REVIEWED
By Mike Buchanan at 9:31 am, May 21, 2024

Review of the 2022 Annual Groundwater Monitoring Report for Flora Vista #1: Content Satisfactory
1. Continue groundwater monitoring for all wells, including for constituents iron and manganese. Sampling frequency may be reduced to semi-annual basis.
2. Manganese may be suspended from sampling analysis from MW-2 and MW-3
3. Continue to conduct sample analysis for iron in MW-3
4. Groundwater sampling for wells DW-1 and DW-2 may be suspended
5. Submit the 2023 annual report if not already submitted
6. Submit the 2024 annual groundwater report by April 1, 2025.

ENSOLUM

March 22, 2023

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

Re: 2022 Annual Groundwater Monitoring Report
Flora Vista #1
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident Number: nCS1907338841
NMOCD Administrative Order: 3R-173

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *2022 Annual Groundwater Monitoring Report* to the New Mexico Oil Conservation Division (NMOCD) to document groundwater monitoring activities conducted at the Flora Vista #1 natural gas production well (Site) during 2022. The Site is located on private property in the F, Section 22, Township 30 N, Range 12 W, of San Juan County, New Mexico (Figure 1). Currently, there are five groundwater monitoring wells on-Site which are monitored for groundwater elevations and sampled quarterly. Two additional domestic wells have historically been sampled annually as part of Site monitoring activities. Well locations and general Site features are presented on Figure 2

SITE BACKGROUND

Several historical releases have been documented at the Site. An earthen dehydrator pit was taken out of service in 1994 and subsequently remediated between 1994 and 1996 by a previous operator. Reports documenting these activities were submitted to the NMOCD, which issued a letter to the operator on January 24, 1997, approving pit closure and remediation. Additionally, Burlington Resources (Burlington) encountered historical petroleum hydrocarbon-impacted soil during Site construction activities in 2003. Burlington ultimately excavated 9,443 cubic yards of impacted soil in attempts to remediate the Site. Burlington was unable to remove all impacted soil from the Site and impacted soils were left in place at depth. Groundwater was encountered in the excavation at a depth of approximately 25 feet below ground surface (bgs). In order to address the remaining impacts, Burlington sprayed approximately 80 barrels (bbls) of potassium permanganate into the excavation prior to backfilling in hopes of enhancing degradation of the petroleum hydrocarbon impacts.

After completion of the excavation, monitoring well MW-1 was installed in 2003 at a down gradient location from the center of the excavation (Figure 2). Groundwater monitoring included analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), as well as total petroleum hydrocarbons (TPH), with analytical results indicating the presence of benzene and total xylenes above regulatory standards. At the request of the NMOCD, monitoring wells MW-2, MW-3, and

MW-4 were installed at the Site in August 2008. Additionally, two domestic water wells located downgradient of the Site (DW-1 and DW-2 shown on Figure 2) were included in yearly sampling events to ensure impacted groundwater was not migrating off-Site and onto adjacent properties.

Based on the presence of dissolved-phase petroleum hydrocarbons in groundwater, a mobile-dual phase extraction event was conducted in August 2013 and removed approximately 1,300 gallons of impacted groundwater. In order to assess potential soil and groundwater impacts originating from the on-Site above ground storage tanks (shown on Figure 2), monitoring well MW-5 was installed in September 2015. Groundwater analytical data from MW-5 indicated there were petroleum hydrocarbon constituents exceeding regulatory standards in this area. In order to further enhance remediation of residual petroleum hydrocarbons at the Site, GHD (former environmental consultant for the Site) conducted an in-situ chemical oxidation (ISCO) event in October of 2016. GHD injected a 15 percent (%) PersulfOx® oxidant solution into wells MW-1 and MW-5 to promote oxidation of soluble metals and petroleum hydrocarbons in groundwater. Since 2016, groundwater at the Site has been continually gauged and monitored for BTEX, dissolved iron, and dissolved manganese constituents.

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
- Dissolved Iron: 1.0 mg/L
- Dissolved Manganese: 0.20 mg/L

GROUNDWATER SAMPLING ACTIVITIES AND RESULTS

Groundwater-level measurements and samples were collected in February, April, July, and October 2022 from wells MW-1 through MW-5. Samples were not collected for laboratory analysis from MW-1 in April and July 2022, MW-3 in October 2022, or MW-5 in April and October 2022 due to insufficient water volume in the wells. In addition, domestic water wells DW-1 and DW-2 were not sampled in 2022 due to lack of access from the landowners.

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

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 collected during the purging process, and are presented in Table 2.

Following well purging, groundwater samples were placed directly into laboratory-provided containers and labeled with the date and time of collection, well designation, project name, sample collector's name, and parameters to be analyzed. Samples were immediately sealed with zero headspace and packed on ice to preserve samples. Samples were submitted to Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico, for analysis of BTEX by United State Environmental Protection Agency (EPA) Method 8260B and dissolved manganese and dissolved iron by EPA Method 200.7. 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.

GROUNDWATER ANALYTICAL RESULTS

Benzene concentrations in groundwater from wells MW-1 and MW-5 exceeded the NMWQCC standard during the February 2022 sampling event and in well MW-1 during the October 2022 sampling event. Dissolved iron concentrations exceeded the NMWQCC standard in wells MW-4 and MW-5 during one or more sampling events. Lastly, dissolved manganese concentrations exceeded NMWQCC standards in wells MW1, MW4, and MW-5 during one or more sampling events. Toluene, ethylbenzene, and total xylenes were not detected above the NMWQCC standards in any of the sampled wells during the 2022 quarterly sampling events. A summary of analytical results are presented in Table 3 and depicted on Figure 7, with complete laboratory analytical reports attached as Appendix A.

CONCLUSIONS

Overall, the presence of BTEX concentrations in groundwater have decreased over time at the Site. BTEX concentrations in groundwater have not been detected above NMWQCC standards in well MW-4 since 2019. Benzene concentrations in wells MW-1 and MW-5 have been greatly reduced and have fluctuated above and below the NMWQCC standard for the last several years. Specifically, benzene concentrations detected between February 2020 and October 2022 have ranged between 0.0033 and 0.0350 mg/L in well MW-1 and between 0.0036 and 0.013 mg/L in well MW-5. Data collected at the Site suggests that the petroleum-hydrocarbon plume is stable and overall reducing in size and magnitude through natural attenuation.

Concentrations of dissolved iron and manganese continue to be detected above NMWQCC standards in wells MW-1, MW-4, and MW-5. Elevated dissolved iron and manganese concentrations are often a biproduct of petroleum hydrocarbon biodegradation. Biodegradation of petroleum hydrocarbons can often create anaerobic and reducing conditions in groundwater, which can result in the dissolution of iron and manganese from the surrounding soil and rock strata and consequently elevate concentrations of these inorganic constituents. Analytical data collected at the Site indicates dissolved iron and manganese are present in groundwater in the same wells with historically elevated BTEX concentrations, demonstrating these constituents are likely related to the degradation of the petroleum hydrocarbon plume. As groundwater conditions

at the Site continue to equilibrate and dissolved oxygen increases, groundwater conditions will become increasingly aerobic. As this happens, dissolved iron and manganese have the ability to precipitate out of solution leading to decreased concentrations in groundwater.

Although no access was granted in 2022 to sample domestic water wells DW-1 and DW-2 located downgradient of the Site, these wells have historically not contained detectable concentrations of COCs and only once have contained detectable concentrations of dissolved manganese, but was still in compliance with the NMWQCC standard. As such, this data indicates that the plume is confined to the Site and has not migrated to adjacent properties.

RECOMMENDATIONS

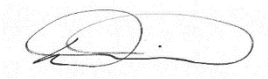
Based on current and historical data gathered at the Site, Ensolum/Hilcorp recommend the following actions:

- Reduce sampling frequency to semi-annually for wells MW-1, MW-4, and MW-5 for BTEX, dissolved iron, and dissolved manganese. Once concentrations decrease to below NMWQCC standards, sampling frequency will be increased to quarterly until eight consecutive quarters show compliance with applicable standards.
- Eliminate sampling of wells MW-2 and MW-3. All concentrations of Site COCs have been in compliance with NMWQCC standards in well MW-2 since 2008 with the exception of three exceedances of dissolved manganese occurring in September 2018 and June and September 2021. Additionally, all concentrations of Site COCs have been in compliance with NMWQCC standards in well MW-3 for 11 consecutive quarters, with the exception of one anomalously high detection of dissolved iron in September 2021.
- Eliminate sampling of wells DW-1 and DW-2. Site COCs have not been present in these wells above NMWQCC standards since they were first sampled in 2009/2010, indicating the Site groundwater plume has not migrated downgradient from the release location.

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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Attachments:

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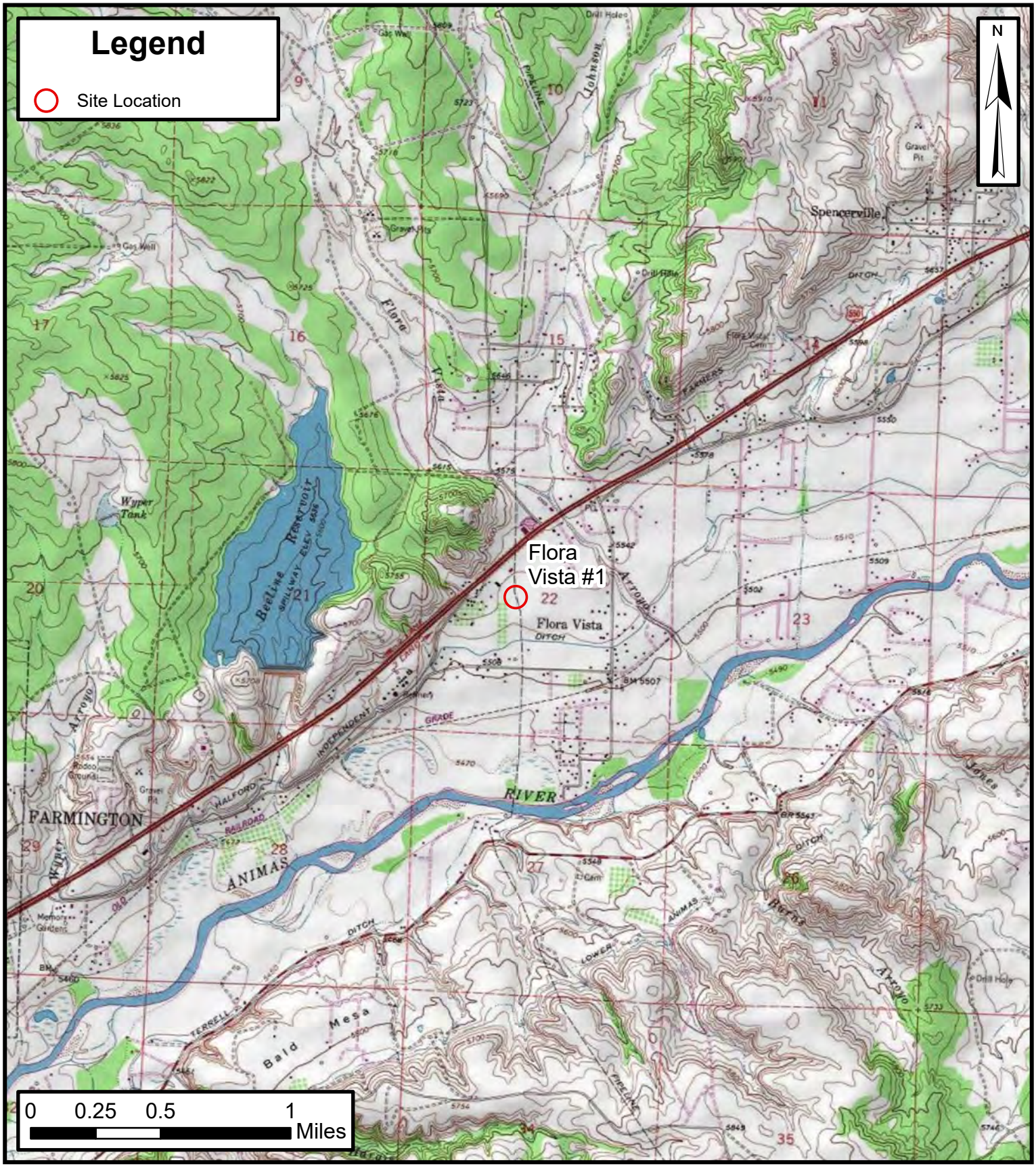
FIGURES



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Location Map

Flora Vista #1
Hilcorp Energy Company
36.79852, -108.08759
San Juan County, New Mexico

FIGURE
1

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

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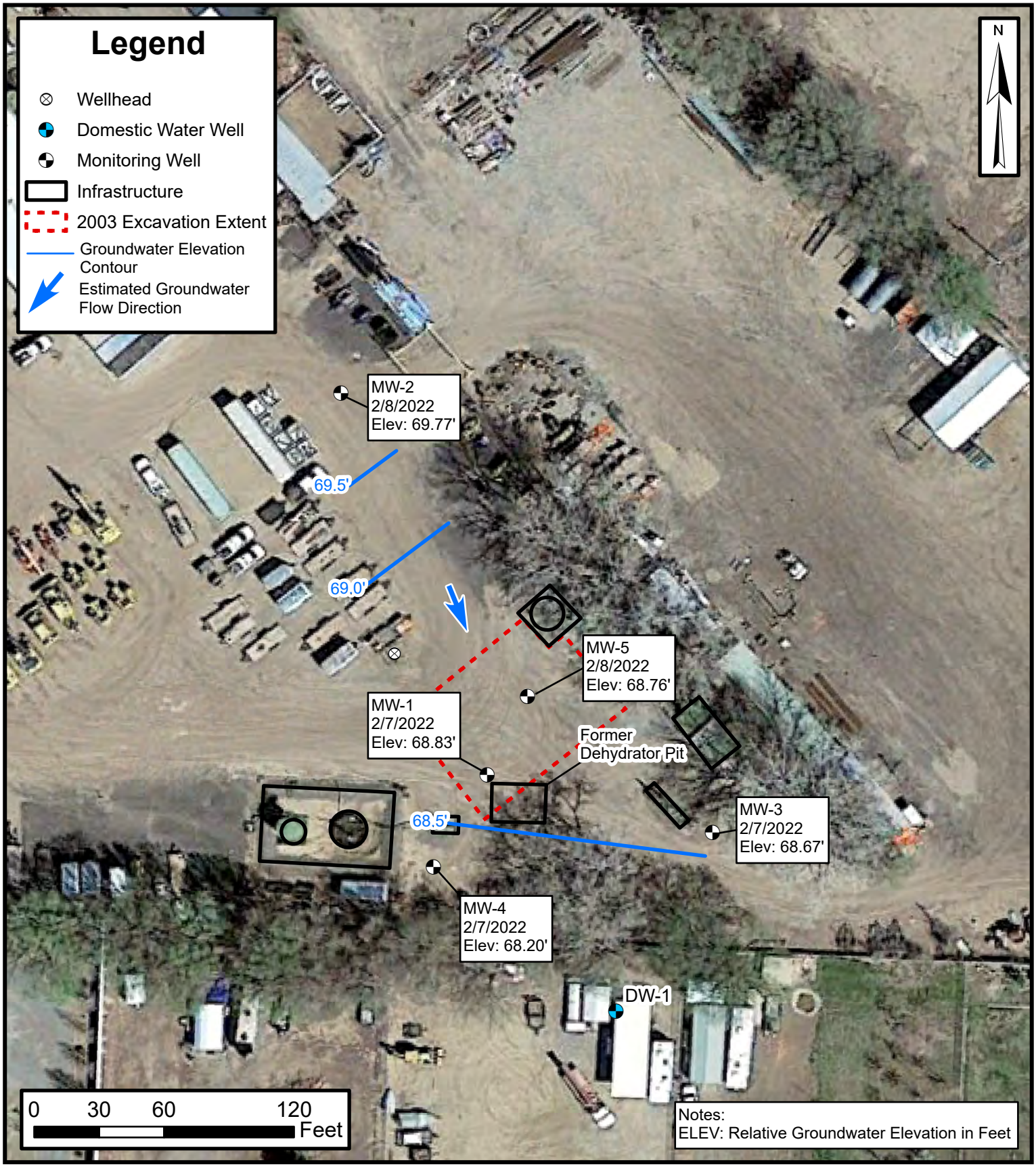
Environmental, Engineering and Hydrogeologic Consultants

Site Map

Flora Vista #1
Hilcorp Energy Company
36.79852, -108.08759
San Juan County, New Mexico

FIGURE
2

Sources: Google Earth 2019



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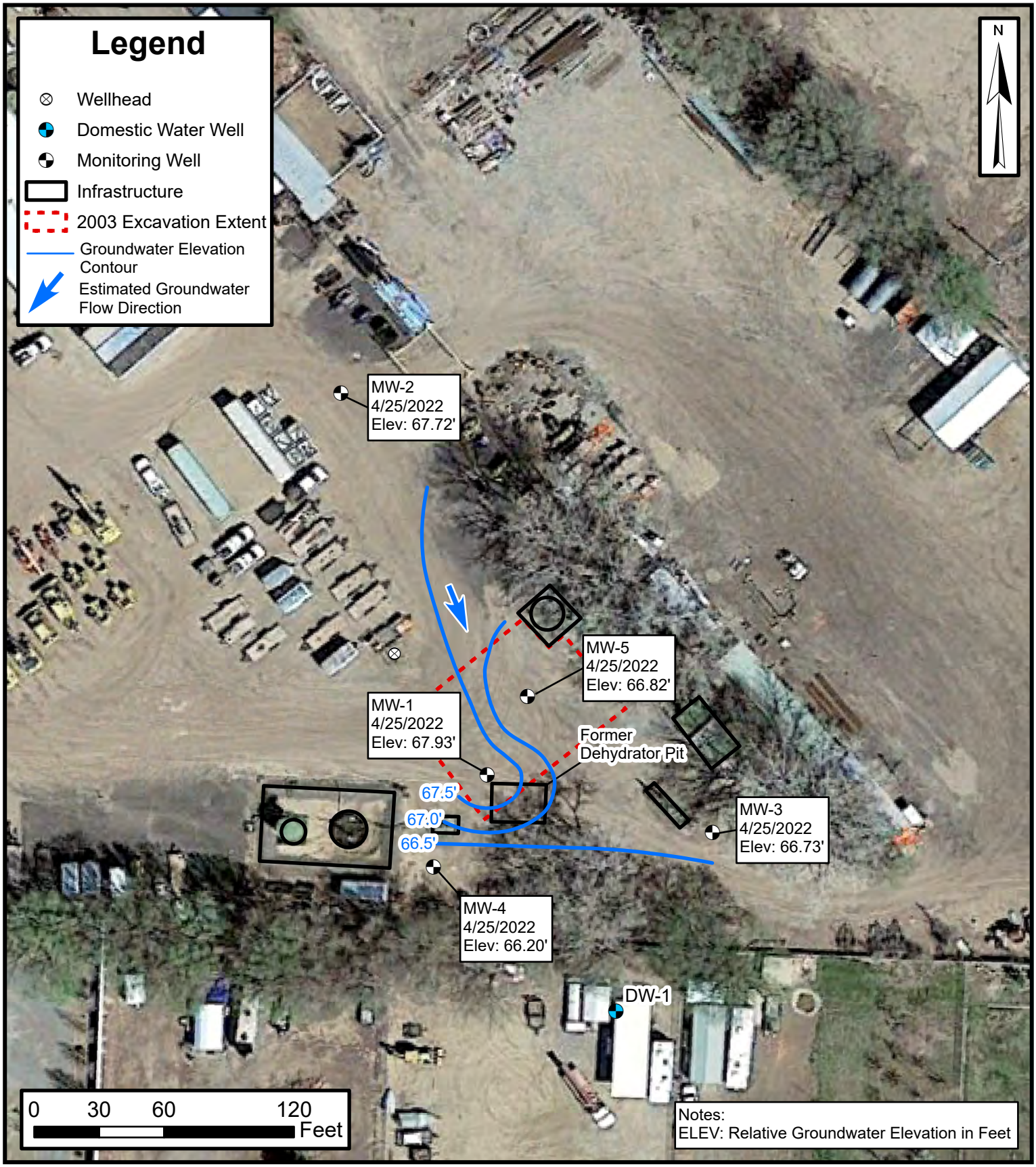
Q1 2022 Groundwater Elevation Contour Map

Flora Vista #1
Hilcorp Energy Company
36.79852, -108.08759
San Juan County, New Mexico

FIGURE
3

Sources: Google Earth 2019



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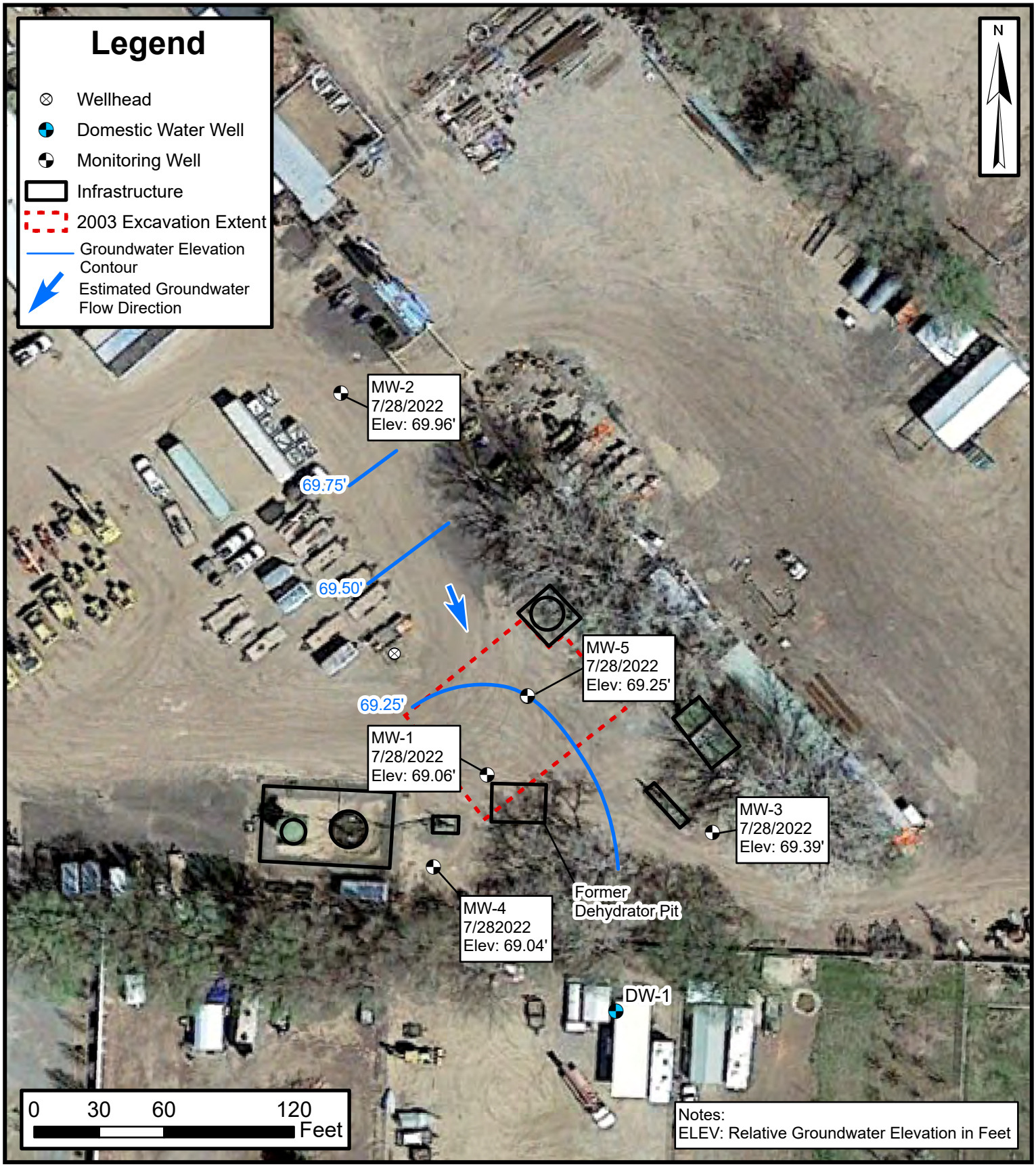
Environmental, Engineering and Hydrogeologic Consultants

Q2 2022 Groundwater Elevation Contour Map

Flora Vista #1
Hilcorp Energy Company
36.79852, -108.08759
San Juan County, New Mexico

FIGURE
4

Sources: Google Earth 2019



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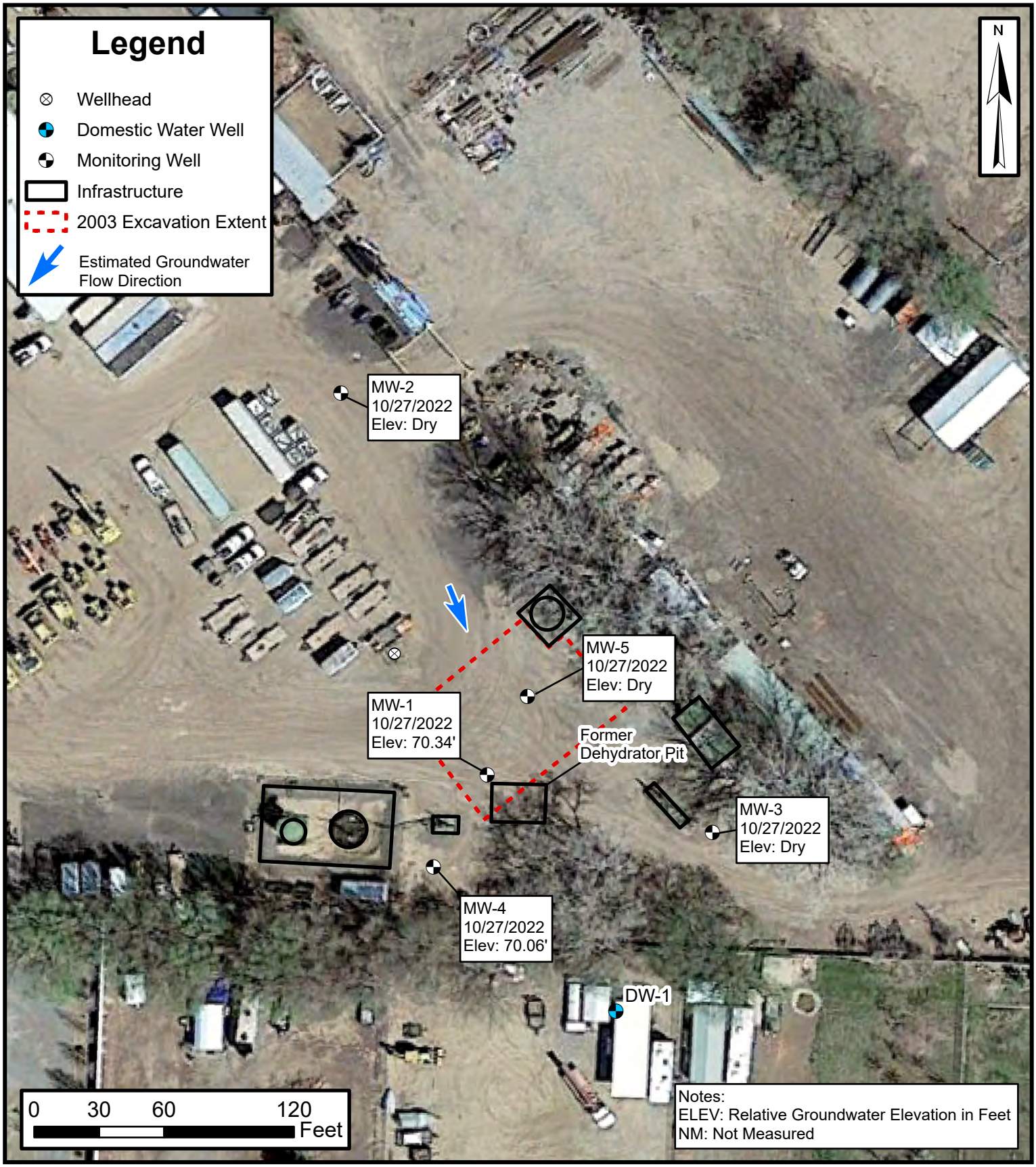
Environmental, Engineering and Hydrogeologic Consultants

Q3 2022 Groundwater Elevation Contour Map

Flora Vista #1
Hilcorp Energy Company
36.79852, -108.08759
San Juan County, New Mexico

FIGURE
5

Sources: Google Earth 2019



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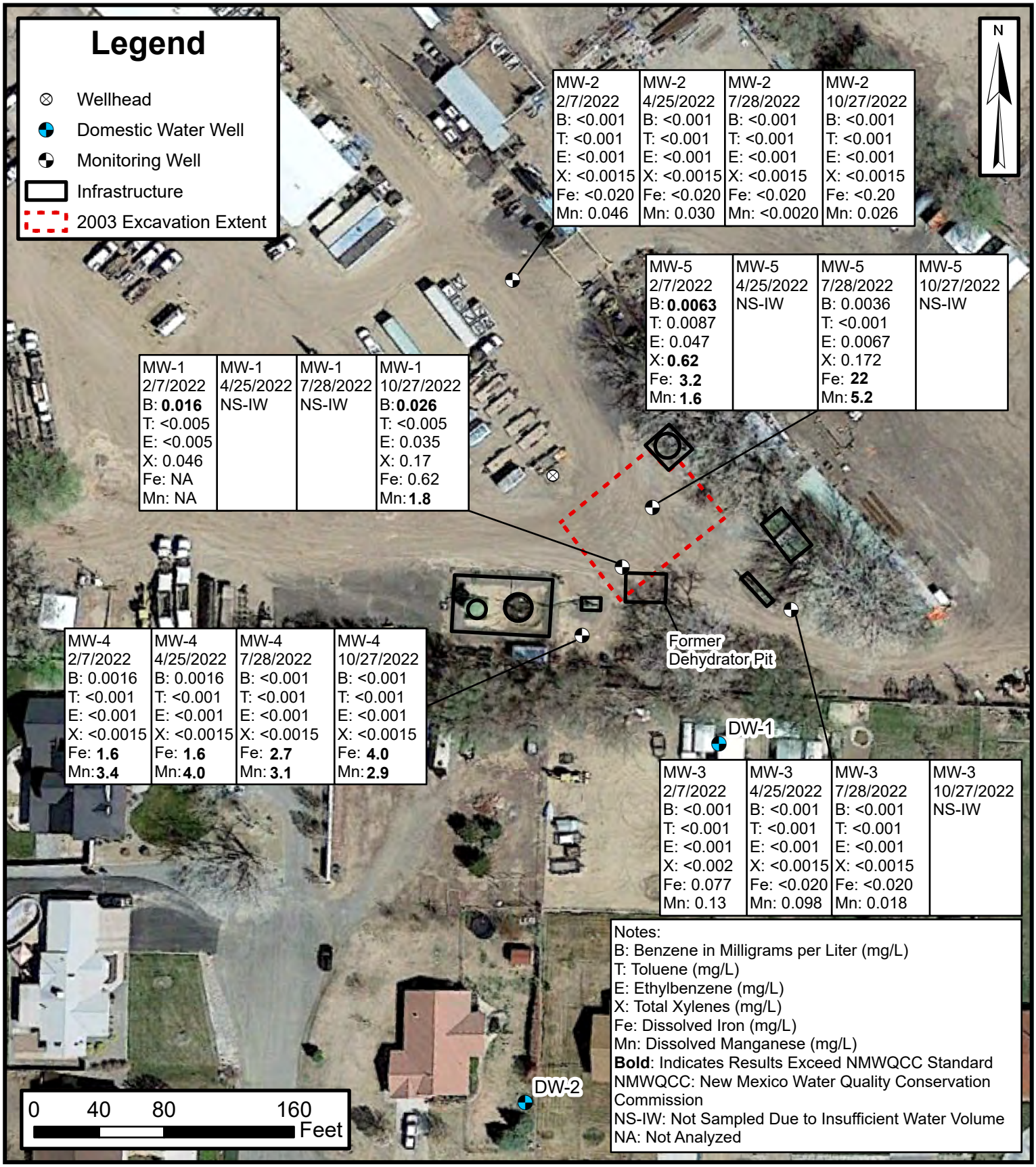
Q4 2022 Groundwater Elevation Contour Map

Flora Vista #1
Hilcorp Energy Company
36.79852, -108.08759
San Juan County, New Mexico

FIGURE
6

Sources: Google Earth 2019



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2022 Groundwater Analytical Results

Flora Vista #1
Hilcorp Energy Company
36.79852, -108.08759
San Juan County, New Mexico

FIGURE
7

Sources: Google Earth 2019

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TABLES

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TABLE 1
GROUNDWATER ELEVATIONS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Total Depth (feet)	Top of Casing Elevation (1)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (1)
MW-1	26.02	94.38	6/20/2003	--	--
			9/23/2003	17.03	77.35
			12/16/2003	20.11	74.27
			3/16/2004	23.69	70.69
			6/21/2004	19.92	74.46
			9/30/2004	16.82	77.56
			12/13/2004	20.40	73.98
			3/22/2005	24.32	70.06
			6/22/2005	--	--
			10/24/2005	--	--
			12/13/2005	21.24	73.14
			3/22/2006	24.75	69.63
			6/22/2006	20.48	73.90
			10/20/2006	19.13	75.25
			12/13/2006	21.24	73.14
			11/9/2007	19.71	74.67
			1/15/2008	--	--
			3/19/2008	24.35	70.03
			7/23/2008	19.89	74.49
			10/21/2008	19.48	74.90
			1/28/2009	23.96	70.42
			9/30/2009	18.16	76.22
			6/10/2010	21.64	72.74
			9/27/2010	19.31	75.07
			12/14/2010	21.41	72.97
			3/17/2011	24.95	69.43
			6/24/2011	22.55	71.83
			9/29/2011	18.37	76.01
			12/14/2011	20.63	73.75
			3/9/2012	24.12	70.26
		93.96	6/7/2012	23.08	70.88
			9/19/2012	18.94	75.02
			12/13/2012	21.22	72.74
			3/20/2013	24.79	69.17
			6/12/2013	22.51	71.45
			9/11/2013	18.34	75.62
			12/13/2013	21.53	72.43
			3/19/2014	25.26	68.70
			6/17/2014	21.55	72.41
			9/18/2014	19.58	74.38
			12/18/2014	**Well inaccessible**	

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TABLE 1
GROUNDWATER ELEVATIONS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Total Depth (feet)	Top of Casing Elevation (1)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (1)
MW-1	26.02	93.96	3/19/2015	25.18	68.78
			6/18/2015	23.56	70.40
			9/17/2015	21.85	72.11
			12/3/2015	22.65	71.31
			3/31/2016*	26.02	67.94
			6/20/2016	23.52	70.44
			9/6/2016	20.98	72.98
			11/29/2016	21.90	72.06
			3/9/2017	24.72	69.24
			6/15/2017	23.90	70.06
			9/27/2017	21.57	72.39
			12/5/2017	22.30	71.66
			3/15/2018	**Well Dry**	
			6/27/2018	**Well Dry**	
			9/6/2018	22.75	71.21
			12/20/2018	23.10	70.86
			3/6/2019	25.20	68.76
			6/12/2019	25.82	68.14
			9/6/2019	23.26	70.70
			12/9/2019	23.01	70.95
			3/16/2020	25.62	68.34
			6/10/2020	26.11	67.85
			8/28/2020	26.11	67.85
			11/5/2020	21.89	72.07
			2/8/2021	24.68	69.28
			6/28/2021	24.66	69.30
			9/20/2021	DRY	--
			11/5/2021	22.42	71.54
			2/7/2022	25.13	68.83
			4/25/2022	26.03	67.93
			7/28/2022	24.90	69.06
			10/27/2022	23.62	70.34
MW-2	31.35	97.10	10/21/2008	20.71	76.39
			1/28/2009	22.75	74.35
			9/30/2009	18.83	78.27
			6/11/2010	22.09	75.01
			9/27/2010	20.12	76.98
			12/14/2010	--	--
			3/17/2011	--	--
			6/24/2011	22.50	74.60
			9/29/2011	18.95	78.15
			12/14/2011	21.79	75.31

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TABLE 1
GROUNDWATER ELEVATIONS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Total Depth (feet)	Top of Casing Elevation (1)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (1)
MW-2	31.35	97.10	3/9/2012	25.60	71.50
		97.00	6/7/2012	22.46	74.54
			9/19/2012	17.70	79.30
			12/13/2012	22.43	74.57
			3/20/2013	26.49	70.51
			6/12/2013	22.13	74.87
			9/11/2013	17.95	79.05
			12/13/2013	22.78	74.22
			3/19/2014	26.99	70.01
			6/17/2014	20.31	76.69
			9/18/2014	19.87	77.13
			12/18/2014	23.00	74.00
			3/19/2015	26.92	70.08
			6/18/2015	23.24	73.76
			9/17/2015	22.78	74.22
			12/3/2015	24.23	72.77
			3/31/2016	28.20	68.80
			6/20/2016	25.67	71.33
			9/6/2016	23.57	73.43
			11/29/2016	23.69	73.31
			3/9/2017	26.70	70.30
			6/15/2017	**Well inaccessible**	
			9/27/2017	23.84	73.16
			12/5/2017	**Well inaccessible**	
			3/15/2018	27.65	69.35
			6/27/2018	26.36	70.64
			9/6/2018	25.03	71.97
			12/20/2018	25.20	71.80
			3/7/2019	27.51	69.49
			6/13/2019	27.43	69.57
			9/6/2019	25.45	71.55
			12/10/2019	25.19	71.81
			3/26/2020	28.29	68.71
			6/10/2020	27.59	69.41
			8/28/2020	25.31	71.69
			11/5/2020	24.17	72.83
			2/8/2021	26.78	70.22
			6/28/2021	26.57	70.43
			9/20/2021	25.40	71.60
			11/5/2021	24.51	72.49
			2/8/2022	27.23	69.77
			4/25/2022	29.28	67.72
			7/28/2022	27.04	69.96
			10/27/2022	**Well Dry**	

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Flora Vista #1
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San Juan County, New Mexico

Well Identification	Total Depth (feet)	Top of Casing Elevation (1)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (1)
MW-3	30.87	92.9	10/21/2008	17.92	74.98
			1/28/2009	21.53	71.37
			9/30/2009	16.43	76.47
			6/10/2010	19.71	73.19
			9/27/2010	17.81	75.09
			12/14/2010	19.61	73.29
			3/17/2011	23.32	69.58
			6/24/2011	20.55	72.35
			9/29/2011	16.84	76.06
			12/14/2011	19.13	73.77
			3/9/2012	22.51	70.39
		92.43	6/7/2012	20.93	71.50
			9/19/2012	17.48	74.95
			12/13/2012	19.78	72.65
			3/20/2013	23.18	69.25
			6/12/2013	20.68	71.75
			9/11/2013	16.90	75.53
			12/13/2013	20.11	72.32
			3/19/2014	23.64	68.79
			6/17/2014	19.85	72.58
			9/18/2014	18.01	74.42
			12/18/2014	**Well inaccessible**	
			3/19/2015	23.55	68.88
			6/18/2015	21.84	70.59
			9/17/2015	20.18	72.25
			12/3/2015	21.10	71.33
			3/31/2016	24.81	67.62
			6/20/2016	21.66	70.77
			9/6/2016	19.18	73.25
			11/29/2016	20.39	72.04
			3/9/2017	23.35	69.08
			6/15/2017	22.03	70.40
			9/27/2017	**Well inaccessible**	
			12/5/2017	20.89	71.54
			3/15/2018	24.28	68.15
			6/27/2018	22.42	70.01
			9/6/2018	21.16	71.27
			12/20/2018	21.60	70.83
			3/6/2019	24.13	68.30

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GROUNDWATER ELEVATIONS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Total Depth (feet)	Top of Casing Elevation (1)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (1)
MW-3	30.87	92.43	6/12/2019	23.71	68.72
			9/5/2019	21.50	70.93
			12/10/2019	21.55	70.88
			3/16/2020	24.61	67.82
			6/10/2020	23.80	68.63
			8/27/2020	21.41	71.02
			11/5/2020	20.27	72.16
			2/5/2021	23.29	69.14
			6/28/2021	22.96	69.47
			9/20/2021	21.60	70.83
			11/5/2021	20.85	71.58
			2/7/2022	23.76	68.67
			4/25/2022	25.70	66.73
			7/28/2022	23.04	69.39
			10/27/2022	Well Dry	
MW-4	30.42	93.60	10/21/2008	18.06	75.54
			1/28/2009	24.55	69.05
			9/30/2009	17.89	75.71
			6/10/2010	21.02	72.58
			9/27/2010	18.93	74.67
			12/14/2010	21.04	72.56
			3/17/2011	24.58	69.02
			6/24/2011	21.80	71.80
			9/29/2011	17.94	75.66
			12/14/2011	20.28	73.32
			3/9/2012	23.70	69.90
		93.17	6/7/2012	22.19	70.98
			9/19/2012	18.60	74.57
			12/13/2012	20.96	72.21
			3/20/2013	24.38	68.79
			6/12/2013	21.81	71.36
			9/11/2013	18.89	74.28
			12/13/2013	21.28	71.89
			3/19/2014	24.88	68.29
			6/17/2014	21.21	71.96
			9/18/2014	19.16	74.01
			12/18/2014	21.41	71.76
			3/19/2015	24.80	68.37
			6/18/2015	23.09	70.08
			9/17/2015	21.37	71.80
			12/3/2015	22.29	70.88
			3/31/2016	26.05	67.12
			6/20/2016	22.95	70.22
			9/6/2016	20.40	72.77

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TABLE 1
GROUNDWATER ELEVATIONS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Total Depth (feet)	Top of Casing Elevation (1)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (1)
MW-4	30.42	93.17	11/29/2016	21.59	71.58
			3/9/2017	24.58	68.59
			6/15/2017	23.40	69.77
			9/27/2017	21.25	71.92
			12/5/2017	22.05	71.12
			3/15/2018	25.54	67.63
			6/27/2018	23.67	69.50
			9/6/2018	22.29	70.88
			12/20/2018	22.75	70.42
			3/6/2019	25.33	67.84
			6/12/2019	24.93	68.24
			9/5/2019	22.71	70.46
			12/9/2019	22.68	70.49
			3/16/2020	25.84	67.33
			6/10/2020	24.93	68.24
			8/27/2020	22.51	70.66
			11/5/2020	21.34	71.83
			2/5/2021	24.48	68.69
			6/28/2021	24.12	69.05
			9/20/2021	23.00	70.17
			11/4/2021	21.91	71.26
			2/7/2022	24.97	68.20
			4/25/2022	26.97	66.20
			7/28/2022	24.13	69.04
			10/27/2022	23.11	70.06
MW-5	29.68	93.82	9/17/2015	21.59	72.23
			12/3/2015	22.41	71.41
			3/31/2016	26.18	67.64
			6/20/2016	23.18	70.64
			9/6/2016	20.67	73.15
			11/29/2016	21.72	72.10
			3/9/2017	25.04	68.78
			6/15/2017	23.61	70.21
			9/27/2017	**Well inaccessible**	
			12/5/2017	21.96	71.86
			3/15/2018	25.55	68.27
			6/27/2018	23.93	69.89
			9/6/2018	22.54	71.28
			12/20/2018	22.84	70.98
			3/7/2019	25.39	68.43

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TABLE 1
GROUNDWATER ELEVATIONS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Total Depth (feet)	Top of Casing Elevation (1)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (1)
MW-5	29.68	93.82	6/13/2019	24.75	69.07
			9/6/2019	22.78	71.04
			12/10/2019	22.84	70.98
			3/26/2020	26.17	67.65
			6/10/2020	25.25	68.57
			8/28/2020	22.87	70.95
			11/5/2020	21.21	72.61
			2/8/2021	24.62	69.20
			6/28/2021	24.24	69.58
			9/20/2021	23.00	70.82
			11/5/2021	22.15	71.67
			2/8/2022	25.06	68.76
			4/25/2022	27.00	66.82
			7/28/2022	24.57	69.25
			10/27/2022	Well Dry	

Notes:

(1): surface elevation based on an arbitrary datum of 100 feet set at the gas well head

bgs: below ground surface

BTOC: below top of casing

--: indicates no GWEL or PSH measured

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TABLE 2
GROUNDWATER QUALITY MEASUREMENTS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-1	3/31/2016	No parameters or sample collected due to low well volume						
	6/20/2016	16.70	6.34	--	1,070	0.41	-132.7	0.25
	9/7/2016	15.55	6.30	0.027	3,700	9.16	-66.6	1.50
	3/9/2017	No parameters or sample collected due to low well volume						
	6/15/2017	No parameters or sample collected due to low well volume						
	12/5/2017	15.07	6.94	4.785	7,364	4.69	-183.5	0.50
	3/15/2018	No parameters or sample collected due to low well volume						
	6/27/2018	No parameters or sample collected due to low well volume						
	9/6/2018	16.08	7.10	--	7,138	2.51	-117.9	0.50
	3/6/2019	14.60	7.63	0.640	1,260	--	-40.8	0.25
	6/12/2019	No parameters or sample collected due to low well volume						
	9/6/2019	21.30	6.99	1.220	2,430	--	-4.0	1.25
	12/9/2019	--	6.25	1.110	2,230	0.60	-17.8	1.00
	3/16/2020	22.40	6.33	1.820	3,630	8.08	-14.1	--
	6/10/2020	No parameters or sample collected due to low well volume						
	8/28/2020	No parameters or sample collected due to low well volume						
	11/5/2020	14.70	6.65	1.880	3,750	4.80	-12.6	--
	2/8/2021	13.80	6.22	0.600	1,200	1.14	7.0	
	6/28/2021	No parameters taken due to equipment not functional						
	9/20/2021	No parameters or sample collected due to low well volume						
	11/5/2021	11.70	6.78	--	2,870	--	--	1.75
	2/7/2022	11.60	6.56	--	2,990	--	--	0.25
	4/25/2022	No parameters or sample collected due to low well volume						
	7/28/2022	No parameters or sample collected due to low well volume						
	10/27/2022	13.20	6.75	1.090	2,170	--	--	0.50

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TABLE 2
GROUNDWATER QUALITY MEASUREMENTS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-2	3/31/2016	No parameters or sample collected due to low well volume						
	6/20/2016	17.00	6.40	--	870	2.32	-104.0	1.50
	9/7/2016	15.00	6.57	0.571	879	3.67	-19.9	4.00
	11/29/2016	14.78	7.21	--	909	4.51	-17.1	--
	3/9/2017	No parameters or sample collected due to low well volume						
	3/15/2018	15.24	7.06	--	977	0.93	56.3	2.00
	6/27/2018	No parameters or sample collected due to low well volume						
	9/6/2018	16.05	7.30	--	929	1.15	-0.80	3.50
	3/7/2019	19.40	6.96	0.510	1,020	--	-23.7	2.25
	6/13/2019	20.60	6.62	0.500	1,000	--	-10.2	2.00
	9/6/2019	21.00	6.77	0.520	1,030	--	-20.8	3.00
	12/10/2019	--	6.36	0.550	1,120	0.36	-23.3	3.00
	3/26/2020	16.40	6.18	0.530	1,060	8.47	-9.1	--
	6/10/2020	16.50	6.37	0.500	1,000	2.39	-15.1	--
	8/28/2020	14.70	6.67	0.500	1,010	2.21	-12.9	--
	11/5/2020	17.90	6.08	0.490	960	2.30	-7.0	--
	2/8/2021	15.70	6.06	0.520	1,040	0.58	-5.9	
	6/28/2021	No parameters taken due to equipment not functional						
	9/20/2021	17.40	6.90	--	2,960	--	--	3.18
	11/5/2021	18.80	5.94	--	1,000	--	--	3.50
	2/8/2022	14.10	6.38	--	970	--	--	2.25
	4/25/2022	16.60	6.21	0.460	930	--	--	1.27
	7/28/2022	20.40	6.61	0.450	900	--	--	2.25
	10/27/2022	No parameters or sample collected due to low well volume						

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TABLE 2
GROUNDWATER QUALITY MEASUREMENTS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-3	3/31/2016	14.68	7.13	0.510	800	4.66	-13.0	2.50
	6/20/2016	14.90	7.05	--	750	2.02	83.2	4.00
	9/7/2016	14.19	6.02	0.467	719	5.55	12.5	5.00
	11/29/2016	13.68	7.41	--	725	5.03	-11.4	--
	3/9/2017	14.44	7.06	0.675	1,038	1.38	-199.9	--
	6/15/2017	13.90	7.67	0.470	723	4.06	-79.1	1.00
	12/5/2017	12.80	7.10	0.513	788	2.09	-135.4	4.00
	3/15/2018	14.54	7.22	--	702	2.71	59.2	2.50
	6/27/2018	15.30	7.12	--	680	2.58	-16.8	3.75
	9/6/2018	14.81	7.49	--	639	4.77	-20.0	4.00
	3/6/2019	--	7.30	0.380	770	--	-21.6	2.5
	6/12/2019	19.40	6.91	0.360	740	--	-57.0	2.00
	9/5/2019	20.00	7.15	0.360	720	--	-29.4	3.25
	12/10/2019	--	6.36	0.390	780	1.36	-1.9	3.00
	3/16/2020	19.60	6.44	0.380	780	8.65	-25.2	--
	6/10/2020	17.60	6.2	0.380	760	2.77	-22.8	--
	8/27/2020	24.10	6.43	0.590	1,180	1.46	-10.7	--
	11/5/2020	14.40	6.43	0.400	800	4.45	-14.3	--
	2/5/2021	23.29	6.42	0.350	700	1.79	-25.8	
	6/28/2021	**No parameters taken due to equipment not functional**						
	9/20/2021	17.80	6.86	--	1,923	--	--	3.96
	11/5/2021	15.10	6.1	--	690	--	--	4.25
	2/7/2022	12.80	6.67	--	660	--	--	2.50
	4/25/2022	16.00	6.52	0.360	730	--	--	2.00
	7/28/2022	19.30	6.82	0.340	670	--	--	3.00
	10/27/2022	**No parameters or sample collected due to low well volume**						

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TABLE 2
GROUNDWATER QUALITY MEASUREMENTS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-4	3/31/2016	15.60	6.98	0.700	1,030	5.73	-47.0	2.25
	6/20/2016	15.20	6.79	--	1,040	1.06	-60.8	3.50
	9/7/2016	14.55	6.40	0.655	1,008	2.48	-59.8	4.50
	11/29/2016	13.58	7.16	--	903	3.04	-80.9	--
	3/9/2017	14.45	6.96	0.753	1,159	1.69	-133.5	--
	6/15/2017	13.63	7.00	1.769	2,721	5.00	-114.3	3.50
	12/5/2017	13.88	6.84	1.721	2,647	1.13	-135.7	4.00
	3/15/2018	15.04	7.04	--	1,180	--	-100.2	2.25
	6/27/2018	15.21	6.80	--	1,315	0.55	-79.0	3.00
	9/6/2018	15.15	7.11	--	1,394	1.05	-73.1	4.00
	3/6/2019	15.90	7.21	0.620	1,260	--	-7.5	2.50
	6/12/2019	19.80	6.66	0.710	1,410	--	6.9	2.50
	9/5/2019	18.10	7.04	0.530	1,070	--	2.7	3.50
	12/9/2019	--	6.10	0.770	1,550	0.00	3.8	3.00
	3/16/2020	13.90	6.48	0.660	1,310	6.03	7.2	--
	6/9/2020	16.70	6.33	0.550	1,060	1.85	16.1	--
	8/27/2020	22.00	6.47	0.510	1,050	1.45	14.6	--
	11/5/2020	14.10	6.09	0.500	1,000	1.76	18.9	--
	2/5/2021	10.70	6.50	0.550	1,100	1.57	12.7	
	6/28/2021	**No parameters taken due to equipment not functional**						
	9/20/2021	17.10	6.73	--	2,370	--	--	3.60
	11/4/2021	15.30	6.01	--	1,080	--	--	4.00
	2/7/2022	11.70	6.43	--	1,020	--	--	2.50
	4/25/2022	16.30	6.16	0.490	1,000	--	--	1.50
	7/28/2022	18.50	6.54	0.360	730	--	--	3.00
	10/27/2022	11.30	6.61	0.400	810	--	--	3.50

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TABLE 2
GROUNDWATER QUALITY MEASUREMENTS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-5	3/31/2016	16.16	7.13	0.600	980	4.74	-97.0	1.75
	6/20/2016	15.90	6.88	--	1,030	0.68	-99.7	3.25
	9/7/2016	14.96	6.34	0.599	918	1.51	-130.2	4.50
	3/9/2017	15.29	7.35	0.793	1,255	8.83	-124.9	--
	6/15/2017	14.56	7.06	3.143	4,842	2.19	-132.6	2.00
	12/5/2017	15.11	6.76	0.706	1,086	0.52	-160.5	2.25
	3/15/2018	14.70	6.75	--	2,400	0.39	-9.2	0.50
	6/27/2018	**No parameters or sample collected due to low well volume**						
	9/6/2018	16.47	7.17	--	1,460	1.65	-125.0	1.00
	3/7/2019	19.60	6.92	0.480	940	--	0.3	0.75
	6/13/2019	19.50	6.58	1.460	2,930	--	0.3	1.00
	9/6/2019	26.00	6.50	1.000	2,000	--	17.5	2.00
	12/10/2019	--	6.53	0.240	490	0.47	-3.4	2.00
	3/26/2020	16.10	6.01	0.400	780	9.37	33.1	--
	6/10/2020	14.50	5.99	1.400	2,810	1.69	26.3	--
	8/28/2020	19.10	6.19	1.610	3,190	1.15	12.2	--
	11/5/2020	18.10	6.14	0.880	1,780	3.65	11.4	--
	2/8/2021	15.00	6.04	0.210	430	1.14	33.3	
	6/28/2021	**No parameters taken due to equipment not functional**						

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TABLE 2
GROUNDWATER QUALITY MEASUREMENTS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-5	9/20/2021	18.80	6.93	--	4,001	--	--	2.77
	11/5/2021	17.10	5.91	--	840	--	--	2.25
	2/8/2022	12.90	6.09	--	670	--	--	0.25
	4/25/2022	No parameters or sample collected due to low well volume						
	7/28/2022	19.70	6.32	1.230	2,450	--	--	1.00
	10/27/2022	No parameters or sample collected due to low well volume						

Notes:

°C: degrees Celcius

DO: dissolved oxygen

g/L: grams per liter

uS/cm: microsiemens per centimeter

mg/L: milligrams per liter

mV: millivolts

ORP: oxidation-reduction potential

TDS: total dissolved solids

--: data not collected

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TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)	Manganese (dissolved) (mg/L)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	**1.0**	**0.20**
MW-1	6/20/2003	(orig)	**1.7**	0.3	0.49	**5.09**	--	--
	9/23/2003	(orig)	**7.5**	0.02	0.66	**9.22**	--	--
	12/16/2003	(orig)	**7.93**	0.01	**1.18**	**0.864**	--	--
	3/16/2004	(orig)	**6.86**	ND	**1.16**	**8.47**	--	--
	6/21/2004	(orig)	**4.14**	ND	0.43	**3.12**	--	--
	9/30/2004	(orig)	**9.08**	0.03	**1.41**	**9.98**	--	--
	12/13/2004	(orig)	**8.52**	ND	**1.34**	**9.39**	--	--
	3/22/2005	(orig)	**4.55**	ND	**0.85**	**5.95**	--	--
	6/22/2005	(orig)	--	0.02188	--	--	--	--
	10/24/2005	(orig)	**6.39**	ND	**1.01**	**7.42**	--	--
	12/13/2005	(orig)	**6.17**	ND	**1.01**	**7.57**	--	--
	3/22/2006	(orig)	**3.58**	ND	**0.77**	**5.84**	--	--
	6/22/2006	(orig)	**3.1**	ND	0.5	**3.5**	--	--
	10/20/2006	(orig)	**6.6**	0.01	**1.22**	**8.91**	--	--
	12/13/2006	(orig)	**4.23**	0.01	**1.09**	**8.13**	--	--
	3/27/2007	(orig)	**2.37**	0.007	0.504	**3.75**	--	--
	6/25/2007	(orig)	**2.87**	0.14	0.51	**3.89**	--	--
	11/9/2007	(orig)	**5.6**	< 0.0007	**0.91**	**6.8**	--	--
	1/15/2008	(orig)	**4.2**	< 0.0007	**0.89**	**5.7**	--	--
	3/19/2008	(orig)	**2.7**	< 0.005	0.59	**4.7**	--	--
	7/23/2008	(orig)	**2**	< 0.005	0.38	**1.4**	--	--
	10/21/2008	(orig)	**4.5**	< 0.005	0.63	**5.3**	--	--
	1/28/2009	(orig)	**4**	< 0.005	**0.88**	**8.7**	--	--
	9/30/2009	(orig)	**4.2**	0.0016	0.53	**5.1**	**2.08**	**1.09**
	6/10/2010	(orig)	**1.7**	0.0012	0.33	**0.99**	0.126	**1.28**
	9/27/2010	(orig)	**3.2**	0.002	0.53	**4.20**	**7.73**	**1.19**
	12/14/2010	(orig)	**3.2**	0.0012	0.62	**5.30**	**4.13**	**0.888**
	3/17/2011	(orig)	**1.7**	0.0037	0.48	**4.31**	**1.11**	**1.07**
	6/24/2011	(orig)	**2.1**	0.0025	0.494	**2.03**	< 0.1	**0.894**
	6/24/2011	(Duplicate)	**1.97**	0.0026	0.458	**1.94**	--	--
	9/29/2011	(orig)	**2.44**	< 0.005	0.519	**3.65**	**25.2**	**1.02**
	12/14/2011	(orig)	**2.31**	0.0055	0.508	**3.93**	**25.4**	**0.945**
	3/9/2012	(orig)	**1.59**	< 0.001	0.636	**5.04**	**25.3**	**1.03**
	6/7/2012	(orig)	**1.77**	0.127	0.182	**0.633**	**21.4**	**0.914**
	9/19/2012	(orig)	**1.52**	< 0.020	0.414	**2.49**	**19**	**0.86**
	12/13/2012	(orig)	**2.02**	< 0.025	**0.809**	**5.02**	**23.8**	**0.75**
	3/20/2013	(orig)	**0.182**	< 0.002	0.0406	0.0914	**9.39**	**1.08**
	6/12/2013	(orig)	**0.698**	< 0.001	0.160	**0.873**	**12.8**	**1.12**
	9/11/2013	(orig)	**1.05**	< 0.020	**0.831**	**5.1**	**18.0**	**1.05**
	12/13/2013	(orig)	**0.591**	0.0015	0.670	**1.79**	**25.4**	**0.88**
	3/19/2014	(orig)	**0.0822**	< 0.001	0.039	0.271	--	--
	6/17/2014	(orig)	**0.522**	< 0.001	0.189	0.398	**17.4**	**0.896**
	9/18/2014	(orig)	**0.849**	< 0.001	0.299	**1.23**	**23.4**	**1.01**
	12/18/2014	**Well was obstructed and inaccessible due to TRC operations**						
	3/19/2015	**No parameters or sample collected due to low well volume**						
	6/18/2015	(orig)	**0.213**	< 0.001	0.116	**0.691**	**5.72**	**0.542**
	6/18/2015	(Duplicate)	**0.17**	< 0.001	0.0684	0.533	--	--
	9/17/2015	(orig)	**0.0673**	< 0.001	0.0859	0.362	**4.22**	**0.614**
	12/3/2015	(orig)	**0.0908**	< 0.001	**0.0612**	0.138	**2.69**	**0.63**
	3/31/2016	**No parameters or sample collected due to low well volume**						
	6/20/2016	(orig)	**0.834**	< 0.025	0.533	**2.06**	**40.8**	**2.17**
	9/7/2016	(orig)	**0.525**	< 0.020	0.416	**1.62**	**17.6**	**1.51**
	10/25/2016	**ISCO Injection-15% PersulfOx solution**						
	3/9/2017	**No parameters or sample collected due to low well volume**						
	6/15/2017	(orig)	**0.0371**	<1.0	0.0404	0.157	--	--
	9/27/2017	(orig)	**0.0231**	<1.0	0.0306	0.118	**24.2**	**3.13**
	12/5/2017	(orig)	**0.288**	<1.0	0.444	**1.07**	**19.9**	**3.27**
	3/15/2018	**No parameters or sample collected due to low well volume**						
	6/27/2018	**No parameters or sample collected due to low well volume**						
	9/6/2018	(orig)	**0.0313**	<1.0	0.1730	0.365	**11.70**	**5.83**
	12/20/2018	(orig)	**0.0827**	<0.001	0.1560	0.468	0.4870	0.0241
	3/6/2019	(orig)	**0.0093**	<0.005	0.0088	0.0355	0.4970	**0.4940**
	6/13/2019	**No parameters or sample collected due to low well volume**						
	9/6/2019	(orig)	**0.0174**	0.0014	0.0124	0.119	**1.38**	**2.75**
	12/9/2019	(orig)	**0.0195**	<0.001	<0.001	0.0567	**4.54**	**1.38**
	3/16/2020	(orig)	**0.0196**	<0.001	0.0174	0.106	**--**	**--**

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TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)	Manganese (dissolved) (mg/L)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	**1.0**	**0.20**
MW-1	6/10/2020	No parameters or sample collected due to low well volume						
	8/28/2020	No parameters or sample collected due to low well volume						
	11/5/2020	(orig)	**0.0426**	<0.001	0.0505	0.345	<0.10	--
	2/8/2021	(orig)	0.0033	<0.001	0.0025	0.022	**12.90**	**1.65**
	6/28/2021	(orig)	**0.0350**	<0.005	0.0540	0.200	**2.00**	**1.80**
	9/20/2021	No parameters or sample collected due to low well volume						
	11/5/2021	(orig)	**0.0160**	0.0230	0.0260	0.130	**1.20**	**2.20**
	2/7/2022	(orig)	**0.0160**	<0.005	<0.005	0.046	--	--
	4/25/2022	No parameters or sample collected due to low well volume						
	7/28/2022	No parameters or sample collected due to low well volume						
	10/27/2022	(orig)	**0.0260**	<0.005	0.035	0.17	0.62	**1.8**
MW-2	10/21/2008	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	--
	1/28/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	ND	ND
	9/30/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0223	< 0.005
	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.02	< 0.005
	9/27/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.02	< 0.005
	6/24/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030	0.191	< 0.015
	9/29/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05	< 0.005
	12/14/2011	(orig)	0.00031 J	< 0.001	0.0002 J	0.0022 J	0.0133 J	0.0022 J
	3/9/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05	< 0.005
	6/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0822	0.0052
	9/19/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05	< 0.005
	12/13/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.05	< 0.005
	3/20/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05	< 0.005
	6/12/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0665	< 0.005
	9/11/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050	< 0.005
	12/13/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050	< 0.005
	3/19/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050	0.024
	6/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050	< 0.005
	9/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0656	< 0.005
	12/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.709	0.006
	3/19/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.883	0.043
	6/18/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050	< 0.005
	9/17/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050	< 0.005
	12/3/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050	< 0.005
	3/31/2016	(orig)	<0.001	<0.001	<0.001	< 0.003	0.0585	<0.005
	6/20/2016	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	< 0.005
	9/7/2016	(orig)	<0.001	<0.001	<0.001	< 0.003	0.0512	< 0.005
	11/29/2016	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	< 0.005
	9/27/2017	(orig)	<0.001	<0.001	<0.001	< 0.003	<0.50	0.013
	3/15/2018	(orig)	<0.001	<0.001	<0.001	< 0.003	<0.50	0.011
	6/27/2018	(orig)	<0.001	<0.001	<0.001	< 0.003	0.0512	0.017
	9/6/2018	(orig)	<0.001	<0.001	<0.001	< 0.003	0.104	**0.270**
	12/20/2018	(orig)	<0.001	< 0.003	< 0.002	< 0.004	<0.10	<0.01
	3/7/2019	(orig)	--	--	--	--	--	<0.01
	6/13/2019	(orig)	--	--	--	--	<0.10	0.013
	9/6/2019	(orig)	--	--	--	--	--	0.085
	12/10/2019	(orig)	<0.001	<0.001	<0.001	<0.003	<0.10	<0.01
	3/26/2020	(orig)	<0.001	<0.001	< 0.001	<0.003	<0.10	<0.01
	6/10/2020	(orig)	<0.001	<0.001	<0.003	<0.003	<0.10	--
	8/28/2020	(orig)	<0.001	<0.001	<0.001	<0.003	<0.10	--
	11/5/2020	(orig)	<0.001	<0.001	<0.001	<0.003	<0.10	--
	2/8/2021	(orig)	<0.001	<0.001	<0.001	< 0.003	<0.10	<0.01
	6/28/2021	(orig)	<0.001	<0.001	<0.001	<0.0015	0.75	**0.51**
	9/20/2021	(orig)	<0.001	<0.001	<0.001	<0.002	0.88	**0.72**
	11/5/2021	(orig)	<0.001	<0.001	<0.001	<0.0015	0.06	0.080
	2/7/2022	(orig)	<0.001	<0.001	<0.001	<0.0015	<0.020	0.046
	4/25/2022	(orig)	<0.001	<0.001	<0.001	<0.0015	<0.020	0.030
	7/28/2022	(orig)	<0.001	<0.001	<0.001	<0.0015	<0.020	<0.0020
	10/27/2022	(orig)	<0.001	<0.001	<0.001	<0.0015	<0.020	0.026
MW-3	10/21/2008	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	--
	1/28/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	ND	ND
	9/30/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0543	< 0.005
	6/10/2010	(orig)	< 0.0005	< 0.001	< 0.001	< 0.001	0.0425	< 0.005
	9/27/2010	(orig)	<0.001	<0.001	<0.001	< 0.001	< 0.02	< 0.005
	12/14/2010	(orig)	<0.001	<0.001	<0.001	< 0.001	< 0.02	< 0.005
	3/17/2011	(orig)	<0.001	<0.001	<0.001	< 0.001	< 0.02	< 0.005
	6/24/2011	(orig)	<0.001	<0.001	<0.001	< 0.0030	0.189	< 0.015
	9/29/2011	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.05	0.0063
	12/14/2011	(orig)	<0.001	<0.001	<0.001	< 0.003	0.0288 J	0.0207

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TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)	Manganese (dissolved) (mg/L)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	**1.0**	**0.20**
MW-3	3/9/2012	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.05	< 0.005
	6/7/2012	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.05	< 0.005
	9/19/2012	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.05	< 0.005
	12/13/2012	(orig)	<0.001	<0.001	<0.001	< 0.003	0.0605	0.026
	3/20/2013	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.05	0.0149
	6/12/2013	(orig)	<0.001	<0.001	<0.001	< 0.003	0.189	0.0094
	9/11/2013	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	< 0.005
	12/13/2013	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	0.013
	3/19/2014	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	< 0.005
	6/17/2014	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	< 0.005
	9/18/2014	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	< 0.005
	12/18/2014	**Wellhead inaccessable due to standing water.**						
	3/19/2015	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	< 0.005
	6/18/2015	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	< 0.005
	9/17/2015	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	< 0.005
	12/3/2015	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	0.0258
	3/31/2016	(orig)	<0.001	<0.001	<0.001	< 0.003	0.138	**0.368**
	6/20/2016	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	0.0078
	9/7/2016	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	< 0.005
	11/29/2016	(orig)	<0.001	<0.001	<0.001	< 0.003	0.103	0.197
	3/9/2017	(orig)	--	--	--	--	0.878	**0.904**
	6/15/2017	(orig)	--	--	--	--	< 0.050	< 0.005
	12/5/2017	(orig)	--	--	--	--	< 0.050	0.106
	3/15/2018	(orig)	<0.001	<0.001	<0.001	< 0.003	0.0642	< 0.005
	6/27/2018	(orig)	<0.001	<0.001	<0.001	< 0.003	< 0.050	< 0.005
	9/6/2018	(orig)	<0.001	<0.001	<0.001	< 0.003	0.85	**0.249**
	12/20/2018	(orig)	<0.001	< 0.003	< 0.002	< 0.004	<0.10	0.0153
	3/6/2019	(orig)	--	--	--	--	--	0.0412
	6/13/2019	(orig)	--	--	--	--	<0.10	<0.010
	9/6/2019	(orig)	--	--	--	--	--	0.0127
	12/10/2019	(orig)	<0.001	<0.001	<0.001	<0.003	0.707	**0.682**
	3/16/2020	(orig)	<0.001	<0.001	<0.001	<0.003	<0.10	<0.010
	6/9/2020	(orig)	<0.001	<0.001	<0.001	<0.003	<0.10	<0.010
	8/27/2020	(orig)	<0.001	<0.001	<0.001	<0.003	<0.10	<0.010
	11/5/2020	(orig)	<0.001	<0.001	<0.001	<0.003	<0.10	<0.010
	2/5/2021	(orig)	<0.001	<0.001	<0.001	< 0.003	<0.10	< 0.010
	6/28/2021	(orig)	<0.001	<0.001	<0.001	< 0.0015	< 0.020	0.006
	9/20/2021	(orig)	<0.001	<0.001	<0.001	< 0.002	**7.1***	0.12
	11/5/2021	(orig)	<0.001	<0.001	<0.001	< 0.0015	0.077	0.13
	2/7/2022	(orig)	<0.001	<0.001	<0.001	< 0.0015	< 0.020	0.098
	4/25/2022	(orig)	<0.001	<0.001	<0.001	< 0.0015	< 0.020	0.018
	7/28/2022	(orig)	<0.001	<0.001	<0.001	<0.0015	0.021	0.10
	10/27/2022	**No parameters or sample collected due to low well volume.**						
MW-4	10/21/2008	(orig)	**0.039**	< 0.0005	0.031	0.18	--	--
	1/28/2009	(orig)	**0.66**	< 0.0005	0.064	0.583	ND	ND
	9/30/2009	(orig)	**0.34**	< 0.0005	0.054	0.572	0.148	**4.48**
	6/10/2010	(orig)	**0.14**	< 0.001	0.027	0.252	0.0566	**4.65**
	9/27/2010	(orig)	**0.033**	< 0.001	0.041	0.274	**1.22**	**4.34**
	12/14/2010	(orig)	**0.13**	< 0.001	0.093	**0.899**	**1.75**	**4.69**
	3/17/2011	(orig)	**0.017**	< 0.001	0.018	0.1966	0.0852	**4.46**
	6/24/2011	(orig)	**0.0296**	< 0.0010	0.0371	0.472	**1.5**	**4.9**
	9/29/2011	(orig)	**0.0392**	< 0.001	0.0039	0.0536	**2.55**	**4.1**
	9/29/2011	(Duplicate)	**0.043**	< 0.001	0.0035	0.0483	--	--
	12/14/2011	(orig)	**0.101**	< 0.001	0.0443	0.378	**2.62**	**4.58**
	12/14/2011	(Duplicate)	**0.104**	< 0.005	0.0437	0.372	--	--
	3/9/2012	(orig)	**0.0264**	< 0.001	0.0066	0.0651	**2.46**	**4.73**
	3/9/2012	(Duplicate)	**0.0234**	< 0.001	0.0056	0.058	--	--
	6/7/2012	(orig)	**0.044**	< 0.001	0.0245	0.303	**2.07**	**4.02**
	6/7/2012	(Duplicate)	**0.026**	< 0.001	0.0124	0.155	--	--
	9/19/2012	(orig)	0.0029	< 0.001	0.0048	0.0576	**1.93**	**4.5**
	9/19/2012	(Duplicate)	0.0028	< 0.001	0.0045	0.0551	--	--
	12/13/2012	(orig)	**0.0941**	< 0.002	0.0399	0.385	**2.92**	**4.9**
	12/13/2012	(Duplicate)	**0.197**	< 0.001	0.0712	0.55	--	--
	3/20/2013	(orig)	0.0035	< 0.001	0.002	0.0211	**1.82**	**4.37**
	3/20/2013	(Duplicate)	0.0034	< 0.001	0.0022	0.0212	--	--
	6/12/2013	(orig)	**0.0588**	< 0.005	0.0509	0.545	**1.53**	**4.29**
	6/12/2013	(Duplicate)	**0.0215**	< 0.001	0.0213	0.218	--	--
	9/11/2013	(orig)	**0.0166**	< 0.001	0.0231	0.226	**3.1**	**4.35**

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TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)	Manganese (dissolved) (mg/L)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	**1.0**	**0.20**
MW-4	9/11/2013	(Duplicate)	**0.0156**	< 0.001	0.0162	0.158	--	--
	12/13/2013	(orig)	**0.0362**	< 0.001	0.0199	0.169	**2.7**	**4.8**
	12/13/2013	(Duplicate)	**0.0357**	< 0.001	0.0185	0.16	--	--
	3/19/2014	(orig)	< 0.001	< 0.001	< 0.001	0.0046	**1.33**	**4.19**
	3/19/2014	(Duplicate)	< 0.001	< 0.001	< 0.001	0.0049	--	--
	6/17/2014	(orig)	**0.0069**	< 0.001	< 0.001	< 0.003	**2.68**	**4.01**
	6/17/2014	(Duplicate)	**0.0063**	< 0.001	< 0.001	< 0.003	--	--
	9/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	**3.43**	**4.63**
	9/18/2014	(Duplicate)	0.0018	< 0.001	< 0.001	< 0.003	--	--
	12/18/2014	(orig)	**0.0398**	< 0.001	0.0062	0.0486	**4.02**	**4.46**
	12/18/2014	(Duplicate)	**0.0296**	< 0.001	0.0048	0.0354	--	--
	3/19/2015	(orig)	0.0012	< 0.001	< 0.001	< 0.003	**1.57**	**4.02**
	3/19/2015	(Duplicate)	0.0011	< 0.001	< 0.001	< 0.003	--	--
	6/18/2015	(orig)	**0.067**	< 0.001	0.0102	0.0563	**3.02**	**4.35**
	9/17/2015	(orig)	**0.0319**	< 0.001	0.0297	0.178	**3.03**	**3.75**
	11/29/2015	(Duplicate)	**0.0318**	< 0.001	0.027	0.162	--	--
	12/3/2015	(orig)	**0.0676**	< 0.01	0.0526	0.354	**4.34**	**4.12**
	12/3/2015	(Duplicate)	**0.0489**	< 0.01	0.0396	0.263	--	--
	3/31/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	**1.44**	**3.9**
	6/20/2016	(orig)	**0.0428**	<0.001	0.0112	0.0397	**4.88**	**3.87**
	9/7/2016	(orig)	**0.0081**	< 0.001	< 0.001	< 0.003	**4.01**	**3.84**
	11/29/2016	(orig)	**0.0346**	< 0.001	0.0077	0.0237	**4.31**	**3.88**
	3/9/2017	(orig)	<0.001	<0.001	<0.001	<0.003	<0.050	**3.06**
	6/15/2017	(orig)	**0.0224**	<0.001	0.0045	0.0206	**15.5**	**11.1**
	9/27/2017	(orig)	**0.0131**	<0.001	0.0043	0.0108	**22.7**	**7.68**
	12/5/2017	(orig)	**0.0247**	<0.001	0.0074	0.0161	**21.1**	**6.2**
	3/15/2018	(orig)	<0.001	<0.001	<0.001	<0.003	**5.68**	**1.64**
	6/27/2018	(orig)	**0.0114**	<0.001	0.0014	0.0031	<0.050	**3.83**
	9/6/2018	(orig)	**0.0179**	<0.001	0.0047	0.0068	**10.5**	**4.58**
	12/20/2018	(orig)	**0.0253**	<0.001	0.0132	0.0236	0.146	**4.82**
	3/6/2019	(orig)	0.00147	<0.001	<0.001	<0.003	<0.10	**2.29**
	6/12/2019	(orig)	0.0048	<0.001	<0.001	<0.003	<0.10	**3.55**
	9/6/2019	(orig)	<0.001	<0.001	<0.001	<0.003	<0.10	**3.11**
	12/9/2019	(orig)	**0.0318**	<0.001	0.0121	0.012	0.169	**4.43**
	3/16/2020	(orig)	<0.001	<0.001	<0.001	<0.003	0.222	**2.39**
	6/9/2020	(orig)	0.00155	<0.001	<0.001	<0.003	<0.10	--
	8/27/2020	(orig)	0.00311	<0.001	0.00125	<0.003	<0.10	--
	11/5/2020	(orig)	0.00181	<0.001	--	<0.003	<0.10	--
	2/5/2021	(orig)	<0.001	<0.001	<0.001	<0.003	<0.10	**3.26**
	6/28/2021	(orig)	< 0.001	< 0.001	< 0.001	< 0.0015	**6.2**	**2.9**
	9/20/2021	(orig)	< 0.001	< 0.001	< 0.001	< 0.002	**5.2**	**3.3**
	11/4/2021	(orig)	0.0012	< 0.001	< 0.001	< 0.0015	0.22	**4.2**
	2/7/2022	(orig)	0.0016	< 0.001	< 0.001	< 0.0015	**1.6**	**3.4**
	4/25/2022	(orig)	0.0016	< 0.001	< 0.001	< 0.0015	**1.6**	**4.0**
	7/28/2022	(orig)	< 0.001	<0.001	<0.001	<0.0015	**2.7**	**3.1**
	10/27/2022	(orig)	<0.001	<0.001	<0.001	<0.0015	**4.0**	**2.9**
MW-5	9/17/2015	(orig)	**0.0182**	< 0.001	0.571	**4.95**	**2.72**	**2.94**
	12/3/2015	(orig)	**0.128**	< 0.001	**1.15**	**12.4**	**20.9**	**0.366**
	3/31/2016	(orig)	< 0.010	< 0.01	0.101	**0.936**	**2.06**	**2.18**
	3/31/2016	(Duplicate)	< 0.010	< 0.01	0.136	**1.26**	**--**	**--**
	6/20/2016	(orig)	**0.0404**	< 0.025	0.16	**2.48**	**6.48**	**2.68**
	9/7/2016	(orig)	**0.0229**	< 0.01	0.332	**3.45**	**4.6**	**2.07**
	9/7/2016	(Duplicate)	**0.0216**	< 0.010	0.393	**4.46**	**--**	**--**
	10/26/2016	**ISCO Injection-15% PersulfOx solution**						
	3/9/2017	(orig)	**0.0865**	<0.010	0.267	**3.65**	**24.6**	**11.8**
	6/15/2017	(orig)	**0.0369**	<0.010	0.0956	0.533	**7.43**	**6.26**
	12/5/2017	(orig)	**0.0562**	<0.010	0.51	**5.95**	**10.3**	**3.89**
	12/5/2017	(Duplicate)	**0.05**	<0.010	0.444	**5.97**	--	--
	3/15/2018	(orig)	< 0.020	< 0.020	0.388	**1.46**	**--**	**--**
	6/27/2018	(orig)	**0.0371**	< 0.020	0.123	**2.13**	**7.08**	**3.97**
	9/6/2018	(orig)	**0.0511**	<0.010	0.233	**1.94**	**4.9**	**2.31**
	12/20/2018	(orig)	**0.0568**	0.00136	0.448	**4.48**	0.748	**3.79**
	3/7/2019	(orig)	**0.0124**	<.002	0.003	0.146	**3.61**	**1.42**
	6/13/2019	(orig)	0.009	<0.001	0.054	0.376	<0.10	**3.00**
	9/6/2019	(orig)	**0.032**	<.001	<.001	**1.67**	**8.29**	**3.43**
	12/10/2019	(orig)	**0.0024**	<0.001	0.0414	0.236	0.829	**0.795**
	3/26/2020	(orig)	**0.0171**	<0.001	0.0133	0.579	**9.16**	**0.67**
	6/10/2020	(orig)	**0.00505**	<0.005	<0.005	0.296	**15.5**	--

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Flora Vista #1
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)	Manganese (dissolved) (mg/L)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	**1.0**	**0.20**
MW-5	8/28/2020	(orig)	**0.0196**	<0.005	0.0389	**0.91**	**10.5**	--
	11/5/2020	(orig)	**0.0141**	0.00208	0.0987	**1.1**	**3.49**	--
	2/8/2021	(orig)	**0.00946**	<0.001	0.0314	0.316	**2.08**	**0.509**
	6/28/2021	(orig)	**0.013**	< 0.001	0.065	**0.93**	**30**	**2.9**
	9/20/2021	(orig)	**0.0090**	0.0053	0.033	0.43	**21**	**8.0**
	11/5/2021	(orig)	**0.0092**	0.041	0.076	**0.91**	**4.1**	**1.9**
	2/8/2022	(orig)	**0.0063**	0.0087	0.047	**0.62**	**3.2**	**1.6**
	4/25/2022	**No parameters or sample collected due to low well volume**						
	7/28/2022	(orig)	0.0036	< 0.001	0.0067	0.172	**22**	**5.2**
	10/27/2022	**No parameters or sample collected due to low well volume**						
DW-1	12/16/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--
	6/24/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	7/27/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	6/12/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	12/18/2014	**Attempt to contact landowner regarding well sampling. No response.**						
	6/18/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	6/20/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	9/27/2017	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	6/27/2018	**Unable to sample, homeowner away**						
	5/29/2019	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.10	<0.010
	6/9/2020	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.10	--
	6/28/2021	(orig)	< 0.001	< 0.001	< 0.001	< 0.0015	< 0.020	0.12
	7/28/2022	**Attempt to contact landowner regarding well sampling. No response.**						
DW-2	6/10/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--
	3/17/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--
	6/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	6/12/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	12/18/2014	**Attempt to sample well but landowner had shut well in for the winter months**						
	6/18/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	6/20/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	9/27/2017	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	6/27/2018	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--
	8/2/2019	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.10	<0.010
	6/9/2020	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.10	--
	6/28/2021	**Attempt to sample well but well not functional**						
	7/28/2022	**Attempt to contact landowner regarding well sampling. No response.**						

Notes:

mg/L: milligrams per liter

J: The target analyte was positively identified below the quantitation limit and above the detection limit.

ND: not detected, practical quantitation limit unknown

NMWQCC: New Mexico Water Quality Control Commission

--: not analyzed

**: anomalous result*

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

*Concentrations in **bold** and shaded exceed the New Mexico Water Quality Control Commission Standards, 20.6.2 of the New Mexico Administrative Code*

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APPENDIX A

Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

February 21, 2022

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

RE: Flora Vista 1 OrderNo.: 2202422

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/9/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2202422**
Date Reported: **2/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-1
Project: Flora Vista 1
Collection Date: 2/7/2022 11:45:00 AM
Lab ID: 2202422-001 **Matrix:** AQUEOUS **Received Date:** 2/9/2022 11:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	16	5.0	D	µg/L	5	2/11/2022 3:29:38 PM
Toluene	ND	5.0	D	µg/L	5	2/11/2022 3:29:38 PM
Ethylbenzene	ND	5.0	D	µg/L	5	2/11/2022 3:29:38 PM
Xylenes, Total	46	7.5	D	µg/L	5	2/11/2022 3:29:38 PM
Surr: 1,2-Dichloroethane-d4	103	70-130	D	%Rec	5	2/11/2022 3:29:38 PM
Surr: 4-Bromofluorobenzene	106	70-130	D	%Rec	5	2/11/2022 3:29:38 PM
Surr: Dibromofluoromethane	106	70-130	D	%Rec	5	2/11/2022 3:29:38 PM
Surr: Toluene-d8	106	70-130	D	%Rec	5	2/11/2022 3:29:38 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2202422**
Date Reported: **2/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-2
Project: Flora Vista 1
Collection Date: 2/8/2022 11:00:00 AM
Lab ID: 2202422-002 **Matrix:** AQUEOUS **Received Date:** 2/9/2022 11:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**
Iron	ND	0.020		mg/L	1	2/14/2022 4:30:58 PM
Manganese	0.046	0.0020		mg/L	1	2/14/2022 4:30:58 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	2/11/2022 4:55:44 PM
Toluene	ND	1.0		µg/L	1	2/11/2022 4:55:44 PM
Ethylbenzene	ND	1.0		µg/L	1	2/11/2022 4:55:44 PM
Xylenes, Total	ND	1.5		µg/L	1	2/11/2022 4:55:44 PM
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	1	2/11/2022 4:55:44 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	2/11/2022 4:55:44 PM
Surr: Dibromofluoromethane	116	70-130		%Rec	1	2/11/2022 4:55:44 PM
Surr: Toluene-d8	108	70-130		%Rec	1	2/11/2022 4:55:44 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2202422**
Date Reported: **2/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-3
Project: Flora Vista 1
Collection Date: 2/7/2022 1:40:00 PM
Lab ID: 2202422-003 **Matrix:** AQUEOUS **Received Date:** 2/9/2022 11:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**
Iron	ND	0.020		mg/L	1	2/14/2022 4:33:21 PM
Manganese	0.098	0.0020	*	mg/L	1	2/14/2022 4:33:21 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	2/11/2022 5:24:40 PM
Toluene	ND	1.0		µg/L	1	2/11/2022 5:24:40 PM
Ethylbenzene	ND	1.0		µg/L	1	2/11/2022 5:24:40 PM
Xylenes, Total	ND	1.5		µg/L	1	2/11/2022 5:24:40 PM
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	2/11/2022 5:24:40 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	2/11/2022 5:24:40 PM
Surr: Dibromofluoromethane	118	70-130		%Rec	1	2/11/2022 5:24:40 PM
Surr: Toluene-d8	107	70-130		%Rec	1	2/11/2022 5:24:40 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2202422**
Date Reported: **2/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-4
Project: Flora Vista 1
Collection Date: 2/7/2022 10:35:00 AM
Lab ID: 2202422-004 **Matrix:** AQUEOUS **Received Date:** 2/9/2022 11:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**
Iron	1.6	0.10	*	mg/L	5	2/14/2022 5:09:17 PM
Manganese	3.4	0.010	*	mg/L	5	2/14/2022 5:09:17 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	2/11/2022 5:53:41 PM
Toluene	ND	1.0		µg/L	1	2/11/2022 5:53:41 PM
Ethylbenzene	ND	1.0		µg/L	1	2/11/2022 5:53:41 PM
Xylenes, Total	ND	1.5		µg/L	1	2/11/2022 5:53:41 PM
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	2/11/2022 5:53:41 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	2/11/2022 5:53:41 PM
Surr: Dibromofluoromethane	113	70-130		%Rec	1	2/11/2022 5:53:41 PM
Surr: Toluene-d8	107	70-130		%Rec	1	2/11/2022 5:53:41 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2202422**
Date Reported: **2/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-5
Project: Flora Vista 1
Collection Date: 2/8/2022 9:50:00 AM
Lab ID: 2202422-005 **Matrix:** AQUEOUS **Received Date:** 2/9/2022 11:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**
Iron	3.2	0.10	*	mg/L	5	2/14/2022 5:11:30 PM
Manganese	1.6	0.010	*	mg/L	5	2/14/2022 5:11:30 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	6.3	5.0		µg/L	5	2/11/2022 6:22:41 PM
Toluene	8.7	5.0		µg/L	5	2/11/2022 6:22:41 PM
Ethylbenzene	47	5.0		µg/L	5	2/11/2022 6:22:41 PM
Xylenes, Total	620	7.5		µg/L	5	2/11/2022 6:22:41 PM
Surr: 1,2-Dichloroethane-d4	86.4	70-130		%Rec	5	2/11/2022 6:22:41 PM
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	5	2/11/2022 6:22:41 PM
Surr: Dibromofluoromethane	90.2	70-130		%Rec	5	2/11/2022 6:22:41 PM
Surr: Toluene-d8	106	70-130		%Rec	5	2/11/2022 6:22:41 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2202422**

21-Feb-22

Client: HILCORP ENERGY

Project: Flora Vista 1

Sample ID: **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B85824**	RunNo: **85824**
Prep Date:	Analysis Date: **2/14/2022**	SeqNo: **3022190** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Manganese	ND	0.0020								

Sample ID: **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B85824**	RunNo: **85824**
Prep Date:	Analysis Date: **2/14/2022**	SeqNo: **3022191** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.022	0.020	0.02000	0	109	50	150			
Manganese	0.0020	0.0020	0.002000	0	101	50	150			

Sample ID: **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B85824**	RunNo: **85824**
Prep Date:	Analysis Date: **2/14/2022**	SeqNo: **3022192** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.49	0.020	0.5000	0	98.7	85	115			
Manganese	0.49	0.0020	0.5000	0	97.7	85	115			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2202422**
21-Feb-22

Client: HILCORP ENERGY
Project: Flora Vista 1

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **R85796** RunNo: **85796**
Prep Date: Analysis Date: **2/11/2022** SeqNo: **3020742** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.5	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.3	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID: **2202422-001ams** SampType: **MS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-1** Batch ID: **R85796** RunNo: **85796**
Prep Date: Analysis Date: **2/11/2022** SeqNo: **3020744** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	110	5.0	100.0	16.02	96.6	70	130			
Toluene	100	5.0	100.0	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	50		50.00		99.5	70	130			
Surr: 4-Bromofluorobenzene	53		50.00		105	70	130			
Surr: Dibromofluoromethane	54		50.00		108	70	130			
Surr: Toluene-d8	51		50.00		103	70	130			

Sample ID: **2202422-001amsd** SampType: **MSD** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-1** Batch ID: **R85796** RunNo: **85796**
Prep Date: Analysis Date: **2/11/2022** SeqNo: **3020745** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	100	5.0	100.0	16.02	88.9	70	130	7.06	20	
Toluene	92	5.0	100.0	0	91.6	70	130	11.6	20	
Surr: 1,2-Dichloroethane-d4	49		50.00		97.1	70	130	0	0	
Surr: 4-Bromofluorobenzene	52		50.00		103	70	130	0	0	
Surr: Dibromofluoromethane	53		50.00		107	70	130	0	0	
Surr: Toluene-d8	52		50.00		104	70	130	0	0	

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **R85796** RunNo: **85796**
Prep Date: Analysis Date: **2/11/2022** SeqNo: **3020750** 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								
Xylenes, Total	ND	1.5								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2202422**

21-Feb-22

Client: HILCORP ENERGY

Project: Flora Vista 1

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R85796**	RunNo: **85796**
Prep Date:	Analysis Date: **2/11/2022**	SeqNo: **3020750** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	11		10.00		106	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2202422 RcptNo: 1

Received By: Joseph Alderette 2/9/2022 11:20:00 AM

Completed By: Sean Livingston 2/9/2022 12:03:38 PM

Reviewed By: DAD 02/09/22

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preserved added to bottles? Yes ☑ No ☐ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☑ No ☐ HNO3 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: 4 (<2 or >12 unless noted)

Adjusted? yes

Checked by: JG 2-9-22

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

Poured off and filtered ~100mL from provided unpreserved sample bottle for samples 002-005B, adding ~0.4mL HNO3 for dissolved metals analysis, checked for proper pH <2 - JTA 2/9/22

17. Cooler Information

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

Lot#
002 - FG5424
003 - FG5424
004 - FG5424
005 - FG5424

Chain-of-Custody Record

Client: Hilcorp Farmington NM

Mailing Address: 382 Road 3100 Aztec, NM 87410

Billing Address: PO Box 61529 Houston, TX 77208

Phone #: 505-486-9543

email or Fax#: khoekstra@hilcorp.com

QA/QC Package: mkillough@hilcorp.com

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

X Standard ☐ Rush_____

Project Name:

Flora Vista 1

Project #:

Project Manager:

Mitch Killough

Sampler: Kurt Hoekstra

On Ice: ☒ Yes ☐ No

# 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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2202422	Dissolved Mn and Fe 500ml HDPE*	BTEX 8260 40ml VOA HCl	NO SAMPLES FIELD FILTERED	Analysis Request
2-7	11:45	Water	MW-1	Various	Various	COULD NOT GET ALL BUBBLES OUT OF VOA'S 001	X	X		NOT ENOUGH FOR THIS SAMPLE
2-8	11:00	Water	MW-2	Various	Various	002	X	X		
2-7	1:40	Water	MW-3	Various	Various	003	X	X		
2-7	10:35	Water	MW-4	Various	Various	004	X	X		
2-8	9:50	Water	MW-5	Various	Various	005	X	X		

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2-8	1446	Kurt Hoekstra			2/8/21	1446
2/22	1811	Mustin Wade		Courier	2-9-22	11:20

Remarks: *Dissolved Mn and Fe are to be filtered and preserved in the lab.

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

May 04, 2022

Mitch Killough

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

RE: Flora Vista 1 OrderNo.: 2204A74

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 3 sample(s) on 4/26/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2204A74**
Date Reported: **5/4/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW-2
Project: Flora Vista 1
Collection Date: 4/25/2022 3:31:00 PM
Lab ID: 2204A74-001 **Matrix:** AQUEOUS **Received Date:** 4/26/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Iron	ND	0.020		mg/L	1	4/28/2022 1:41:46 PM	D87616
Manganese	0.030	0.0020		mg/L	1	4/28/2022 1:41:46 PM	D87616
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BRM**	
Benzene	ND	1.0		µg/L	1	4/26/2022 4:22:33 PM	B87524
Toluene	ND	1.0		µg/L	1	4/26/2022 4:22:33 PM	B87524
Ethylbenzene	ND	1.0		µg/L	1	4/26/2022 4:22:33 PM	B87524
Xylenes, Total	ND	1.5		µg/L	1	4/26/2022 4:22:33 PM	B87524
Surr: 1,2-Dichloroethane-d4	118	70-130		%Rec	1	4/26/2022 4:22:33 PM	B87524
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	4/26/2022 4:22:33 PM	B87524
Surr: Dibromofluoromethane	115	70-130		%Rec	1	4/26/2022 4:22:33 PM	B87524
Surr: Toluene-d8	101	70-130		%Rec	1	4/26/2022 4:22:33 PM	B87524

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

Qualifiers:

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

Analytical Report
Lab Order **2204A74**
Date Reported: **5/4/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW-3
Project: Flora Vista 1
Collection Date: 4/25/2022 2:57:00 PM
Lab ID: 2204A74-002 **Matrix:** AQUEOUS **Received Date:** 4/26/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Iron	ND	0.020		mg/L	1	4/28/2022 1:45:01 PM	D87616
Manganese	0.018	0.0020		mg/L	1	4/28/2022 1:45:01 PM	D87616
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BRM**	
Benzene	ND	1.0		µg/L	1	4/26/2022 4:49:33 PM	B87524
Toluene	ND	1.0		µg/L	1	4/26/2022 4:49:33 PM	B87524
Ethylbenzene	ND	1.0		µg/L	1	4/26/2022 4:49:33 PM	B87524
Xylenes, Total	ND	1.5		µg/L	1	4/26/2022 4:49:33 PM	B87524
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	4/26/2022 4:49:33 PM	B87524
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	4/26/2022 4:49:33 PM	B87524
Surr: Dibromofluoromethane	104	70-130		%Rec	1	4/26/2022 4:49:33 PM	B87524
Surr: Toluene-d8	99.2	70-130		%Rec	1	4/26/2022 4:49:33 PM	B87524

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

Qualifiers:

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

Analytical Report
Lab Order **2204A74**
Date Reported: **5/4/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW-4
Project: Flora Vista 1
Collection Date: 4/25/2022 2:08:00 PM
Lab ID: 2204A74-003 **Matrix:** AQUEOUS **Received Date:** 4/26/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Iron	1.6	0.10	*	mg/L	5	4/28/2022 1:49:35 PM	D87616
Manganese	4.0	0.010	*	mg/L	5	4/28/2022 1:49:35 PM	D87616
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	1.6	1.0		µg/L	1	4/27/2022 3:43:00 PM	SL87552
Toluene	ND	1.0		µg/L	1	4/27/2022 3:43:00 PM	SL87552
Ethylbenzene	ND	1.0		µg/L	1	4/27/2022 3:43:00 PM	SL87552
Xylenes, Total	ND	1.5		µg/L	1	4/27/2022 3:43:00 PM	SL87552
Surr: 1,2-Dichloroethane-d4	94.8	70-130		%Rec	1	4/27/2022 3:43:00 PM	SL87552
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	4/27/2022 3:43:00 PM	SL87552
Surr: Dibromofluoromethane	102	70-130		%Rec	1	4/27/2022 3:43:00 PM	SL87552
Surr: Toluene-d8	91.4	70-130		%Rec	1	4/27/2022 3:43:00 PM	SL87552

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204A74**

04-May-22

Client: Hilcorp Energy

Project: Flora Vista 1

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D87616**	RunNo: **87616**
Prep Date:	Analysis Date: **4/28/2022**	SeqNo: **3100784** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Manganese	ND	0.0020								

Sample ID: **LLLCS**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D87616**	RunNo: **87616**
Prep Date:	Analysis Date: **4/28/2022**	SeqNo: **3100786** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020	0.02000	0	99.7	50	150			
Manganese	ND	0.0020	0.002000	0	99.3	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D87616**	RunNo: **87616**
Prep Date:	Analysis Date: **4/28/2022**	SeqNo: **3100788** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.50	0.020	0.5000	0	99.9	85	115			
Manganese	0.50	0.0020	0.5000	0	100	85	115			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204A74**

04-May-22

Client: Hilcorp Energy

Project: Flora Vista 1

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **B87524**	RunNo: **87524**
Prep Date:	Analysis Date: **4/26/2022**	SeqNo: **3097147** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.5	70	130			
Toluene	19	1.0	20.00	0	92.7	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.9	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Sample ID: **2204a74-001a ms**	SampType: **MS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-2**	Batch ID: **B87524**	RunNo: **87524**
Prep Date:	Analysis Date: **4/26/2022**	SeqNo: **3097149** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	22	1.0	20.00	0.2894	106	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	11		10.00		108	70	130			

Sample ID: **2204a74-001a msd**	SampType: **MSD**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-2**	Batch ID: **B87524**	RunNo: **87524**
Prep Date:	Analysis Date: **4/26/2022**	SeqNo: **3097150** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130	1.68	20	
Toluene	23	1.0	20.00	0.2894	112	70	130	5.47	20	
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.8		10.00		98.1	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		109	70	130	0	0	
Surr: Toluene-d8	11		10.00		112	70	130	0	0	

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B87524**	RunNo: **87524**
Prep Date:	Analysis Date: **4/26/2022**	SeqNo: **3097153** 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								
Xylenes, Total	ND	1.5								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204A74**

04-May-22

Client: Hilcorp Energy

Project: Flora Vista 1

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B87524**	RunNo: **87524**
Prep Date:	Analysis Date: **4/26/2022**	SeqNo: **3097153** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL87552**	RunNo: **87552**
Prep Date:	Analysis Date: **4/27/2022**	SeqNo: **3098470** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	108	70	130			
Toluene	20	1.0	20.00	0	98.5	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.8	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.1		10.00		91.2	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL87552**	RunNo: **87552**
Prep Date:	Analysis Date: **4/27/2022**	SeqNo: **3098471** 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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.0	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.4	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.2		10.00		92.5	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Hilcorp Energy | Work Order Number: 2204A74 | RcptNo: 1

Received By: Juan Rojas 4/26/2022 7:25:00 AM

Completed By: Sean Livingston 4/26/2022 8:30:26 AM

Reviewed By: JR 4/26/22

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	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 ☐	

HNO3

# of preserved bottles checked for pH: 3 (<2 or >12 unless noted)

Adjusted? yes

Checked by: KPG 4-26-22

Special Handling (if applicable)

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

Person Notified: ____ Date: ____

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

Regarding: ____

Client Instructions: ____

16. Additional remarks: Filter Lot FJ4820 x3

Filtered off ~100mL from provided sample bottles for sample 001-003B, adding ~0.4mL HNO3 for dissovled metal analysis, checked for proper pH<2 - KPG 4-26-22

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good				

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: Flora Vista 1

Project #:

Project Manager: Mitch Killough

Sampler: Brandon Sinclair

On Ice: ☐ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.4-0=2.4

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. 2204474	Dissolved Mn and Fe 500ml HDPE*	BTEX 8260 40ml VOA HCl														
~~—~~		~~Water~~	~~MW-1~~	Various	~~Various~~		X	X	CL													
4-25	1531	Water	MW-2	Various	Various	001	X	X														
4-25	1457	Water	MW-3	Various	Various	002	X	X														
4-25	1408	Water	MW-4	Various	Various	003	X	X														
~~—~~		~~Water~~	~~MW-5~~	~~Various~~	~~Various~~		~~X~~	~~X~~	CL													

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4-25	1640				4/25/22	1646
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4/25/22	1810			courier	4/26/22	7:25

Remarks: *Dissolved Mn and Fe are to be filtered and preserved in the lab.

cc: mkillough@hilcorp.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 16, 2022

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

RE: Flora Vista 1 OrderNo.: 2207F06

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 4 sample(s) on 7/29/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2207F06**
Date Reported: **8/16/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-2
Project: Flora Vista 1 **Collection Date:** 7/28/2022 12:10:00 PM
Lab ID: 2207F06-001 **Matrix:** AQUEOUS **Received Date:** 7/29/2022 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**
Iron	ND	0.020		mg/L	1	8/4/2022 2:22:09 PM
Manganese	ND	0.0020		mg/L	1	8/4/2022 2:22:09 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	7/30/2022 9:48:00 PM
Toluene	ND	1.0		µg/L	1	7/30/2022 9:48:00 PM
Ethylbenzene	ND	1.0		µg/L	1	7/30/2022 9:48:00 PM
Xylenes, Total	ND	1.5		µg/L	1	7/30/2022 9:48:00 PM
Surr: 1,2-Dichloroethane-d4	117	70-130		%Rec	1	7/30/2022 9:48:00 PM
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	7/30/2022 9:48:00 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	7/30/2022 9:48:00 PM
Surr: Toluene-d8	95.2	70-130		%Rec	1	7/30/2022 9:48:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207F06**
Date Reported: **8/16/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-3
Project: Flora Vista 1 **Collection Date:** 7/28/2022 11:10:00 AM
Lab ID: 2207F06-002 **Matrix:** AQUEOUS **Received Date:** 7/29/2022 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**
Iron	0.021	0.020		mg/L	1	8/10/2022 2:29:47 PM
Manganese	0.10	0.0020	*	mg/L	1	8/4/2022 2:26:32 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	7/30/2022 10:11:00 PM
Toluene	ND	1.0		µg/L	1	7/30/2022 10:11:00 PM
Ethylbenzene	ND	1.0		µg/L	1	7/30/2022 10:11:00 PM
Xylenes, Total	ND	1.5		µg/L	1	7/30/2022 10:11:00 PM
Surr: 1,2-Dichloroethane-d4	115	70-130		%Rec	1	7/30/2022 10:11:00 PM
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	7/30/2022 10:11:00 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	7/30/2022 10:11:00 PM
Surr: Toluene-d8	92.6	70-130		%Rec	1	7/30/2022 10:11:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207F06**
Date Reported: **8/16/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-4
Project: Flora Vista 1 **Collection Date:** 7/28/2022 10:10:00 AM
Lab ID: 2207F06-003 **Matrix:** AQUEOUS **Received Date:** 7/29/2022 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**
Iron	2.7	0.10	*	mg/L	5	8/10/2022 2:43:17 PM
Manganese	3.1	0.010	*	mg/L	5	8/4/2022 2:33:03 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	7/30/2022 10:34:00 PM
Toluene	ND	1.0		µg/L	1	7/30/2022 10:34:00 PM
Ethylbenzene	ND	1.0		µg/L	1	7/30/2022 10:34:00 PM
Xylenes, Total	ND	1.5		µg/L	1	7/30/2022 10:34:00 PM
Surr: 1,2-Dichloroethane-d4	116	70-130		%Rec	1	7/30/2022 10:34:00 PM
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	7/30/2022 10:34:00 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	1	7/30/2022 10:34:00 PM
Surr: Toluene-d8	94.3	70-130		%Rec	1	7/30/2022 10:34:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207F06**
Date Reported: **8/16/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-5
Project: Flora Vista 1 **Collection Date:** 7/28/2022 11:42:00 AM
Lab ID: 2207F06-004 **Matrix:** AQUEOUS **Received Date:** 7/29/2022 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**
Iron	22	1.0	*	mg/L	50	8/12/2022 12:23:03 PM
Manganese	5.2	0.020	*	mg/L	10	8/10/2022 2:45:32 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**
Benzene	3.6	2.5		µg/L	5	7/30/2022 10:57:00 PM
Toluene	ND	5.0		µg/L	5	7/30/2022 10:57:00 PM
Ethylbenzene	6.7	5.0		µg/L	5	7/30/2022 10:57:00 PM
Xylenes, Total	170	7.5		µg/L	5	7/30/2022 10:57:00 PM
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	5	7/30/2022 10:57:00 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	5	7/30/2022 10:57:00 PM
Surr: Dibromofluoromethane	98.4	70-130		%Rec	5	7/30/2022 10:57:00 PM
Surr: Toluene-d8	96.8	70-130		%Rec	5	7/30/2022 10:57:00 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2207F06**
16-Aug-22

Client: HILCORP ENERGY
Project: Flora Vista 1

Sample ID: **MB-C** SampType: **MBLK** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW** Batch ID: **C90046** RunNo: **90046**
Prep Date: Analysis Date: **8/4/2022** SeqNo: **3209413** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Manganese	ND	0.0020								

Sample ID: **LLLCS-C** SampType: **LCSLL** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC** Batch ID: **C90046** RunNo: **90046**
Prep Date: Analysis Date: **8/4/2022** SeqNo: **3209414** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.025	0.020	0.02000	0	123	50	150			
Manganese	0.0022	0.0020	0.002000	0	110	50	150			

Sample ID: **LCS-C** SampType: **LCS** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW** Batch ID: **C90046** RunNo: **90046**
Prep Date: Analysis Date: **8/4/2022** SeqNo: **3209415** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.50	0.020	0.5000	0	99.7	85	115			
Manganese	0.50	0.0020	0.5000	0	99.3	85	115			

Sample ID: **MB-A** SampType: **MBLK** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW** Batch ID: **A90206** RunNo: **90206**
Prep Date: Analysis Date: **8/10/2022** SeqNo: **3216676** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Manganese	ND	0.0020								

Sample ID: **LLLCS-A** SampType: **LCSLL** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC** Batch ID: **A90206** RunNo: **90206**
Prep Date: Analysis Date: **8/10/2022** SeqNo: **3216677** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.020	0.020	0.02000	0	100	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			

Sample ID: **LCS-A** SampType: **LCS** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW** Batch ID: **A90206** RunNo: **90206**
Prep Date: Analysis Date: **8/10/2022** SeqNo: **3216678** Units: **mg/L**

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207F06**

16-Aug-22

Client: HILCORP ENERGY

Project: Flora Vista 1

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A90206**	RunNo: **90206**
Prep Date:	Analysis Date: **8/10/2022**	SeqNo: **3216678** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.49	0.020	0.5000	0	98.8	85	115			
Manganese	0.49	0.0020	0.5000	0	97.8	85	115			

Sample ID: **2207F06-002BMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MW-3**	Batch ID: **A90206**	RunNo: **90206**
Prep Date:	Analysis Date: **8/10/2022**	SeqNo: **3216714** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.51	0.020	0.5000	0.02088	97.3	70	130			

Sample ID: **2207F06-002BMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MW-3**	Batch ID: **A90206**	RunNo: **90206**
Prep Date:	Analysis Date: **8/10/2022**	SeqNo: **3216715** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.51	0.020	0.5000	0.02088	97.5	70	130	0.254	20	

Sample ID: **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B90257**	RunNo: **90257**
Prep Date:	Analysis Date: **8/12/2022**	SeqNo: **3219059** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID: **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B90257**	RunNo: **90257**
Prep Date:	Analysis Date: **8/12/2022**	SeqNo: **3219060** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.020	0.020	0.02000	0	101	50	150			

Sample ID: **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B90257**	RunNo: **90257**
Prep Date:	Analysis Date: **8/12/2022**	SeqNo: **3219061** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.49	0.020	0.5000	0	98.7	85	115			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2207F06**
16-Aug-22

Client: HILCORP ENERGY
Project: Flora Vista 1

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **SL89905** RunNo: **89905**
Prep Date: Analysis Date: **7/30/2022** SeqNo: **3202918** 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	19	1.0	20.00	0	97.1	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		116	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.5		10.00		95.2	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **SL89905** RunNo: **89905**
Prep Date: Analysis Date: **7/30/2022** SeqNo: **3202919** 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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		112	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.9	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	9.5		10.00		95.1	70	130			

Qualifiers:

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

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: 2207F06 RcptNo: 1

Received By: Juan Rojas 7/29/2022 6:30:00 AM

Completed By: Sean Livingston 7/29/2022 7:52:24 AM

Reviewed By: CMC 7/29/22

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preserved added to bottles? Yes ☑ No ☐ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☑ No ☐ HNO3 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: 4 (<2 or >12 unless noted)
Adjusted? yes
Checked by: JR 7/29/22

Special Handling (if applicable)

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

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

16. Additional remarks:

Filtered off ~100mL from sample bottle provided for 001-004B, adding ~0.4mL HNO3 for dissolved metals analysis, checked for proper pH<2 - JR 7/29/22. Used 5 filters from Lot FJ6168.

17. Cooler Information JR 7/29/22

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good				

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: Flora Vista 1

Project #:

Project Manager: Mitch Killough

Sampler: Brandon Sinclair

On Ice: ☐ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.4-0=2.4

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. 2207F06	Dissolved Mn and Fe 500ml HDPE*	BTEX 8260 40ml VOA HCl	
~~7-28~~	~~1210~~	~~Water~~	~~MW-1~~	~~Various~~	~~Various~~		~~X~~	~~X~~	~~DO~~
7-28	1210	Water	MW-2	Various	Various	001	X	X	
	1110	Water	MW-3	Various	Various	002	X	X	
	1010	Water	MW-4	Various	Various	003	X	X	
	1142	Water	MW-5	Various	Various	004	X	X	

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
7-28	1628		Grant Ward		7/28/22	1628
7/28/22	1810	Christa Walls		courier	7/29/22	6:30

Remarks: *Dissolved Mn and Fe are to be filtered and preserved in the lab.

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
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Website: www.hallenvironmental.com

December 01, 2022

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

RE: Flora Vista 1 OrderNo.: 2210E25

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/28/2022 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued November 30, 2022.

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. 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. All samples are reported as received unless otherwise indicated.

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 **2210E25**
Date Reported: **12/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-1
Project: Flora Vista 1 **Collection Date:** 10/27/2022 3:00:00 PM
Lab ID: 2210E25-001 **Matrix:** AQUEOUS **Received Date:** 10/28/2022 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**
Iron	0.62	0.10	*	mg/L	5	11/21/2022 4:29:46 PM
Manganese	1.8	0.010	*	mg/L	5	11/21/2022 4:29:46 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	26	5.0		µg/L	5	11/5/2022 12:08:10 AM
Toluene	ND	5.0		µg/L	5	11/5/2022 12:08:10 AM
Ethylbenzene	35	5.0		µg/L	5	11/5/2022 12:08:10 AM
Xylenes, Total	170	7.5		µg/L	5	11/5/2022 12:08:10 AM
Surr: 1,2-Dichloroethane-d4	93.6	70-130		%Rec	5	11/5/2022 12:08:10 AM
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	5	11/5/2022 12:08:10 AM
Surr: Dibromofluoromethane	88.6	70-130		%Rec	5	11/5/2022 12:08:10 AM
Surr: Toluene-d8	96.4	70-130		%Rec	5	11/5/2022 12:08:10 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2210E25**
Date Reported: **12/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-2
Project: Flora Vista 1 **Collection Date:** 10/27/2022 3:55:00 PM
Lab ID: 2210E25-002 **Matrix:** AQUEOUS **Received Date:** 10/28/2022 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**
Iron	ND	0.020		mg/L	1	11/21/2022 4:38:42 PM
Manganese	0.026	0.0020		mg/L	1	11/21/2022 4:38:42 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	11/5/2022 12:36:41 AM
Toluene	ND	1.0		µg/L	1	11/5/2022 12:36:41 AM
Ethylbenzene	ND	1.0		µg/L	1	11/5/2022 12:36:41 AM
Xylenes, Total	ND	1.5		µg/L	1	11/5/2022 12:36:41 AM
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	11/5/2022 12:36:41 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	11/5/2022 12:36:41 AM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	11/5/2022 12:36:41 AM
Surr: Toluene-d8	100	70-130		%Rec	1	11/5/2022 12:36:41 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2210E25**
Date Reported: **12/1/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-4
Project: Flora Vista 1 **Collection Date:** 10/27/2022 2:25:00 PM
Lab ID: 2210E25-003 **Matrix:** AQUEOUS **Received Date:** 10/28/2022 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**
Iron	4.0	0.10	*	mg/L	5	11/21/2022 4:47:31 PM
Manganese	2.9	0.010	*	mg/L	5	11/21/2022 4:47:31 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	11/5/2022 3:27:38 AM
Toluene	ND	1.0		µg/L	1	11/5/2022 3:27:38 AM
Ethylbenzene	ND	1.0		µg/L	1	11/5/2022 3:27:38 AM
Xylenes, Total	ND	1.5		µg/L	1	11/5/2022 3:27:38 AM
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	11/5/2022 3:27:38 AM
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	11/5/2022 3:27:38 AM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	11/5/2022 3:27:38 AM
Surr: Toluene-d8	100	70-130		%Rec	1	11/5/2022 3:27:38 AM

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2210E25**
01-Dec-22

Client: HILCORP ENERGY
Project: Flora Vista 1

Sample ID: **MB-B** SampType: **MBLK** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW** Batch ID: **B92759** RunNo: **92759**
Prep Date: Analysis Date: **11/21/2022** SeqNo: **3338406** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Manganese	ND	0.0020								

Sample ID: **LLLCS-B** SampType: **LCSLL** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC** Batch ID: **B92759** RunNo: **92759**
Prep Date: Analysis Date: **11/21/2022** SeqNo: **3338407** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.021	0.020	0.02000	0	104	50	150			
Manganese	ND	0.0020	0.002000	0	92.8	50	150			

Sample ID: **LCS-B** SampType: **LCS** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW** Batch ID: **B92759** RunNo: **92759**
Prep Date: Analysis Date: **11/21/2022** SeqNo: **3338408** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.50	0.020	0.5000	0	101	85	115			
Manganese	0.48	0.0020	0.5000	0	96.0	85	115			

Sample ID: **2210E25-001BMS** SampType: **MS** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MW-1** Batch ID: **B92759** RunNo: **92759**
Prep Date: Analysis Date: **11/21/2022** SeqNo: **3338495** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	3.1	0.10	2.500	0.6189	97.4	70	130			
Manganese	4.1	0.010	2.500	1.826	91.1	70	130			

Sample ID: **2210E25-001BMSD** SampType: **MSD** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MW-1** Batch ID: **B92759** RunNo: **92759**
Prep Date: Analysis Date: **11/21/2022** SeqNo: **3338496** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	3.0	0.10	2.500	0.6189	96.2	70	130	1.00	20	
Manganese	4.1	0.010	2.500	1.826	92.1	70	130	0.606	20	

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#: **2210E25**
01-Dec-22

Client: HILCORP ENERGY
Project: Flora Vista 1

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **R92357** RunNo: **92357**
Prep Date: Analysis Date: **11/4/2022** SeqNo: **3318994** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	89.0	70	130			
Toluene	19	1.0	20.00	0	96.8	70	130			
Surr: 1,2-Dichloroethane-d4	8.8		10.00		87.7	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.6		10.00		96.2	70	130			

Sample ID: **100ng lcs2** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **R92357** RunNo: **92357**
Prep Date: Analysis Date: **11/5/2022** SeqNo: **3318995** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.4	70	130			
Toluene	19	1.0	20.00	0	96.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.1	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.5	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.7		10.00		97.1	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R92357** RunNo: **92357**
Prep Date: Analysis Date: **11/4/2022** SeqNo: **3319042** 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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.0	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.7		10.00		97.0	70	130			

Sample ID: **mb2** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R92357** RunNo: **92357**
Prep Date: Analysis Date: **11/5/2022** SeqNo: **3319043** 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								

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#: **2210E25**
01-Dec-22

Client: HILCORP ENERGY
Project: Flora Vista 1

Sample ID: **mb2** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R92357** RunNo: **92357**
Prep Date: Analysis Date: **11/5/2022** SeqNo: **3319043** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		112	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.7		10.00		96.8	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
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P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2210E25 RcptNo: 1

Received By: Juan Rojas 10/28/2022 6:35:00 AM

Completed By: Tracy Casarrubias 10/28/2022 8:14:12 AM

Reviewed By: KPG 10-28-22

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☑	No ☐	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	HNO3 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: 3 (<2 or >12 unless noted)
Adjusted? yes
Checked by: JN 10/28/22

Special Handling (if applicable)

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

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

16. Additional remarks:

Poured off 125mL from original unpreserved volume and filtered it for samples 001 - 003. Proceeded to add 0.40mL of HNO3 for pH- Used 3 filters from Lot FJ6166. Used 1 high capacity filter JN 10/28/22.

17. Cooler Information

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

Chain-of-Custody Record

Client: Hilcorp Farmington NM

Mailing Address: 382 Road 3100 Aztec, NM 87410

Billing Address: PO Box 61529 Houston, TX 77208

Phone #: 505-486-9543

email or Fax#: Brandon.Sinclair@hilcorp.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
Flora Vista 1

Project #:

Project Manager:
Mitch Killough

Sampler: Brandon Sinclair

On Ice: ~~☐ Yes~~ ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.8-0=0.8

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. 2210E25	Dissolved Mn and Fe 500ml HDPE*	BTEX 8260 40ml VOA HCl														
10-27	1500	Water	MW-1	Various	Various	001	X	X														
10-27	1555	Water	MW-2	Various	Various	002	X	X														
~~—~~		Water	~~MW-3~~	Various	Various		X	X														
10-27	1425	Water	MW-4	Various	Various	003	X	X														
~~—~~		Water	~~MW-5~~	Various	Various		X	X														

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10-27	1724				10/27/22	1724
10/27/22	1822			courier	10/28/22	6:35

Remarks: *Dissolved Mn and Fe are to be filtered and preserved in the lab.

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

Action 172900

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 172900
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2022 Annual Groundwater Monitoring Report for Flora Vista #1: Content Satisfactory 1. Continue groundwater monitoring for all wells, including for constituents iron and manganese. Sampling frequency may be reduced to semi-annual basis. 2. Manganese may be suspended from sampling analysis from MW-2 and MW-3 3. Continue to conduct sample analysis for iron in MW-3 4. Groundwater sampling for wells DW-1 and DW-2 may be suspended 5. Submit the 2023 annual report if not already submitted 6. Submit the 2024 annual groundwater report by April 1, 2025.	5/21/2024