	5.2	2.0		µg/L	2	8/16/2023 4:26:37 PM
Naphthalene	ND	4.0		µg/L	2	8/16/2023 4:26:37 PM
1-Methylnaphthalene	ND	8.0		µg/L	2	8/16/2023 4:26:37 PM
2-Methylnaphthalene	ND	8.0		µg/L	2	8/16/2023 4:26:37 PM
Xylenes, Total	ND	3.0		µg/L	2	8/16/2023 4:26:37 PM
Surr: 1,2-Dichloroethane-d4	92.9	70-130		%Rec	2	8/16/2023 4:26:37 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	2	8/16/2023 4:26:37 PM
Surr: Dibromofluoromethane	99.5	70-130		%Rec	2	8/16/2023 4:26:37 PM
Surr: Toluene-d8	93.2	70-130		%Rec	2	8/16/2023 4:26:37 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 **2308734**
Date Reported: **8/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-2
Project: State Com J 6 **Collection Date:** 8/11/2023 1:35:00 PM
Lab ID: 2308734-002 **Matrix:** AQUEOUS **Received Date:** 8/12/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	2.0	D	µg/L	2	8/16/2023 5:52:10 PM
Toluene	ND	2.0	D	µg/L	2	8/16/2023 5:52:10 PM
Ethylbenzene	ND	2.0	D	µg/L	2	8/16/2023 5:52:10 PM
Naphthalene	ND	4.0	D	µg/L	2	8/16/2023 5:52:10 PM
1-Methylnaphthalene	ND	8.0	D	µg/L	2	8/16/2023 5:52:10 PM
2-Methylnaphthalene	ND	8.0	D	µg/L	2	8/16/2023 5:52:10 PM
Xylenes, Total	ND	3.0	D	µg/L	2	8/16/2023 5:52:10 PM
Surr: 1,2-Dichloroethane-d4	94.0	70-130	D	%Rec	2	8/16/2023 5:52:10 PM
Surr: 4-Bromofluorobenzene	105	70-130	D	%Rec	2	8/16/2023 5:52:10 PM
Surr: Dibromofluoromethane	96.5	70-130	D	%Rec	2	8/16/2023 5:52:10 PM
Surr: Toluene-d8	92.4	70-130	D	%Rec	2	8/16/2023 5:52:10 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 **2308734**
Date Reported: **8/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-3
Project: State Com J 6
Collection Date: 8/11/2023 2:00:00 PM
Lab ID: 2308734-003 **Matrix:** AQUEOUS **Received Date:** 8/12/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	8/16/2023 6:20:37 PM
Toluene	ND	1.0		µg/L	1	8/16/2023 6:20:37 PM
Ethylbenzene	ND	1.0		µg/L	1	8/16/2023 6:20:37 PM
Naphthalene	ND	2.0		µg/L	1	8/16/2023 6:20:37 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/16/2023 6:20:37 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/16/2023 6:20:37 PM
Xylenes, Total	ND	1.5		µg/L	1	8/16/2023 6:20:37 PM
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%Rec	1	8/16/2023 6:20:37 PM
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	8/16/2023 6:20:37 PM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	8/16/2023 6:20:37 PM
Surr: Toluene-d8	92.0	70-130		%Rec	1	8/16/2023 6:20:37 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 **2308734**
Date Reported: **8/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: RW-1
Project: State Com J 6
Collection Date: 8/11/2023 11:10:00 AM
Lab ID: 2308734-004 **Matrix:** AQUEOUS **Received Date:** 8/12/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	5.0		µg/L	5	8/16/2023 6:49:01 PM
Toluene	ND	5.0		µg/L	5	8/16/2023 6:49:01 PM
Ethylbenzene	56	5.0		µg/L	5	8/16/2023 6:49:01 PM
Naphthalene	15	10		µg/L	5	8/16/2023 6:49:01 PM
1-Methylnaphthalene	27	20		µg/L	5	8/16/2023 6:49:01 PM
2-Methylnaphthalene	25	20		µg/L	5	8/16/2023 6:49:01 PM
Xylenes, Total	300	7.5		µg/L	5	8/16/2023 6:49:01 PM
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%Rec	5	8/16/2023 6:49:01 PM
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	5	8/16/2023 6:49:01 PM
Surr: Dibromofluoromethane	92.9	70-130		%Rec	5	8/16/2023 6:49:01 PM
Surr: Toluene-d8	93.3	70-130		%Rec	5	8/16/2023 6:49:01 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	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 **2308734**
Date Reported: **8/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: RW-2
Project: State Com J 6
Collection Date: 8/11/2023 11:35:00 AM
Lab ID: 2308734-005 **Matrix:** AQUEOUS **Received Date:** 8/12/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	2.0	D	µg/L	2	8/16/2023 7:17:32 PM
Toluene	ND	2.0	D	µg/L	2	8/16/2023 7:17:32 PM
Ethylbenzene	ND	2.0	D	µg/L	2	8/16/2023 7:17:32 PM
Naphthalene	ND	4.0	D	µg/L	2	8/16/2023 7:17:32 PM
1-Methylnaphthalene	ND	8.0	D	µg/L	2	8/16/2023 7:17:32 PM
2-Methylnaphthalene	ND	8.0	D	µg/L	2	8/16/2023 7:17:32 PM
Xylenes, Total	ND	3.0	D	µg/L	2	8/16/2023 7:17:32 PM
Surr: 1,2-Dichloroethane-d4	94.2	70-130	D	%Rec	2	8/16/2023 7:17:32 PM
Surr: 4-Bromofluorobenzene	100	70-130	D	%Rec	2	8/16/2023 7:17:32 PM
Surr: Dibromofluoromethane	95.6	70-130	D	%Rec	2	8/16/2023 7:17:32 PM
Surr: Toluene-d8	90.9	70-130	D	%Rec	2	8/16/2023 7:17:32 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 **2308734**
Date Reported: **8/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: RW-3
Project: State Com J 6
Collection Date: 8/11/2023 12:20:00 PM
Lab ID: 2308734-006 **Matrix:** AQUEOUS **Received Date:** 8/12/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	75	5.0		µg/L	5	8/16/2023 7:45:57 PM
Toluene	ND	5.0		µg/L	5	8/16/2023 7:45:57 PM
Ethylbenzene	71	5.0		µg/L	5	8/16/2023 7:45:57 PM
Naphthalene	33	10		µg/L	5	8/16/2023 7:45:57 PM
1-Methylnaphthalene	52	20		µg/L	5	8/16/2023 7:45:57 PM
2-Methylnaphthalene	78	20		µg/L	5	8/16/2023 7:45:57 PM
Xylenes, Total	170	7.5		µg/L	5	8/16/2023 7:45:57 PM
Surr: 1,2-Dichloroethane-d4	116	70-130		%Rec	5	8/16/2023 7:45:57 PM
Surr: 4-Bromofluorobenzene	121	70-130		%Rec	5	8/16/2023 7:45:57 PM
Surr: Dibromofluoromethane	96.2	70-130		%Rec	5	8/16/2023 7:45:57 PM
Surr: Toluene-d8	91.6	70-130		%Rec	5	8/16/2023 7:45:57 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 **2308734**
Date Reported: **8/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: RW-4
Project: State Com J 6
Collection Date: 8/11/2023 12:50:00 PM
Lab ID: 2308734-007 **Matrix:** AQUEOUS **Received Date:** 8/12/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	4.0		µg/L	10	8/16/2023 8:14:22 PM
Toluene	ND	4.0		µg/L	10	8/16/2023 8:14:22 PM
Ethylbenzene	75	10		µg/L	10	8/16/2023 8:14:22 PM
Naphthalene	25	20		µg/L	10	8/16/2023 8:14:22 PM
1-Methylnaphthalene	ND	40		µg/L	10	8/16/2023 8:14:22 PM
2-Methylnaphthalene	41	40		µg/L	10	8/16/2023 8:14:22 PM
Xylenes, Total	380	15		µg/L	10	8/16/2023 8:14:22 PM
Surr: 1,2-Dichloroethane-d4	90.0	70-130		%Rec	10	8/16/2023 8:14:22 PM
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	10	8/16/2023 8:14:22 PM
Surr: Dibromofluoromethane	96.5	70-130		%Rec	10	8/16/2023 8:14:22 PM
Surr: Toluene-d8	90.0	70-130		%Rec	10	8/16/2023 8:14:22 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.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308734**

18-Aug-23

Client: HILCORP ENERGY

Project: State Com J 6

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL99019**	RunNo: **99019**
Prep Date:	Analysis Date: **8/16/2023**	SeqNo: **3608802** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	20	1.0	20.00	0	98.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.1	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.5	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.5	70	130			
Surr: Toluene-d8	9.6		10.00		95.6	70	130			

Sample ID: **2308734-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **MW-1**	Batch ID: **SL99019**	RunNo: **99019**
Prep Date:	Analysis Date: **8/16/2023**	SeqNo: **3608804** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	48	2.0	40.00	6.128	104	70	130			
Toluene	39	2.0	40.00	0	96.6	70	130			
Surr: 1,2-Dichloroethane-d4	20		20.00		102	70	130			
Surr: 4-Bromofluorobenzene	20		20.00		101	70	130			
Surr: Dibromofluoromethane	20		20.00		99.8	70	130			
Surr: Toluene-d8	18		20.00		91.0	70	130			

Sample ID: **2308734-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **MW-1**	Batch ID: **SL99019**	RunNo: **99019**
Prep Date:	Analysis Date: **8/16/2023**	SeqNo: **3608805** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	47	2.0	40.00	6.128	103	70	130	0.322	20	
Toluene	38	2.0	40.00	0	94.5	70	130	2.22	20	
Surr: 1,2-Dichloroethane-d4	21		20.00		103	70	130	0	0	
Surr: 4-Bromofluorobenzene	20		20.00		98.1	70	130	0	0	
Surr: Dibromofluoromethane	20		20.00		99.3	70	130	0	0	
Surr: Toluene-d8	18		20.00		90.1	70	130	0	0	

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL99019**	RunNo: **99019**
Prep Date:	Analysis Date: **8/16/2023**	SeqNo: **3608817** 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								

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308734**

18-Aug-23

Client: HILCORP ENERGY

Project: State Com J 6

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL99019**	RunNo: **99019**
Prep Date:	Analysis Date: **8/16/2023**	SeqNo: **3608817** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		89.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.2	70	130			
Surr: Toluene-d8	9.5		10.00		94.9	70	130			

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.		

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: 2308734 RcptNo: 1

Received By: Juan Rojas 8/12/2023 7:45:00 AM

Completed By: Desiree Dominguez 8/14/2023 9:45:13 AM

Reviewed By: JN 8/14/23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: SCM 8/14/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.5	Good	Yes	Morty		

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: 1 Marty

Cooler Temp(including CF): 0.4+0.1=0.5

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. 2308734	BTEX Method 8260	Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene
8-11	1315	Water	MW-1	(3) 40ml VOA	HCL	-001	X	X
	1335	Water	MW-2	(3) 40ml VOA	HCL	-002	X	X
	1400	Water	MW-3	(3) 40ml VOA	HCL	-003	X	X
	1110	Water	RW-1	(3) 40ml VOA	HCL	-004	X	X
	1135	Water	RW-2	(3) 40ml VOA	HCL	-005	X	X
	1220	Water	RW-3	(3) 40ml VOA	HCL	-006	X	X
	1250	Water	RW-4	(3) 40ml VOA	HCL	-007	X	X

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8-11	1602				8/11/23	1602
8/11/23	1804			Courier	8/12/23	7:45

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.

eurofins | Environment Testing

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

December 05, 2023

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

RE: State Com J6 OrderNo.: 2311848

Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 7 sample(s) on 11/16/2023 for the analyses presented in the following report.

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

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2311848**
Date Reported: **12/5/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-1
Project: State Com J6 **Collection Date:** 11/15/2023 12:25:00 PM
Lab ID: 2311848-001 **Matrix:** AQUEOUS **Received Date:** 11/16/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	11/27/2023 6:08:00 PM
Toluene	ND	1.0		µg/L	1	11/27/2023 6:08:00 PM
Ethylbenzene	ND	1.0		µg/L	1	11/27/2023 6:08:00 PM
Naphthalene	ND	2.0		µg/L	1	11/27/2023 6:08:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/27/2023 6:08:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/27/2023 6:08:00 PM
Xylenes, Total	ND	1.5		µg/L	1	11/27/2023 6:08:00 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	11/27/2023 6:08:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	11/27/2023 6:08:00 PM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	11/27/2023 6:08:00 PM
Surr: Toluene-d8	95.4	70-130		%Rec	1	11/27/2023 6:08:00 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 **2311848**
Date Reported: **12/5/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-2
Project: State Com J6 **Collection Date:** 11/15/2023 1:15:00 PM
Lab ID: 2311848-002 **Matrix:** AQUEOUS **Received Date:** 11/16/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	11/27/2023 6:32:00 PM
Toluene	ND	1.0		µg/L	1	11/27/2023 6:32:00 PM
Ethylbenzene	ND	1.0		µg/L	1	11/27/2023 6:32:00 PM
Naphthalene	ND	2.0		µg/L	1	11/27/2023 6:32:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/27/2023 6:32:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/27/2023 6:32:00 PM
Xylenes, Total	ND	1.5		µg/L	1	11/27/2023 6:32:00 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	11/27/2023 6:32:00 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	11/27/2023 6:32:00 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	11/27/2023 6:32:00 PM
Surr: Toluene-d8	94.7	70-130		%Rec	1	11/27/2023 6:32:00 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 **2311848**
Date Reported: **12/5/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-3
Project: State Com J6 **Collection Date:** 11/15/2023 1:40:00 PM
Lab ID: 2311848-003 **Matrix:** AQUEOUS **Received Date:** 11/16/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	11/27/2023 6:57:00 PM
Toluene	ND	1.0		µg/L	1	11/27/2023 6:57:00 PM
Ethylbenzene	ND	1.0		µg/L	1	11/27/2023 6:57:00 PM
Naphthalene	ND	2.0		µg/L	1	11/27/2023 6:57:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/27/2023 6:57:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/27/2023 6:57:00 PM
Xylenes, Total	ND	1.5		µg/L	1	11/27/2023 6:57:00 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	11/27/2023 6:57:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	11/27/2023 6:57:00 PM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	11/27/2023 6:57:00 PM
Surr: Toluene-d8	93.9	70-130		%Rec	1	11/27/2023 6:57:00 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 **2311848**
Date Reported: **12/5/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-1
Project: State Com J6 **Collection Date:** 11/15/2023 10:15:00 AM
Lab ID: 2311848-004 **Matrix:** AQUEOUS **Received Date:** 11/16/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	2.0		µg/L	2	11/27/2023 7:21:00 PM
Toluene	ND	2.0		µg/L	2	11/27/2023 7:21:00 PM
Ethylbenzene	52	2.0		µg/L	2	11/27/2023 7:21:00 PM
Naphthalene	16	4.0		µg/L	2	11/27/2023 7:21:00 PM
1-Methylnaphthalene	15	8.0		µg/L	2	11/27/2023 7:21:00 PM
2-Methylnaphthalene	15	8.0		µg/L	2	11/27/2023 7:21:00 PM
Xylenes, Total	330	3.0		µg/L	2	11/27/2023 7:21:00 PM
Surr: 1,2-Dichloroethane-d4	95.5	70-130		%Rec	2	11/27/2023 7:21:00 PM
Surr: 4-Bromofluorobenzene	159	70-130	S	%Rec	2	11/27/2023 7:21:00 PM
Surr: Dibromofluoromethane	101	70-130		%Rec	2	11/27/2023 7:21:00 PM
Surr: Toluene-d8	127	70-130		%Rec	2	11/27/2023 7:21:00 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 **2311848**
Date Reported: **12/5/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-2
Project: State Com J6 **Collection Date:** 11/15/2023 11:00:00 AM
Lab ID: 2311848-005 **Matrix:** AQUEOUS **Received Date:** 11/16/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	11/27/2023 7:45:00 PM
Toluene	ND	1.0		µg/L	1	11/27/2023 7:45:00 PM
Ethylbenzene	ND	1.0		µg/L	1	11/27/2023 7:45:00 PM
Naphthalene	ND	2.0		µg/L	1	11/27/2023 7:45:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/27/2023 7:45:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/27/2023 7:45:00 PM
Xylenes, Total	ND	1.5		µg/L	1	11/27/2023 7:45:00 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	11/27/2023 7:45:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	11/27/2023 7:45:00 PM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	11/27/2023 7:45:00 PM
Surr: Toluene-d8	95.4	70-130		%Rec	1	11/27/2023 7:45:00 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 **2311848**
Date Reported: **12/5/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-3
Project: State Com J6 **Collection Date:** 11/15/2023 11:30:00 AM
Lab ID: 2311848-006 **Matrix:** AQUEOUS **Received Date:** 11/16/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	4.2	2.5	D	µg/L	5	11/27/2023 8:09:00 PM
Toluene	ND	5.0	D	µg/L	5	11/27/2023 8:09:00 PM
Ethylbenzene	5.2	5.0	D	µg/L	5	11/27/2023 8:09:00 PM
Naphthalene	ND	10	D	µg/L	5	11/27/2023 8:09:00 PM
1-Methylnaphthalene	ND	20	D	µg/L	5	11/27/2023 8:09:00 PM
2-Methylnaphthalene	ND	20	D	µg/L	5	11/27/2023 8:09:00 PM
Xylenes, Total	10	7.5	D	µg/L	5	11/27/2023 8:09:00 PM
Surr: 1,2-Dichloroethane-d4	99.5	70-130	D	%Rec	5	11/27/2023 8:09:00 PM
Surr: 4-Bromofluorobenzene	106	70-130	D	%Rec	5	11/27/2023 8:09:00 PM
Surr: Dibromofluoromethane	104	70-130	D	%Rec	5	11/27/2023 8:09:00 PM
Surr: Toluene-d8	103	70-130	D	%Rec	5	11/27/2023 8:09:00 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 **2311848**
Date Reported: **12/5/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** RW-4
Project: State Com J6 **Collection Date:** 11/15/2023 12:00:00 PM
Lab ID: 2311848-007 **Matrix:** AQUEOUS **Received Date:** 11/16/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	5.4	2.5	D	µg/L	5	11/27/2023 8:33:00 PM
Toluene	ND	5.0	D	µg/L	5	11/27/2023 8:33:00 PM
Ethylbenzene	130	5.0	D	µg/L	5	11/27/2023 8:33:00 PM
Naphthalene	85	10	D	µg/L	5	11/27/2023 8:33:00 PM
1-Methylnaphthalene	ND	20	D	µg/L	5	11/27/2023 8:33:00 PM
2-Methylnaphthalene	39	20	D	µg/L	5	11/27/2023 8:33:00 PM
Xylenes, Total	670	75		µg/L	50	11/28/2023 4:24:00 PM
Surr: 1,2-Dichloroethane-d4	96.1	70-130	D	%Rec	5	11/27/2023 8:33:00 PM
Surr: 4-Bromofluorobenzene	201	70-130	SD	%Rec	5	11/27/2023 8:33:00 PM
Surr: Dibromofluoromethane	103	70-130	D	%Rec	5	11/27/2023 8:33:00 PM
Surr: Toluene-d8	129	70-130	D	%Rec	5	11/27/2023 8:33:00 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.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311848**

05-Dec-23

Client: HILCORP ENERGY

Project: State Com J6

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R101435**	RunNo: **101435**
Prep Date:	Analysis Date: **11/27/2023**	SeqNo: **3732383** 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	9.9		10.00		99.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.5		10.00		95.1	70	130			

Sample ID: **100NG LCS**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R101435**	RunNo: **101435**
Prep Date:	Analysis Date: **11/27/2023**	SeqNo: **3732386** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		98.0	70	130			

Sample ID: **100NG LCS**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R101435**	RunNo: **101435**
Prep Date:	Analysis Date: **11/28/2023**	SeqNo: **3732410** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.4	70	130			
Toluene	20	1.0	20.00	0	99.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		101	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311848**

05-Dec-23

Client: HILCORP ENERGY

Project: State Com J6

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R101435**	RunNo: **101435**
Prep Date:	Analysis Date: **11/28/2023**	SeqNo: **3732411** 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	9.4		10.00		94.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		99.8	70	130			
Surr: Toluene-d8	9.7		10.00		97.0	70	130			

Sample ID: **100NG LCS4**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R101440**	RunNo: **101440**
Prep Date:	Analysis Date: **11/28/2023**	SeqNo: **3732506** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	60	1.5	60.00	0	99.5	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.8	70	130			
Surr: Toluene-d8	9.7		10.00		97.4	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R101440**	RunNo: **101440**
Prep Date:	Analysis Date: **11/28/2023**	SeqNo: **3733338** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.7	70	130			
Surr: Toluene-d8	9.7		10.00		96.9	70	130			

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.		

eurofins | Environment Testing

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2311848 RcptNo: 1

Received By: Tracy Casarrubias 11/16/2023 6:30:00 AM

Completed By: Tracy Casarrubias 11/16/2023 10:35:26 AM

Reviewed By: JM 11/16/23

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 ☑	# of preserved bottles checked for pH: (<2 or >12 unless noted)
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 ☐	Adjusted?
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 ☐	Checked by: SCM 11/16/23

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes	Yogi		

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 yogi

# of Coolers: 1

Cooler Temp(including CF): 2.1 - 0 = 2.1°

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. 2311848	Analysis Request: BTEX Method 8260	Analysis Request: Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene
11-15	1225	Water	MW-1	(3) 40ml VOA	HCL	001	X	X
	1315	Water	MW-2	(3) 40ml VOA	HCL	002	X	X
	1340	Water	MW-3	(3) 40ml VOA	HCL	003	X	X
	1015	Water	RW-1	(3) 40ml VOA	HCL	004	X	X
	1100	Water	RW-2	(3) 40ml VOA	HCL	005	X	X
	1130	Water	RW-3	(3) 40ml VOA	HCL	006	X	X
	1200	Water	RW-4	(3) 40ml VOA	HCL	007	X	X

Date	Time	Relinquished by	Received by	Via	Date	Time
11-15	1623				11/15/23	1623
11/15/23	1740			Courier	11/16/23 (next day)	6:30

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.

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: 326713
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2023 Annual Groundwater Monitoring Report for State Com J #6: Content Satisfactory 1. Sampling may be suspended in monitoring wells: MW-1, MW-2, MW-3 and RW-2 as COCs have been in compliance and below the human health standards. 2. RW-1, RW-3 and RW-4 may be reduced to annual sampling events until the human health standards in WQCC are below the human health standards. 3. Continue to hand bail and recover LNAPL as well as gauge PSH and DTW. 4. Submit the next annual groundwater report by April 2025.	5/30/2024