ENSOLUM

2024 ANNUAL GROUNDWATER MONITORING REPORT

REVIEWED
By Mike Buchanan at 9:14 am, May 05, 2025

Review of the Sullivan Gas Com D #1E for CY 2024: content satisfactory
1. Continue to conduct groundwater sampling in wells on a quarterly schedule.
2. Please submit a copy of the BLM approved Plan of Development (POD) for the incident record.
3. Submit remediation plan for further delineation in the western portion of the release to advance characterization of the plume
4. Submit the remediation work plan to OCD via the online portal when complete, and submit the 2025 annual groundwater report to OCD no later than April 1, 2026.

Property:

Sullivan Gas Com D #1E
Unit F S26N T29N R11W
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident Number: NCS1518952648

March 24, 2025

Prepared for:

New Mexico Oil Conservation Division
New Mexico Energy, Minerals, and Natural Resources D
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Santa Fe, New Mexico 87505

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1.0 INTRODUCTION

On behalf of Hilcorp Energy Company (Hilcorp), Ensolum, LLC (Ensolum) presents this *2024 Annual Groundwater Monitoring Report* to the New Mexico Oil Conservation Division (NMOCD) to document activities conducted between 2023 and 2024 at the Sullivan Gas Com D #1E natural gas production well (Site). The Site is located in Unit F of Section 26 within Township 29 North and Range 11 West in San Juan County, New Mexico (Figure 1). In 2015, the former operator, XTO Energy, Inc. (XTO), discovered historical impacts to soil and groundwater during the replacement of a fiberglass pipeline between the separator and production tank. Hilcorp acquired the production well in August 2017 from XTO and assumed the environmental responsibility for the Site.

This report summarizes Site activities previously conducted at the Site and results of quarterly groundwater sampling conducted since the submittal of the *Groundwater Monitoring And Additional Delineation Report – 2023* (October 2, 2023).

2.0 INITIAL RELEASE ACTIVITIES, SITE INVESTIGATIONS AND REMEDIATION

The Sullivan Gas Com D #1E natural gas well was drilled and completed in March 1980 under the operation of Amoco. In January 1998, the operations transitioned to XTO. During facility upgrades on June 1, 2015, XTO encountered suspected petroleum hydrocarbon impacted soil while replacing a fiberglass pipeline between the separator and production tanks. A failed union in the fiberglass pipeline was identified as the source. On June 2, 2015, a grab sample was collected at 6 feet below ground surface (bgs), under the failed union. Analytical laboratory results of the grab sample exceeded the remediation action levels for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and Total Petroleum Hydrocarbons (TPH) as defined by the 1993 NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*. Based on estimated depth to groundwater of less than 50 feet bgs, distance to a water well greater than 1,000 feet, and distance to surface water greater than 1,000 feet, the Site was ranked a 20 following the NMOCD Guidelines. An initial Form C-141 was submitted to the NMOCD on June 19, 2015.

2.1 Initial Site Investigations and Remediation Actions

Site investigations began in 2015 following the identification of petroleum impacts. A total of 14 hand auger borings and 9 direct-push soil borings were advanced in an attempt to delineate and characterize the petroleum hydrocarbon impacts to soil and groundwater. A summary report of the results and an initial remediation work plan were submitted to the NMOCD in September 2015.

In October 2015, XTO conducted additional Site characterization activities to assess impacts to groundwater and monitor groundwater quality. During this investigation, six monitoring wells (MW01 through MW06) and one product recovery well (PR-1) were installed. Of the seven wells installed, product recovery well PR-1 and monitoring wells MW-1, MW-2, MW-5, and MW-6 contained phase-separated hydrocarbons (PSH, commonly referred to as “free product”) in contact with groundwater. Monitoring wells MW-3 and MW-4 did not contain measurable PSH; however, laboratory analysis identified BTEX impacts to groundwater.

XTO began active and passive PSH recovery via vacuum trucks and oil-absorbent socks. By November 2015, a total volume of approximately 28 barrels (bbls) of petroleum hydrocarbon impacted groundwater and PSH were recovered. In addition, XTO performed a Soil Vapor Extraction (SVE) pilot test to evaluate the effectiveness of implementing in-situ remediation to address vadose zone soil in the source area of the Site. Following the additional delineation and SVE pilot testing, XTO submitted an updated *Remediation Work Plan* and Form C-141 in November 2015, which was subsequently approved by the NMOCD. In April 2016, XTO installed a limited SVE system based on favorable geology and successful initial SVE testing. The SVE system was designed to target the source area using existing monitoring wells MW-01, MW-02, MW-05, and MW-06 and product recovery well PR-1. The system was initially powered by an electric single-phase, 3-horsepower regenerative blower capable of approximately 100 cubic feet per minute (CFM) of flow and an applied vacuum of 50 inches of water column (IWC). The Radius of Influence (ROI) on each SVE well was estimated to be approximately 40 feet. A PSH recovery tank was installed on the system to capture accumulated liquids while extracting soil vapors. Based on the volumes and concentrations of the initial air samples in April 2016, XTO filed a Notice of Intent with the New Mexico Environment Department – Air Quality Bureau in anticipation of potential emissions exceeding 10 tons per year of regulated contaminants. XTO completed regular operations and maintenance (O&M) on the SVE system and conducted quarterly groundwater monitoring including depth to groundwater and PSH thickness. PSH in monitoring wells was manually recovered with a disposable bailer during the quarterly sampling events.

Upon receipt of a letter from the NMOCD in June 2017 requesting additional delineation and remediation activities, XTO submitted a *Continued Remediation Plan* in August 2017. This plan proposed continued SVE system operations, semi-annual groundwater monitoring events, and additional delineation of existing petroleum hydrocarbon impacts to groundwater. Based on this submitted plan, XTO conducted an additional Site investigation in October 2017 with a hollow-stem auger drill rig to further delineate petroleum hydrocarbon impacts to soil and groundwater. Six additional monitoring wells (MW-07 through MW-12) and one potential product/total fluids recovery well (PR-2) were installed to monitor petroleum hydrocarbon impacts to groundwater. The results of the October 2017 investigation were documented in the *2017 Annual Groundwater Report* and submitted to the NMOCD in March 2018. Quarterly groundwater sampling and PSH recovery via manual bailing continued between 2017 and 2020, with results summarized in annual reports submitted to the NMOCD. Annual reports were not submitted to the NMOCD for groundwater sampling conducted in 2021 or 2022.

Additionally, on September 5, 2018, the SVE system was shut down due to failure of the blower motor. During the period the SVE system was shutdown, Hilcorp installed a product skimmer in well MW-5 that was rotated between wells PR-1, MW-8, and MW-12. On December 2, 2021, a rental SVE system was installed at the Site and the SVE system returned to operational status until a new blower motor could be purchased for the original system. The blower motor from the original system was replaced on March 21, 2022, and the system has remained in service since.

2.2 2021 Delineation Activities

Based on the soil results and groundwater results previously collected at the Site, the impacts remained undelineated to the west of the release area. Additional delineation activities performed at the Site between 2021 and 2023 are further described below.

In September and October of 2021, Hilcorp utilized a sonic drilling rig to delineate impacts to soil and groundwater at the Site. During these events, 11 monitoring wells (MW-13 through MW-23) were installed and three dry borings (SB-17 through SB-19) were advanced at the Site. During the 2021 drilling events, borings were advanced to depths up to 40 feet bgs. During drilling, a WSP Inc. geologist logged lithology, inspected the soil for petroleum hydrocarbon staining and odors, and field screened using a calibrated photoionization detector (PID), with results noted on the boring logs.

Subsurface lithology generally consisted of silty sand grading to sand and silty sand with increased proportions of gravel and cobbles. Thin, interbedded layers of clay were present at varying depths in many of the borings. This lithology is consistent with river terrace deposits associated with the San Juan River. The unconsolidated soils were underlain in all borings advanced at the Site by the Nacimiento Formation (Stone et al., 1983) consisting of dry, grey claystone/siltstone. Depth to bedrock varies at the Site between 23 feet bgs in the east and south portions of the Site to 40 feet bgs in the western part of the Site. Where present, groundwater was encountered within the unconsolidated sediment and perched directly on top of the dense claystone/siltstone bedrock of the Nacimiento Formation. Groundwater is present at depths ranging from 23 feet to 36 feet bgs at the Site.

Borings SB-17 through SB-19 were advanced along the southern portion of the Site and encountered thicker layers of dry, unconsolidated clay and clayey sands at shallower depths with no apparent saturated zones above the Nacimiento bedrock unit. These borings were left open for 72 hours to assess if groundwater would accumulate into the open borings. After this time, the borings were plugged and no wells were installed. All other borings encountered very moist to saturated soils during drilling, generally within the sand, gravel, and cobble, and were completed as permanent groundwater monitoring wells MW-13 through MW-23.

Soil samples were collected into laboratory provided containers and immediately placed on ice for preservation. Samples were submitted under strict chain-of-custody protocol to Hall Environmental Analysis Laboratory (Hall) for laboratory analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021, TPH as gasoline range organics (GRO), diesel range organics (DRO), and motor-oil range organics (MRO) by EPA Method 8015M/D. Additionally, several soil samples were analyzed for chloride via EPA Method 300.0 to characterize chloride concentrations at the Site. Soil sample results from this event indicated the vertical and lateral extent of impacts were delineated along the southern margin of the Site well pad based on borings SB-17 and SB-18. Additionally, vertical delineation was achieved at all boring/well locations advanced at the Site as indicated by the results from soil sample results collected at the terminus of each boring/well; however, soil sample results indicated TPH and/or BTEX concentrations exceeded the NMOCD Closure Criteria in borings MW-13, MW-14, MW-15, MW-19, MW-20, and MW-23.

2.3 2023 Delineation Activities

Based on results from the 2021 drilling events, additional wells were required to the west and northwest of the Site in order to further delineate saturated soil and groundwater impacts. Prior to conducting additional work, a right-of-way (ROW) grant application was submitted to the United State Bureau of Land Management (BLM) in order to drill additional off-lease groundwater monitoring wells. In addition to the application, a cultural resources survey and threatened and endangered species survey were also required in the proposed drilling areas.

Once the application was approved, Ensolum conducted additional delineation efforts at the Site in April 2023. Five additional borings (BH-24 through BH-28, synonymous with well numbers MW-24 through MW-28) were advanced utilizing a sonic drill rig operated by Cascade Environmental. Borings were drilled until reaching the Nacimiento Formation, identified by the dense, blue-gray claystone/siltstone formation, which was encountered at depths ranging from 38 feet to 45 feet bgs. During drilling, an Ensolum geologist logged lithology and field screened soil in the manner described above. Soil composition encountered in borings BH-24 through BH-28 was generally consistent with previous advanced borings and consisted of light brown to grayish poorly graded sand with varying proportions of clay and silt and occasional gravel overlying moist, dense blue-gray clay. All borings were completed as permanent groundwater monitoring wells MW-24 through MW-28.

Soil samples were collected in the manner described above and submitted to Hall for laboratory analysis of BTEX, TPH-GRO, TPH-DRO, and TPH-MRO. Based on soil and groundwater analytical results, impacts at the Site have been delineated to the north at BH-26, BH-27, and BH-28; however, BTEX and TPH concentrations in soil from BH-24 exceeded the NMOCD Table I Closure Criteria for soil in the sample collected between a depth of 30 feet and 35 feet bgs (within the saturated zone). Additionally, PSH is present on the groundwater in well MW-24 (BH-24) and BTEX concentrations in groundwater exceed New Mexico Water Quality Control Commission (NMWQCC) standards in well MW-25 (BH-25). Based on these results, petroleum hydrocarbon impacts remain undelineated to the west and southwest of the Site.

Details regarding soil analytical results from previous drilling and delineation events are summarized in the *Groundwater Monitoring And Additional Delineation Report – 2023* prepared by Ensolum and dated October 2, 2023.

2.4 Well Construction Information

Where groundwater was encountered during drilling, permanent groundwater monitoring wells were installed in the open boring. Wells were constructed with 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing and 2-inch Schedule 40 PVC 0.010-inch slotted screen. Wells

were completed with 10-20 silica sand pack to two feet above the screened interval, then 2 feet of hydrated bentonite seal, and then bentonite-cement slurry grout to ground surface. The wells were completed above ground with a locking, steel protective casing cemented into the ground.

After construction, Ensolum surveyed the new groundwater monitoring wells with a Trimble® GeoExplorer® 3000 series Global Positioning System (GPS) to determine the latitude and longitude of each location. Top-of-casing elevations were surveyed using a Dewalt® DW074 Rotary Laser Level to an accuracy of (±) 0.01 feet so that groundwater flow direction and relative groundwater elevation could be determined. Once the top of well casing was surveyed, the depth to groundwater below top of casing was measured with an oil/water interface probe. The wells were developed by purging a minimum of 10 casing volumes, or until the well was purged dry.

3.0 GROUNDWATER MONITORING

Groundwater monitoring activities were conducted on a quarterly basis between August 2023 and December 2024 and included Site-wide fluid level measurements and groundwater sampling for laboratory analysis. Results from these sampling events are further described below.

3.1 Fluid Level Measurements

Prior to purging and sampling, static depth to groundwater and total depth of each monitoring well was measured using a Keck® oil/water interface probe. Depth to PSH was also recorded when present and a correction factor of 0.7996 was applied to the elevation to account for the depression of the water column caused by the presence of overlying PSH. The interface probe was decontaminated with Alconox® soap and rinsed with distilled water prior to each measurement to prevent cross contamination. Depth to groundwater and groundwater elevations are summarized in Table 1. In general, groundwater typically flows to the west at the Site. Figures 2 through 7 depict groundwater elevations, inferred potentiometric contours, and estimated flow direction from the six most recent quarters of groundwater monitoring.

3.2 Groundwater Sampling Activities and Results

Groundwater samples were collected for laboratory analysis from monitoring wells containing sufficient water to sample and that did not contain measurable PSH. Disposable PVC bailers were used to collect groundwater samples due to limited water volume within several of the monitoring wells. Prior to collecting groundwater samples, Ensolum determined the casing water volume and purged a minimum of three casing volumes or until the well was bailed dry to ensure water from the adjacent formation, representative of actual aquifer conditions, was sampled. If a well was purged dry, the well was allowed to recharge before samples were collected. Water quality parameters including pH, electrical conductivity, and temperature were measured in each well using a multi-probe water quality field meter during purging. Groundwater samples were collected into laboratory provided sample bottles and immediately placed on ice for preservation. Samples were submitted under strict chain-of-custody protocol to Hall Environmental Analysis Laboratory (Hall) or Eurofins Environment Testing (Eurofins, formerly Hall) in Albuquerque, New Mexico for analysis of BTEX.

Based on the analytical results collected between August 2023 and December 2024, one or more BTEX constituents have been detected at concentrations exceeding NMWQCC standards in wells PR-1, MW-05, MW-06, MW-13, MW-25, and MW-28. In general, BTEX concentrations in all wells with NMWQCC exceedances have decreased since sampling commenced in 2015. Groundwater analytical results from these sampling events are also summarized in Figure 2 through 7. Additionally, measurable PSH has been present in wells PR-1, PR-2, MW-01, MW-02, MW-05, MW-06, MW-08, MW-12, MW-13, MW-14, MW-15, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, and MW-25. PSH thickness in all wells has also decreased over time.

Groundwater analytical results collected between 2015 and 2024 are summarized in Table 2, with complete laboratory reports from sampling events between August 2023 and December 2024 included as Appendix A.

4.0 RECOMMENDATIONS

Based on previous soil and groundwater sampling, Hilcorp and Ensolum plan to conduct additional delineation work in 2025 to the west of the well pad and Sullivan Road. At this time, Hilcorp is awaiting approval of an updated Plan of Development (POD) that has been submitted to the BLM. Once approved, additional borings/wells can be advanced to continue delineation efforts. Once delineation is complete, a Remediation Work Plan will be submitted to the NMOCD summarizing Site activities and recommendations for remedial efforts. Additionally, Hilcorp will continue quarterly groundwater monitoring and sampling in all accessible monitoring wells and product recovery wells.

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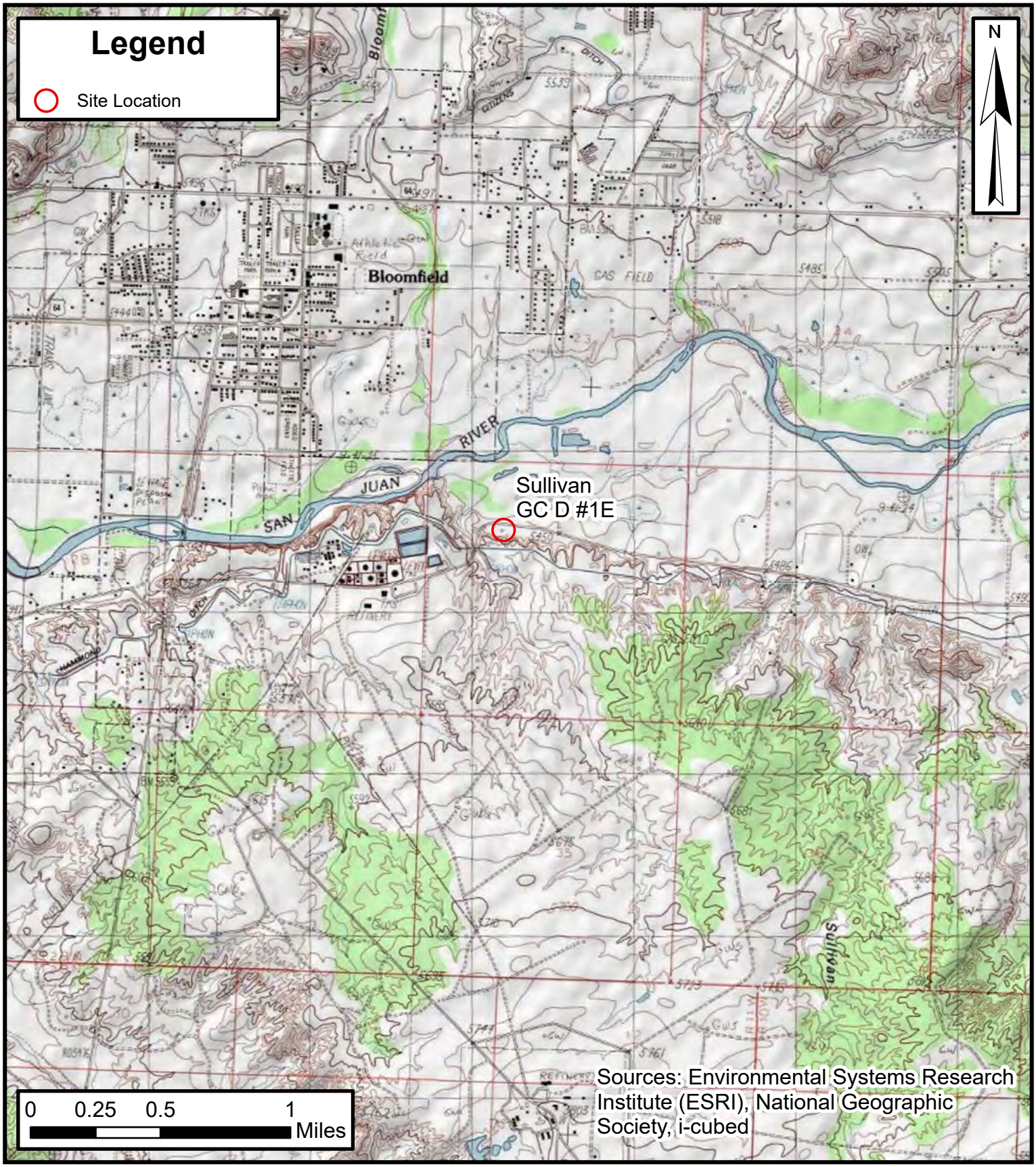
FIGURES



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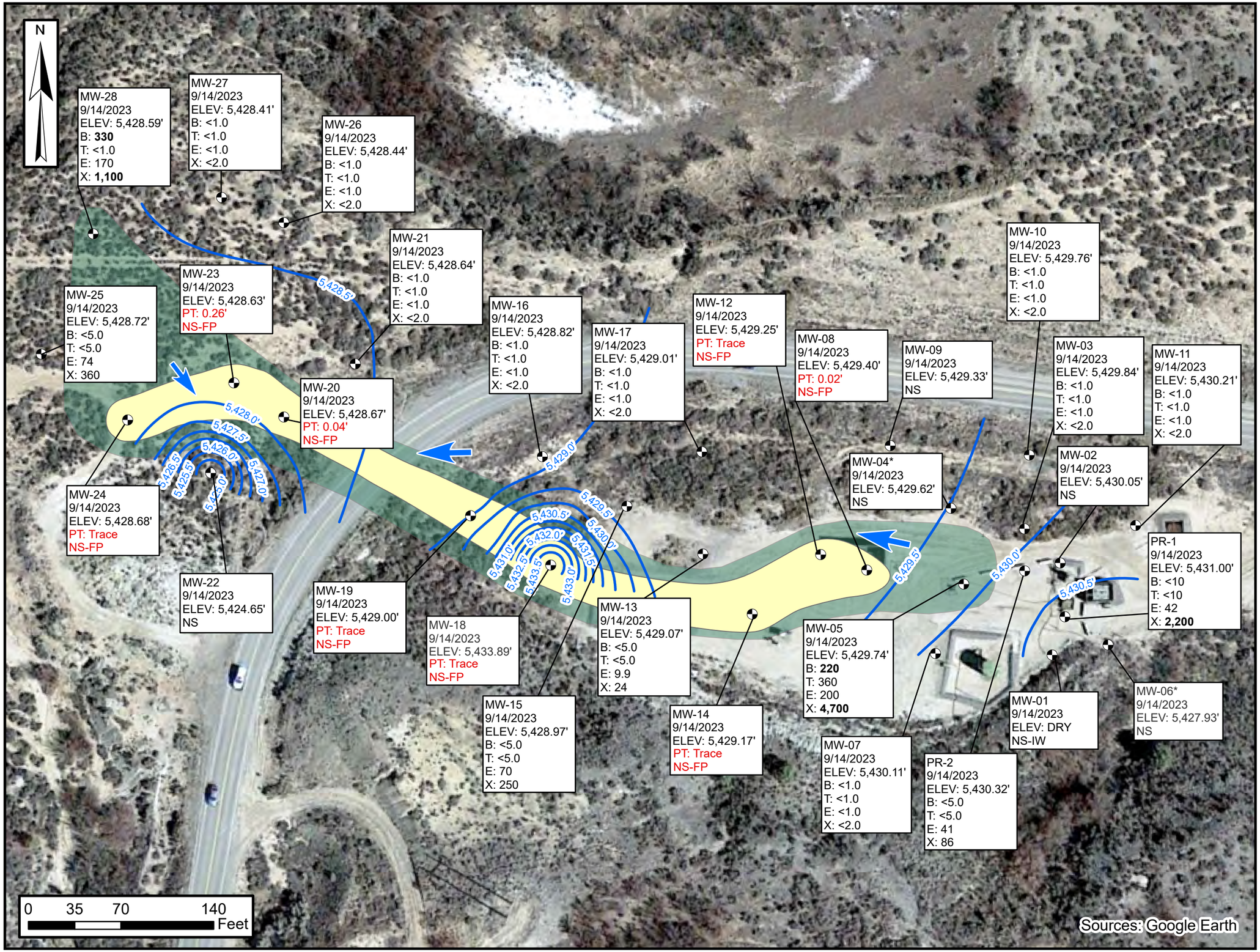
Site Location Map

Sullivan GC D #1E
Hilcorp Energy Company
36.7001, -107.9649
San Juan County, New Mexico

FIGURE
1



Legend

- Monitoring Well
- Estimated Benzene Plume
- Estimated Free Product Plume
- Groundwater Elevation Contour
- Groundwater Flow Direction

Notes:
ELEV: Groundwater Elevation in Feet Above Mean Sea Level
B: Benzene in Micrograms per Liter (µg/L)
T: Toluene (µg/L)
E: Ethylbenzene (µg/L)
X: Total Xylenes (µg/L)
Bold Indicates Concentration Exceeds NMWQCC Standard
NMWQCC: New Mexico Water Quality Conservation Commission
NS: Not Sampled
NS-IW: Not Sampled Due to Insufficient Water Volume
NS-FP: Not Sampled Due to Free Product in Well
PT: Free Product Thickness in Feet
* : Groundwater level not indicative of formation groundwater,
low volumes insufficient for sampling and likely due to condensation buildup.

Groundwater Elevation Contour Map (3rd Quarter 2023)

Sullivan GC D #1E
Hilcorp Energy Company

36.7001, -107.9649
San Juan County, New Mexico

Figure 2

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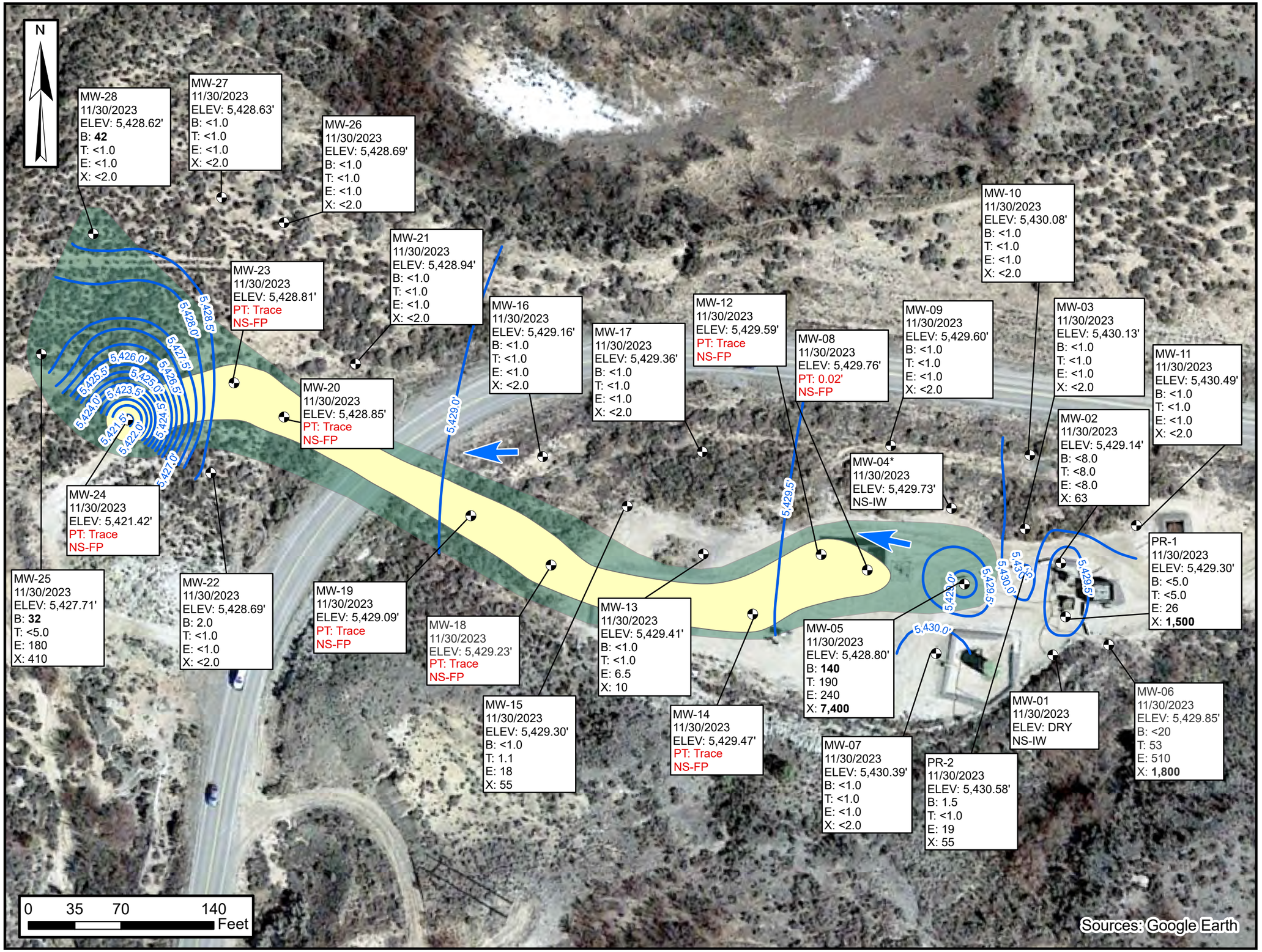

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Groundwater Elevation Contour Map (4th Quarter 2023)

Sullivan GC D #1E
Hilcorp Energy Company

36.7001, -107.9649
San Juan County, New Mexico

Figure 3

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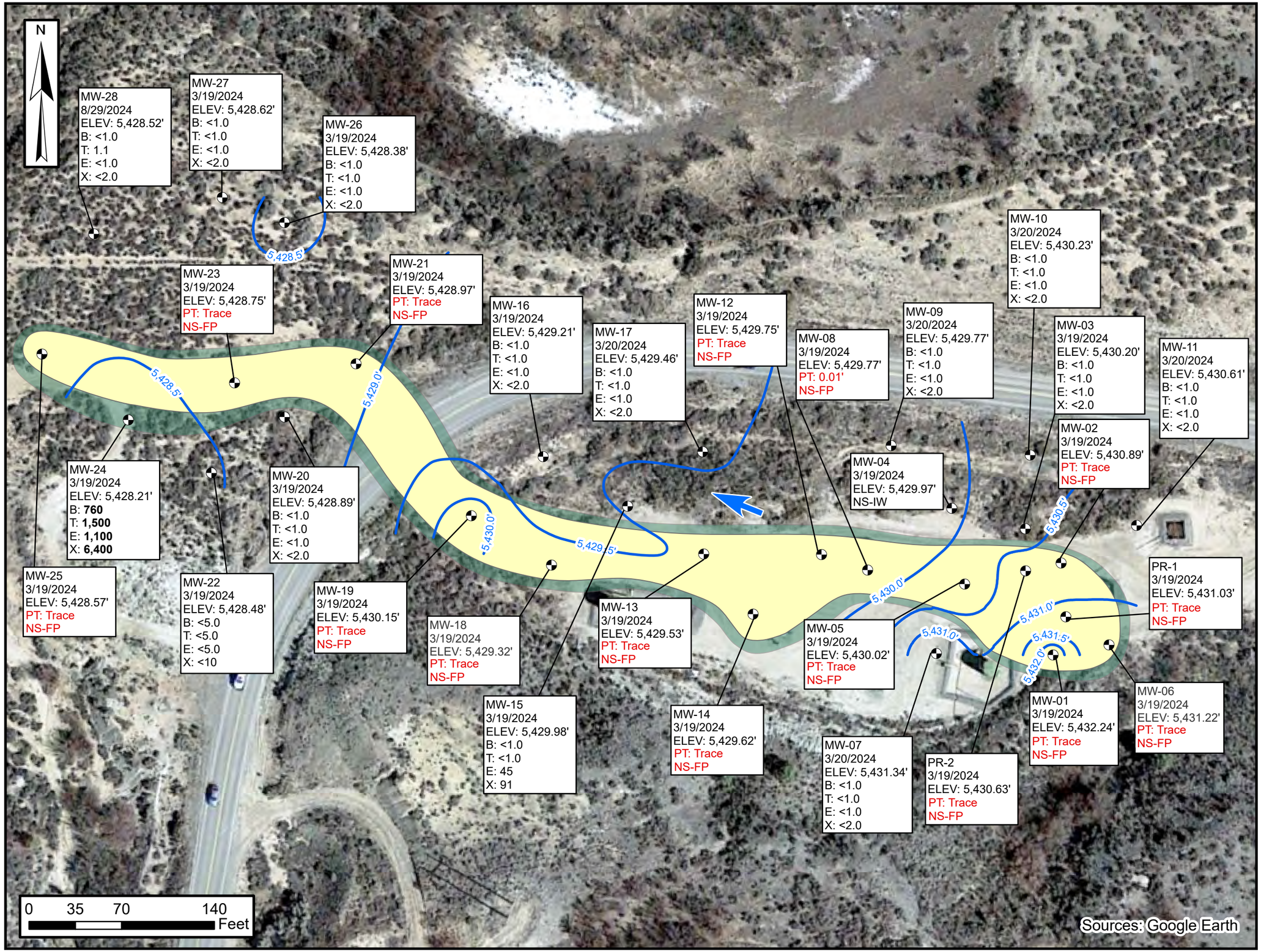

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Groundwater Elevation Contour Map (1st Quarter 2024)

Sullivan GC D #1E
Hilcorp Energy Company
36.7001, -107.9649
San Juan County, New Mexico

Figure 4

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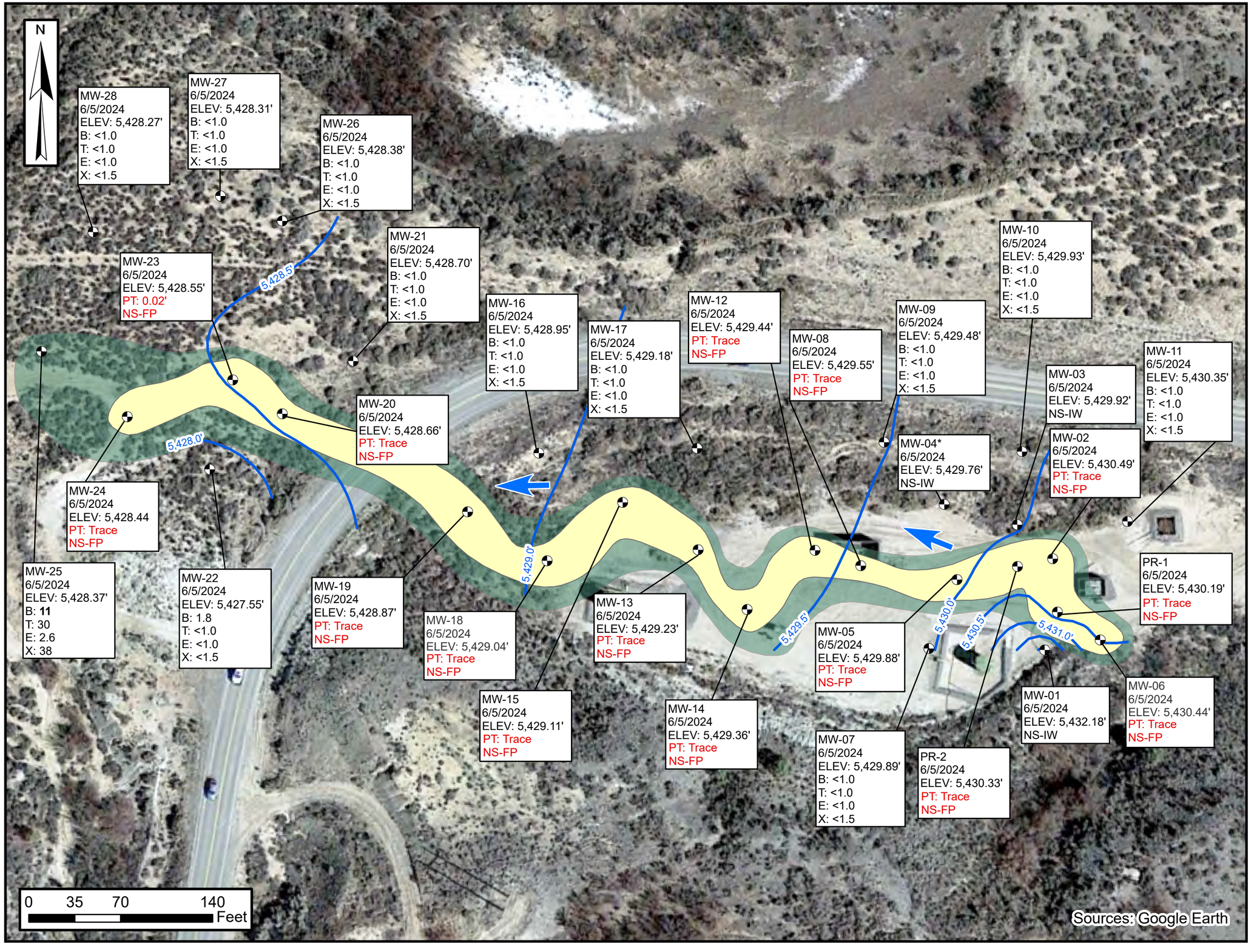

Legend

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Groundwater Elevation Contour Map (2nd Quarter 2024)

Sullivan GC D #1E
Hilcorp Energy Company

36.7001, -107.9649
San Juan County, New Mexico

Figure 5

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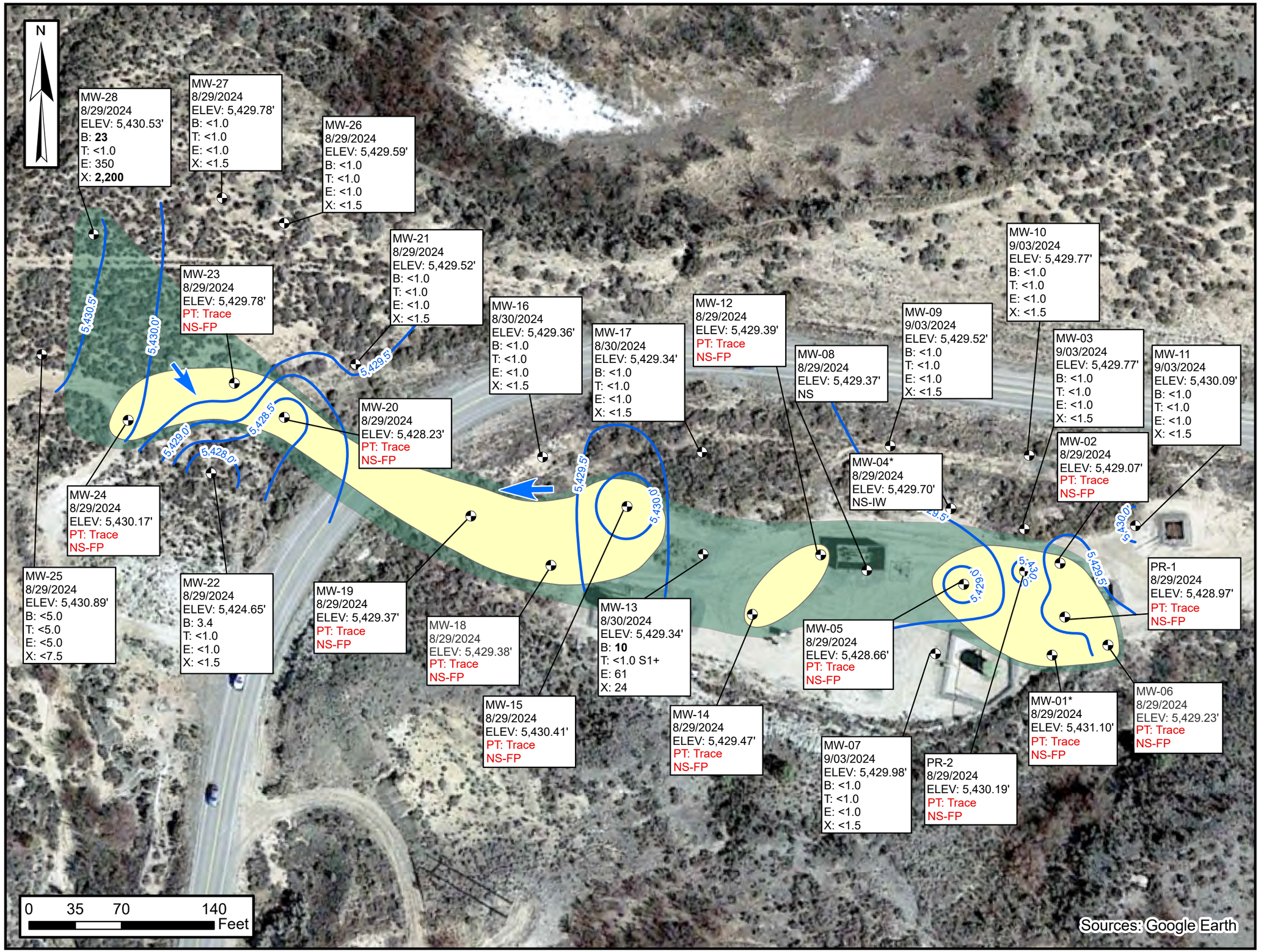

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Groundwater Elevation Contour Map (3rd Quarter 2024)

Sullivan GC D #1E
Hilcorp Energy Company

36.7001, -107.9649
San Juan County, New Mexico

Figure 6

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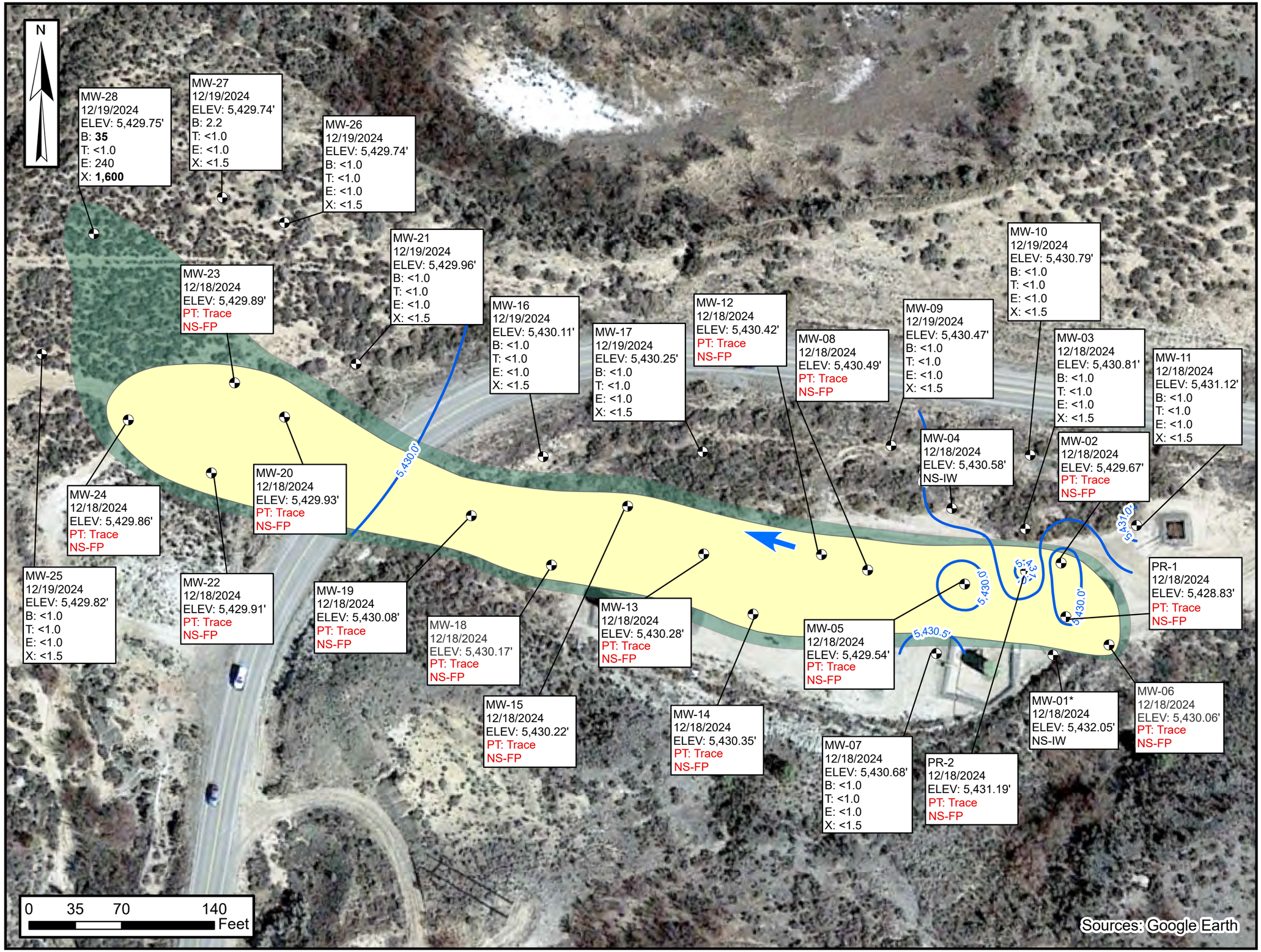

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Groundwater Elevation Contour Map (4th Quarter 2024)

Sullivan GC D #1E
Hilcorp Energy Company

36.7001, -107.9649
San Juan County, New Mexico

Figure 7

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TABLES

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TABLE 1
GROUNDWATER ELEVATIONS
Sullivan Gas Com D #1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
PR-1A	5,466.00	9/9/2015	19.24	19.69	0.45	5,446.67
		9/19/2015	--	--	--	--
		9/25/2015	--	--	--	--
		9/28/2015	19.30	19.83	0.53	5,446.59
PR-1	5,452.23	9/10/2015	21.55	21.82	0.27	5,430.63
		9/19/2015	--	--	--	--
		9/25/2015	--	--	--	--
		9/28/2015	20.95	21.51	0.56	5,431.17
		11/4/2015	19.09	19.58	0.49	5,433.04
		11/11/2015	19.23	19.39	0.16	5,432.97
		11/18/2015	19.28	19.44	0.16	5,432.92
		2/19/2016	19.97	20.31	0.34	5,432.19
		4/29/2016	19.32	22.01	2.69	5,432.37
		6/20/2016	20.75	21.05	0.30	5,431.42
		7/14/2016	18.86	20.91	2.05	5,432.96
		7/18/2016	18.89	20.95	2.06	5,432.93
		7/22/2016	19.43	19.88	0.45	5,432.71
		9/30/2016	18.72	20.10	1.38	5,433.23
		10/10/2016	18.72	19.94	1.22	5,433.27
		12/15/2016	19.35	20.14	0.79	5,432.72
		3/30/2017	NP	19.90	NP	5,432.33
		6/28/2017	20.21	20.35	0.14	5,431.99
		9/25/2017	NP	21.00	NP	5,431.23
		12/21/2017	NP	22.46	NP	5,429.77
		3/30/2018	NP	21.36	NP	5,430.87
		6/26/2018	21.70	22.38	0.68	5,430.39
		9/20/2018	23.44	24.08	0.64	5,428.66
		12/13/2018	22.05	22.33	0.28	5,430.12
		3/25/2019	NP	21.51	NP	5,430.72
		6/24/2019	22.11	22.29	0.18	5,430.08
		9/27/2019	22.74	23.65	0.91	5,429.31
		12/10/2019	22.58	22.95	0.37	5,429.58
		3/10/2020	NP	22.34	NP	5,429.89
		6/23/2020	22.60	22.91	0.31	5,429.57
		9/28/2020	NP	23.91	NP	5,428.32
		12/15/2020	24.50	24.52	0.02	5,427.73
		3/29/2021	NP	22.69	NP	5,429.54
		6/10/2021	NP	22.77	NP	5,429.46
		9/23/2021	NP	23.42	NP	5,428.81
		12/13/2021	NP	21.99	NP	5,430.24
		2/8/2022	22.96	23.22	0.26	5,429.22
		9/29/2022	NP	21.62	NP	5,430.61
		12/16/2022	TRACE	22.08	TRACE	5,430.15
		3/16/2023	NP	22.47	NP	5,429.76
		5/9/2023	TRACE	22.44	TRACE	5,429.79
		9/14/2023	NP	21.23	NP	5,431.00
		11/30/2023	NP	22.93	NP	5,429.30
		3/19/2024	TRACE	21.20	TRACE	5,431.03
		6/5/2024	NP	22.04	NP	5,430.19
		8/29/2024	TRACE	23.26	TRACE	5,428.97
		12/18/2024	TRACE	22.40	TRACE	5,429.83

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TABLE 1
GROUNDWATER ELEVATIONS
Sullivan Gas Com D #1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
PR-2	5,452.08	12/21/2017	NP	20.71	NP	5,431.37
		3/30/2018	NP	20.92	NP	5,431.16
		6/26/2018	NP	21.38	NP	5,430.70
		9/20/2018	NP	21.79	NP	5,430.29
		12/13/2018	NP	21.67	NP	5,430.41
		3/25/2019	NP	21.99	NP	5,430.09
		6/24/2019	NP	22.81	NP	5,429.27
		9/27/2019	NP	22.48	NP	5,429.60
		12/10/2019	22.15	22.36	0.21	5,429.89
		3/10/2020	21.88	21.95	0.07	5,430.19
		6/23/2020	22.21	22.27	0.06	5,429.86
		9/28/2020	NP	22.82	NP	5,429.26
		12/15/2020	22.52	22.76	0.24	5,429.51
		3/29/2021	Trace	22.27	Trace	5,429.81
		6/10/2021	22.31	22.33	0.02	5,429.77
		9/23/2021	22.97	23.09	0.12	5,429.09
		12/13/2021	NP	22.34	NP	5,429.74
		2/8/2022	TRACE	22.09	TRACE	5,429.99
		9/29/2022	TRACE	21.95	TRACE	5,430.13
		12/16/2022	TRACE	21.38	TRACE	5,430.70
		3/16/2023	TRACE	20.93	TRACE	5,431.15
		5/9/2023	TRACE	20.92	TRACE	5,431.16
		9/14/2023	NP	21.76	NP	5,430.32
		11/30/2023	NP	21.50	NP	5,430.58
		3/19/2024	TRACE	21.45	TRACE	5,430.63
		6/5/2024	NP	21.75	NP	5,430.33
		8/29/2024	TRACE	21.89	TRACE	5,430.19
		12/18/2024	TRACE	20.89	TRACE	5,431.19
MW-01	5,454.15	9/10/2015	21.55	21.82	0.27	5,432.55
		9/19/2015	--	--	--	--
		9/25/2015	--	--	--	--
		9/28/2015	20.95	21.51	0.56	5,433.09
		11/4/2015	20.98	21.60	0.62	5,433.05
		11/11/2015	21.05	21.74	0.69	5,432.96
		11/18/2015	21.08	21.81	0.73	5,432.92
		2/19/2016	21.65	21.84	0.19	5,432.46
		4/29/2016	21.11	21.79	0.68	5,432.90
		6/20/2016*	22.96	23.03	0.07	5,431.18
		7/14/2016	NP	20.71	NP	5,433.44
		7/18/2016	20.80	20.91	0.11	5,433.33
		7/22/2016	21.18	21.59	0.41	5,432.89
		9/30/2016	20.74	20.81	0.07	5,433.40
		10/10/2016	NP	20.69	NP	5,433.46
		12/15/2016	22.41	22.33	0.08	5,431.88
		3/30/2017	NP	21.76	NP	5,432.39
		6/28/2017	Trace	21.88	NP	5,432.27
		9/25/2017	NP	21.85	NP	5,432.30
		12/21/2017	Dry - No Product or Groundwater Observed			
		3/30/2018	NP	21.85	NP	5,432.30
		6/26/2018	NP	21.90	NP	5,432.25
		9/20/2018	Dry - No Product or Groundwater Observed			
		12/13/2018	Dry - No Product or Groundwater Observed			
		3/25/2019 (1)	NP	22.03	NP	5,432.12
		6/24/2019 (1)	NP	22.16	NP	5,431.99
		9/27/2019 (1)	22.04	22.00	0.04	5,432.18
		12/10/2019	Dry - No Product or Groundwater Observed			

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TABLE 1
GROUNDWATER ELEVATIONS
Sullivan Gas Com D #1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-01	5,454.15	3/10/2020 (1)	NP	22.13	NP	5,432.02
		6/23/2020 (1)	NP	22.13	NP	5,432.02
		9/28/2020 (1)	NP	22.45	NP	5,431.70
		12/15/2020 (1)	NP	22.11	NP	5,432.04
		3/29/2021 (1)	NP	22.12	NP	5,432.03
		6/10/2021	Dry - No Product or Groundwater Observed			
		9/23/2021	Dry - No Product or Groundwater Observed			
		12/13/2021	Dry - No Product or Groundwater Observed			
		2/8/2022 (1)	NP	23.08	NP	5,431.07
		9/29/2022	Dry - No Product or Groundwater Observed			
		12/16/2022 (1)	NP	22.82	NP	5,431.33
		3/16/2023 (1)	NP	22.84	NP	5,431.31
		5/9/2023 (1)	NP	23.01	NP	5,431.14
		9/14/2023	Dry - No Product or Groundwater Observed			
		11/30/2023	Dry - No Product or Groundwater Observed			
		3/19/2024	TRACE	21.91	TRACE	5,432.24
		6/5/2024	NP	21.97	NP	5,432.18
		8/29/2024 (1)	TRACE	23.05	TRACE	5,431.10
		12/18/2024 (1)	NP	22.10	NP	5,432.05
MW-02	5,451.95	9/10/2015	NP	18.85	NP	5,433.10
		9/19/2015	--	--	--	--
		9/25/2015	--	--	--	--
		9/28/2015	18.85	19.04	0.19	5,433.06
		11/4/2015	18.88	19.21	0.33	5,433.00
		11/11/2015	18.97	19.31	0.34	5,432.91
		11/18/2015	18.98	19.30	0.32	5,432.91
		2/19/2016	19.63	20.29	0.66	5,432.19
		4/29/2016	19.47	21.27	1.80	5,432.12
		6/20/2016	20.30	20.55	0.25	5,431.60
		7/14/2016	NP	19.04	NP	5,432.91
		7/18/2016	NP	19.05	NP	5,432.90
		7/22/2016	19.07	19.19	0.12	5,432.86
		9/30/2016	18.69	18.93	0.24	5,433.21
		10/10/2016	NP	18.64	NP	5,433.31
		12/15/2016	NP	19.20	NP	5,432.75
		3/30/2017	NP	19.69	NP	5,432.26
		6/28/2017	19.90	19.95	0.05	5,432.04
		9/25/2017	20.54	21.85	1.31	5,431.15
		12/21/2017	22.05	22.15	0.10	5,429.88
		3/30/2018	NP	21.10	NP	5,430.85
		6/26/2018	NP	21.42	NP	5,430.53
		9/20/2018	23.12	23.15	0.03	5,428.82
		12/13/2018	NP	22.47	NP	5,429.48
		3/25/2019	NP	22.92	NP	5,429.03
		6/24/2019	NP	23.02	NP	5,428.93
		9/27/2019	22.56	22.78	0.22	5,431.55
		12/10/2019	22.54	22.78	0.24	5,431.56
		3/10/2020	NP	22.03	NP	5,429.92
		6/23/2020	NP	22.32	NP	5,429.63
		9/28/2020	Dry - No Product or Groundwater Observed			
		12/15/2020	Dry - No Product or Groundwater Observed			
		3/29/2021	NP	22.42	NP	5,429.53
		6/10/2021	NP	22.49	NP	5,429.46
		9/23/2021	Dry - No Product or Groundwater Observed			
		12/13/2021	22.04	22.12	0.08	5,429.89
		2/8/2022	Dry - No Product or Groundwater Observed			
		10/6/2022	NP	21.48	NP	5,430.47
		12/16/2022	TRACE	21.82	TRACE	5,430.13
		3/16/2023	NP	22.31	NP	5,429.64
		5/9/2023	NP	22.20	NP	5,429.75
		9/14/2023	NP	21.90	NP	5,430.05
		11/30/2023	NP	22.81	NP	5,429.14
		3/19/2024	TRACE	21.06	TRACE	5,430.89
		6/5/2024	NP	21.46	NP	5,430.49
		8/29/2024	TRACE	22.88	TRACE	5,429.07
		12/18/2024	TRACE	22.28	TRACE	5,429.67

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TABLE 1
GROUNDWATER ELEVATIONS
Sullivan Gas Com D #1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-03	5,452.50	9/10/2015	NP	19.45	NP	5,433.05
		9/28/2015	NP	19.49	NP	5,433.01
		11/4/2015	19.54	19.56	0.02	5,432.96
		11/11/2015	NP	19.65	NP	5,432.85
		11/18/2015	NP	19.67	NP	5,432.83
		2/19/2016	NP	20.44	NP	5,432.06
		4/29/2016	20.54	20.65	0.11	5,431.94
		6/20/2016	19.70	19.78	0.08	5,432.78
		7/14/2016	19.59	19.65	0.06	5,432.90
		7/18/2016	19.65	19.69	0.04	5,432.84
		7/22/2016	19.61	19.66	0.05	5,432.88
		9/30/2016	19.28	19.33	0.05	5,433.21
		10/10/2016	NP	19.23	NP	5,433.27
		12/15/2016	NP	19.82	NP	5,432.68
		3/30/2017	NP	20.36	NP	5,432.14
		6/28/2017	NP	20.77	NP	5,431.73
		9/25/2017	21.14	22.13	0.99	5,431.16
		12/21/2017	21.52	21.55	0.03	5,430.97
		3/30/2018	21.75	21.77	0.02	5,430.75
		6/26/2018	NP	22.20	NP	5,430.30
		9/20/2018	NP	22.62	NP	5,429.88
		12/13/2018	NP	22.47	NP	5,430.03
		3/25/2019	NP	22.35	NP	5,430.15
		6/24/2019	NP	22.53	NP	5,429.97
		9/27/2019	NP	22.34	NP	5,430.16
		12/10/2019 (1)	NP	23.01	NP	5,429.49
		3/10/2020	NP	22.72	NP	5,429.78
		6/23/2020 (1)	NP	23.03	NP	5,429.47
		9/28/2020 (1)	23.12	23.14	0.02	5,429.38
		12/15/2020 (1)	NP	23.15	NP	5,429.35
		3/29/2021	NP	23.03	NP	5,429.47
		6/10/2021 (1)	NP	23.11	NP	5,429.39
		9/23/2021 (1)	NP	23.22	NP	5,429.28
		12/13/2021	Dry - No Product or Groundwater Observed			
		2/8/2022	NP	22.85	NP	5,429.65
		9/29/2022	NP	22.75	NP	5,429.75
		12/16/2022	NP	22.22	NP	5,430.28
		3/16/2023	NP	21.84	NP	5,430.66
		5/9/2023	NP	21.80	NP	5,430.70
		9/14/2023	NP	22.66	NP	5,429.84
		11/30/2023	NP	22.37	NP	5,430.13
		3/19/2024	NP	22.30	NP	5,430.20
		6/5/2024	NP	22.58	NP	5,429.92
		9/3/2024	NP	22.73	NP	5,429.77
		12/18/2024	NP	21.69	NP	5,430.81

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TABLE 1
GROUNDWATER ELEVATIONS
Sullivan Gas Com D #1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-04	5,451.92	9/10/2015	NP	18.94	NP	5,432.98
		9/28/2015	NP	19.98	NP	5,431.94
		11/4/2015	NP	19.08	NP	5,432.84
		11/11/2015	NP	19.20	NP	5,432.72
		11/18/2015	NP	19.21	NP	5,432.71
		2/19/2016	NP	20.04	NP	5,431.88
		4/29/2016	NP	20.11	NP	5,431.81
		6/20/2016	NP	19.10	NP	5,432.82
		7/14/2016	NP	19.01	NP	5,432.91
		7/18/2016	NP	19.00	NP	5,432.92
		7/22/2016	NP	18.99	NP	5,432.93
		9/30/2016	NP	18.72	NP	5,433.20
		10/10/2016	NP	18.62	NP	5,433.30
		12/15/2016	NP	19.36	NP	5,432.56
		3/30/2017	NP	19.98	NP	5,431.94
		6/28/2017	NP	20.30	NP	5,431.62
		9/25/2017	20.86	20.91	0.05	5,431.05
		12/21/2017	NP	21.12	NP	5,430.80
		3/30/2018	NP	21.37	NP	5,430.55
		6/26/2018	NP	21.78	NP	5,430.14
		9/20/2018	Dry - No Product or Groundwater Observed			
		12/13/2018	Dry - No Product or Groundwater Observed			
		3/25/2019 (1)	NP	22.31	NP	5,429.61
		6/24/2019 (1)	NP	22.11	NP	5,429.81
		9/27/2019 (1)	NP	22.14	NP	5,429.78
		12/10/2019 (1)	NP	22.18	NP	5,429.74
		3/10/2020 (1)	NP	22.22	NP	5,429.70
		6/23/2020 (1)	NP	22.27	NP	5,429.65
		9/28/2020 (1)	NP	22.30	NP	5,429.62
		12/15/2020 (1)	NP	22.26	NP	5,429.66
		3/29/2021 (1)	NP	22.29	NP	5,429.63
		6/10/2021 (1)	NP	22.29	NP	5,429.63
		9/23/2021	Dry - No Product or Groundwater Observed			
		12/13/2021	Dry - No Product or Groundwater Observed			
		2/8/2022	Dry - No Product or Groundwater Observed			
		9/29/2022	Dry - No Product or Groundwater Observed			
		12/16/2022	Dry - No Product or Groundwater Observed			
		3/16/2023	NP	21.55	NP	5,430.37
		5/9/2023	NP	21.50	NP	5,430.42
		9/14/2023 (1)	NP	22.30	NP	5,429.62
		11/30/2023 (1)	NP	22.19	NP	5,429.73
		3/19/2024	NP	21.95	NP	5,429.97
		6/5/2024 (1)	NP	22.16	NP	5,429.76
		8/29/2024 (1)	NP	22.22	NP	5,429.70
		12/18/2024	NP	21.34	NP	5,430.58

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TABLE 1
GROUNDWATER ELEVATIONS
Sullivan Gas Com D #1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-05	5,451.89	11/4/2015	18.82	19.51	0.69	5,432.93
		11/11/2015	18.9	19.69	0.79	5,432.83
		11/18/2015	18.93	19.73	0.8	5,432.80
		2/19/2016	19.66	20.75	1.09	5,432.01
		4/29/2016	19.35	21.95	2.60	5,432.02
		6/20/2016	20.18	20.40	0.22	5,431.67
		7/14/2016	18.63	18.89	0.26	5,433.21
		7/18/2016	18.60	20.13	1.53	5,432.98
		7/22/2016	18.84	19.18	0.34	5,432.98
		9/30/2016	18.44	19.34	0.90	5,433.27
		10/10/2016	18.39	19.17	0.78	5,433.34
		12/15/2016	NP	19.24	NP	5,432.65
		3/30/2017	NP	20.42	NP	5,431.47
		6/28/2017	19.98	20.40	0.42	5,431.83
		9/25/2017	20.57	20.94	0.37	5,431.25
		12/21/2017	22.03	22.81	0.78	5,429.70
		3/30/2018	21.15	21.16	0.01	5,430.74
		6/26/2018	21.48	22.39	0.91	5,430.23
		9/20/2018	23.02	24.00	0.98	5,428.67
		12/13/2018	21.83	22.55	0.72	5,429.92
		3/25/2019	21.79	22.07	0.28	5,430.04
		6/24/2019	21.94	22.42	0.48	5,429.85
		9/27/2019	22.60	23.52	0.92	5,429.11
		12/10/2019	22.46	22.97	0.51	5,429.33
		3/10/2020	NP	22.25	NP	5,429.64
		6/23/2020	22.41	22.45	0.04	5,429.47
		9/28/2020	23.00	23.95	0.95	5,428.70
		12/15/2020	22.80	23.30	0.50	5,428.99
		3/29/2021	NP	22.62	NP	5,429.27
		6/10/2021	22.66	22.83	0.17	5,429.20
		9/23/2021	23.16	24.15	0.99	5,428.53
		12/13/2021	22.34	22.83	0.49	5,429.45
		2/8/2022	23.48	23.55	0.07	5,428.40
		10/6/2022	NP	22.18	NP	5,429.71
		12/16/2022	TRACE	22.81	TRACE	5,429.08
		3/16/2023	NP	22.51	NP	5,429.38
		5/9/2023	TRACE	22.46	TRACE	5,429.43
		9/14/2023	NP	22.15	NP	5,429.74
		11/30/2023	NP	23.09	NP	5,428.80
		3/19/2024	TRACE	21.87	TRACE	5,430.02
		6/5/2024	NP	22.01	NP	5,429.88
		8/29/2024	TRACE	23.23	TRACE	5,428.66
		12/18/2024	TRACE	22.35	TRACE	5,429.54

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TABLE 1
GROUNDWATER ELEVATIONS
Sullivan Gas Com D #1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-06	5,454.95	11/4/2015	21.81	22.12	0.31	5,433.08
		11/11/2015	21.88	22.30	0.42	5,432.99
		11/11/2015	21.89	22.30	0.41	5,432.98
		2/19/2016	22.58	22.91	0.33	5,432.30
		4/29/2016	22.02	23.49	1.47	5,432.64
		6/20/2016	23.53	23.60	0.07	5,431.41
		7/14/2016	21.94	22.03	0.09	5,432.99
		7/18/2016	NP	21.79	NP	5,433.16
		7/22/2016	22.09	22.31	0.22	5,432.82
		9/30/2016	21.70	21.74	0.04	5,433.24
		10/10/2016	NP	21.64	NP	5,433.31
		12/15/2016	NP	22.11	NP	5,432.84
		3/30/2017	NP	22.55	NP	5,432.40
		6/28/2017	Trace	23.00	NP	5,431.95
		9/25/2017	NP	23.67	NP	5,431.28
		12/21/2017	NP	24.92	NP	5,430.03
		3/30/2018	NP	23.97	NP	5,430.98
		6/26/2018	NP	24.46	NP	5,430.49
		9/20/2018	NP	26.18	NP	5,428.77
		12/13/2018	NP	25.75	NP	5,429.20
		3/25/2019	NP	24.59	NP	5,430.36
		6/24/2019	NP	24.76	NP	5,430.19
		9/27/2019	25.55	25.57	0.02	5,429.40
		12/10/2019	NP	26.26	NP	5,428.69
		3/10/2020	NP	24.95	NP	5,430.00
		6/23/2020	NP	25.27	NP	5,429.68
		9/28/2020	NP	25.98	NP	5,428.97
		12/15/2020	NP	26.92	NP	5,428.03
		3/29/2021	NP	25.30	NP	5,429.65
		6/10/2021	NP	25.40	NP	5,429.55
		9/23/2021	NP	26.03	NP	5,428.92
		12/13/2021	NP	25.04	NP	5,429.91
		2/8/2022	NP	25.73	NP	5,429.22
		9/29/2022	NP	25.49	NP	5,429.46
		12/16/2022	NP	24.60	NP	5,430.35
		3/16/2023	TRACE	25.80	TRACE	5,429.15
		5/9/2023	TRACE	22.46	TRACE	5,432.49
		9/14/2023 (1)	NP	27.02	NP	5,427.93
		11/30/2023	NP	25.10	NP	5,429.85
		3/19/2024	TRACE	23.73	TRACE	5,431.22
		6/5/2024	NP	24.51	NP	5,430.44
		8/29/2024	TRACE	25.72	TRACE	5,429.23
		12/18/2024	TRACE	24.89	TRACE	5,430.06

ENSOLUM

TABLE 1
GROUNDWATER ELEVATIONS
Sullivan Gas Com D #1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-07	5,456.00	10/13/2017	28.37	28.39	0.02	5,427.63
		12/21/2017	NP	24.72	NP	5,431.28
		3/30/2018	NP	25.26	NP	5,430.74
		6/26/2018	NP	24.16	NP	5,431.84
		9/20/2018	NP	25.83	NP	5,430.17
		12/13/2018	NP	25.87	NP	5,430.13
		3/25/2019	NP	25.69	NP	5,430.31
		6/24/2019	NP	26.03	NP	5,429.97
		9/27/2019	NP	26.48	NP	5,429.52
		12/10/2019	NP	26.53	NP	5,429.47
		3/10/2020	NP	25.88	NP	5,430.12
		6/23/2020	NP	26.54	NP	5,429.46
		9/28/2020	NP	26.90	NP	5,429.10
		12/15/2020	NP	26.72	NP	5,429.28
		3/29/2021	NP	26.67	NP	5,429.33
		6/10/2021	NP	26.68	NP	5,429.32
		9/23/2021	NP	26.78	NP	5,429.22
		12/13/2021	NP	26.71	NP	5,429.29
		2/8/2022	NP	26.32	NP	5,429.68
		9/29/2022	NP	25.98	NP	5,430.02
		12/16/2022	NP	25.48	NP	5,430.52
		3/16/2023	NP	25.54	NP	5,430.46
		5/9/2023	NP	25.42	NP	5,430.58
		9/14/2023	NP	25.89	NP	5,430.11
		11/30/2023	NP	25.61	NP	5,430.39
		3/19/2024	NP	24.66	NP	5,431.34
		6/5/2024	NP	26.11	NP	5,429.89
		9/3/2024	NP	26.02	NP	5,429.98
		12/18/2024	NP	25.32	NP	5,430.68
MW-08	5,452.48	10/13/2017	21.21	22.53	1.32	5,431.01
		12/21/2017	21.48	22.64	1.16	5,430.77
		3/30/2018	21.80	22.86	1.06	5,430.47
		6/26/2018	22.11	23.39	1.28	5,430.11
		9/20/2018	22.46	23.78	1.32	5,429.76
		12/13/2018	22.47	23.65	1.18	5,429.77
		3/25/2019	22.43	23.56	1.13	5,429.82
		6/24/2019	22.58	23.66	1.08	5,429.68
		9/27/2019	23.29	24.74	1.45	5,428.90
		12/10/2019	23.17	24.04	0.87	5,429.14
		3/10/2020	22.93	23.49	0.56	5,429.44
		6/23/2020	23.20	24.24	1.04	5,429.07
		9/28/2020	23.75	24.90	1.15	5,428.50
		12/15/2020	23.55	24.23	0.68	5,428.79
		3/29/2021	23.30	23.64	0.34	5,429.11
		6/10/2021	23.41	23.86	0.45	5,428.98
		9/23/2021	23.94	25.11	1.17	5,428.31
		12/13/2021	23.49	23.68	0.19	5,428.95
		2/8/2022	TRACE	23.23	TRACE	5,429.25
		10/6/2022	NP	23.11	NP	5,429.37
		12/16/2022	TRACE	22.64	TRACE	5,429.84
		3/16/2023	TRACE	22.26	TRACE	5,430.22
		5/9/2023	22.18	22.21	0.03	5,430.29
		9/14/2023	23.08	23.10	0.02	5,429.40
		11/30/2023	22.72	22.74	0.02	5,429.76
		3/19/2024	22.71	22.72	0.01	5,429.77
		6/5/2024	TRACE	22.93	TRACE	5,429.55
		8/29/2024	NP	23.11	NP	5,429.37
		12/18/2024	TRACE	21.99	TRACE	5,430.49

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Sullivan Gas Com D #1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-09	5,451.17	10/13/2017	NP	20.30	NP	5,430.87
		12/21/2017	NP	20.52	NP	5,430.65
		3/30/2018	NP	20.80	NP	5,430.37
		6/26/2018	NP	21.21	NP	5,429.96
		9/20/2018	NP	21.51	NP	5,429.66
		12/13/2018	NP	21.55	NP	5,429.62
		3/25/2019	NP	21.39	NP	5,429.78
		6/24/2019	NP	21.59	NP	5,429.58
		9/27/2019	Dry - No Product or Groundwater Observed			
		12/10/2019	NP	22.10	NP	5429.07
		3/10/2020	NP	21.79	NP	5,429.38
		6/23/2020	NP	22.10	NP	5,429.07
		9/28/2020	NP	22.73	NP	5,428.44
		12/14/2020	NP	22.42	NP	5,428.75
		3/29/2021	NP	22.11	NP	5,429.06
		6/10/2021	NP	22.22	NP	5,428.95
		9/23/2021	NP	21.87	NP	5,429.30
		12/13/2021	NP	22.28	NP	5,428.89
		2/8/2022	NP	22.03	NP	5,429.14
		9/30/2022	NP	21.91	NP	5,429.26
		12/16/2022	NP	21.36	NP	5,429.81
		3/16/2023	NP	21.03	NP	5,430.14
		5/9/2023	NP	20.98	NP	5,430.19
		9/14/2023	NP	21.84	NP	5,429.33
		11/30/2023	NP	21.57	NP	5,429.60
		3/19/2024	NP	21.40	NP	5,429.77
		6/5/2024	NP	21.69	NP	5,429.48
		9/3/2024	NP	21.65	NP	5,429.52
		12/18/2024	NP	20.70	NP	5,430.47
MW-10	5,448.71	10/13/2017	NP	17.62	NP	5,431.09
		12/21/2017	NP	17.75	NP	5,430.96
		3/30/2018	NP	17.97	NP	5,430.74
		6/26/2018	NP	18.42	NP	5,430.29
		9/20/2018	NP	18.84	NP	5,429.87
		12/13/2018	NP	18.74	NP	5,429.97
		3/25/2019	NP	18.54	NP	5,430.17
		6/24/2019	NP	18.72	NP	5,429.99
		9/27/2019	NP	19.89	NP	5,428.82
		12/10/2019	NP	19.19	NP	5,429.52
		3/10/2020	NP	18.90	NP	5,429.81
		6/23/2020	NP	19.25	NP	5,429.46
		9/28/2020	NP	19.98	NP	5,428.73
		12/15/2020	NP	19.55	NP	5,429.16
		3/29/2021	NP	19.29	NP	5,429.42
		6/10/2021	NP	19.35	NP	5,429.36
		9/23/2021	NP	19.98	NP	5,428.73
		12/13/2021	NP	19.34	NP	5,429.37
		2/8/2022	NP	19.07	NP	5,429.64
		9/30/2022	NP	18.91	NP	5,429.80
		12/16/2022	NP	18.40	NP	5,430.31
		3/16/2023	NP	18.08	NP	5,430.63
		5/9/2023	NP	18.08	NP	5,430.63
		9/14/2023	NP	18.95	NP	5,429.76
		11/30/2023	NP	18.63	NP	5,430.08
		3/19/2024	NP	18.48	NP	5,430.23
		6/5/2024	NP	18.78	NP	5,429.93
		9/3/2024	NP	18.94	NP	5,429.77
		12/18/2024	NP	17.92	NP	5,430.79

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Sullivan Gas Com D #1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-11	5,450.40	10/13/2017	NP	19.10	NP	5,431.30
		12/21/2017	NP	19.18	NP	5,431.22
		3/30/2018	NP	19.34	NP	5,431.06
		6/26/2018	NP	19.83	NP	5,430.57
		9/20/2018	NP	20.31	NP	5,430.09
		12/13/2018	NP	20.01	NP	5,430.39
		3/25/2019	NP	19.84	NP	5,430.56
		6/24/2019	NP	20.82	NP	5,429.58
		9/27/2019	NP	20.75	NP	5,429.65
		12/10/2019	NP	20.48	NP	5,429.92
		3/10/2020	NP	20.18	NP	5,430.22
		6/23/2020	NP	20.55	NP	5,429.85
		9/28/2020	NP	21.20	NP	5,429.20
		12/15/2020	NP	20.87	NP	5,429.53
		3/29/2021	NP	20.57	NP	5,429.83
		6/10/2021	NP	20.62	NP	5,429.78
		9/23/2021	NP	21.22	NP	5,429.18
		12/13/2021	NP	20.51	NP	5,429.89
		2/8/2022	NP	20.29	NP	5,430.11
		9/29/2022	NP	20.12	NP	5,430.28
		12/16/2022	NP	19.66	NP	5,430.74
		3/16/2023	NP	19.33	NP	5,431.07
		5/9/2023	NP	19.31	NP	5,431.09
		9/14/2023	NP	20.19	NP	5,430.21
		11/30/2023	NP	19.91	NP	5,430.49
		3/19/2024	NP	19.79	NP	5,430.61
		6/5/2024	NP	20.05	NP	5,430.35
		9/3/2024	NP	20.31	NP	5,430.09
		12/18/2024	NP	19.28	NP	5,431.12
MW-12	5,452.44	10/13/2017	21.51	21.54	0.03	5,430.92
		12/21/2017	NP	21.81	NP	5,430.63
		3/30/2018	21.91	22.71	0.80	5,430.37
		6/26/2018	22.15	23.25	1.10	5,430.07
		9/20/2018	22.50	23.65	1.15	5429.71
		12/13/2018	22.60	23.62	1.02	5429.64
		3/25/2019	22.50	23.35	0.85	5429.77
		6/24/2019	22.66	23.66	1.00	5429.58
		9/27/2019 (1)	23.39	24.42	1.03	5428.84
		12/10/2019	23.27	23.91	0.64	5429.04
		3/10/2020	23.02	23.42	0.40	5429.34
		6/23/2020	23.30	23.94	0.64	5429.01
		9/28/2020 (1)	23.75	24.40	0.65	5428.56
		12/15/2020 (1)	23.65	24.15	0.50	5428.69
		3/29/2021	23.42	23.54	0.12	5429.00
		6/10/2021	23.44	23.92	0.48	5428.90
		9/23/2021 (1)	23.96	24.31	0.35	5428.41
		12/13/2021	23.63	23.71	0.08	5428.79
		2/8/2022	NP	23.32	NP	5429.12
		10/6/2022	NP	23.20	NP	5429.24
		12/16/2022	NP	22.77	NP	5429.67
		3/16/2023	NP	22.37	NP	5430.07
		5/9/2023	22.28	22.30	0.02	5430.16
		9/14/2023	TRACE	23.19	TRACE	5429.25
		11/30/2023	TRACE	22.85	TRACE	5429.59
		3/19/2024	TRACE	22.69	TRACE	5429.75
		6/5/2024	TRACE	23.00	TRACE	5429.44
		8/29/2024	TRACE	23.05	TRACE	5429.39
		12/18/2024	TRACE	22.02	TRACE	5430.42

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TABLE 1
GROUNDWATER ELEVATIONS
Sullivan Gas Com D #1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-13	5,452.00	9/23/2021	NP	23.98	NP	5,428.02
		2/8/2022	NP	23.07	NP	5,428.93
		9/29/2022	NP	23.03	NP	5,428.97
		12/16/2022	TRACE	22.52	TRACE	5,429.48
		3/16/2023	NP	22.14	NP	5,429.86
		5/9/2023	NP	22.06	NP	5,429.94
		9/14/2023	NP	22.93	NP	5,429.07
		11/30/2023	NP	22.59	NP	5,429.41
		3/19/2024	TRACE	22.47	TRACE	5,429.53
		6/5/2024	NP	22.77	NP	5,429.23
		8/30/2024	NP	22.66	NP	5,429.34
		12/18/2024	TRACE	21.72	TRACE	5,430.28
MW-14	5,453.17	9/23/2021	24.85	NP	>4.04	NM***
		12/13/2021	24.33	25.04	0.71	5,428.70
		2/8/2022	24.19	24.22	0.03	5,428.97
		10/6/2022	NP	24.02	NP	5,429.15
		12/16/2022	TRACE	23.57	TRACE	5,429.60
		3/16/2023	TRACE	23.20	TRACE	5,429.97
		5/9/2023	23.14	23.15	0.01	5,430.03
		9/14/2023	TRACE	24.00	TRACE	5,429.17
		11/30/2023	TRACE	23.70	TRACE	5,429.47
		3/19/2024	TRACE	23.55	TRACE	5,429.62
		6/5/2024	TRACE	23.81	TRACE	5,429.36
		8/29/2024	TRACE	23.70	TRACE	5,429.47
		12/18/2024	TRACE	22.82	TRACE	5,430.35
MW-15	5,456.23	9/23/2021	NP	28.44	NP	5,427.79
		12/13/2021	27.73	27.84	0.11	5,428.48
		2/8/2022	NP	27.42	NP	5,428.81
		10/6/2022	NP	27.35	NP	5,428.88
		12/16/2022	NP	26.86	NP	5,429.37
		3/16/2023	NP	26.53	NP	5,429.70
		5/9/2023	NP	26.46	NP	5,429.77
		9/14/2023	NP	27.26	NP	5,428.97
		11/30/2023	NP	26.93	NP	5,429.30
		3/19/2024	NP	26.25	NP	5,429.98
		6/5/2024	NP	27.12	NP	5,429.11
		8/29/2024	TRACE	25.82	TRACE	5,430.41
		12/18/2024	TRACE	26.01	TRACE	5,430.22
MW-16	5,455.75	9/23/2021	NP	27.99	NP	5,427.76
		12/13/2021	NP	27.42	NP	5,428.33
		2/8/2022	NP	27.12	NP	5,428.63
		9/29/2022	NP	27.08	NP	5,428.67
		12/16/2022	NP	26.56	NP	5,429.19
		3/16/2023	NP	26.22	NP	5,429.53
		5/9/2023	NP	26.18	NP	5,429.57
		9/14/2023	NP	26.93	NP	5,428.82
		11/30/2023	NP	26.59	NP	5,429.16
		3/19/2024	NP	26.54	NP	5,429.21
		6/5/2024	NP	26.80	NP	5,428.95
		8/30/2024	NP	26.39	NP	5,429.36
		12/18/2024	NP	25.64	NP	5,430.11
MW-17	5,453.21	9/23/2021	NP	25.24	NP	5,427.97
		12/13/2021	NP	24.74	NP	5,428.47
		2/8/2022	NP	24.32	NP	5,428.89
		9/29/2022	NP	24.39	NP	5,428.82
		12/16/2022	NP	23.76	NP	5,429.45
		3/16/2023	NP	23.42	NP	5,429.79
		5/9/2023	NP	23.33	NP	5,429.88
		9/14/2023	NP	24.2	NP	5,429.01
		11/30/2023	NP	23.85	NP	5,429.36
		3/19/2024	NP	23.75	NP	5,429.46
		6/5/2024	NP	24.03	NP	5,429.18
		8/30/2024	NP	23.87	NP	5,429.34
		12/18/2024	NP	22.96	NP	5,430.25

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Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-18	5,458.15	9/23/2021	30.29	30.45	0.16	5,427.83
		12/13/2021	29.76	29.83	0.07	5,428.38
		2/8/2022	NP	29.44	NP	5,428.71
		10/6/2022	NP	29.38	NP	5,428.77
		12/16/2022	TRACE	28.89	TRACE	5,429.26
		3/16/2023	TRACE	28.54	TRACE	5,429.61
		5/9/2023	TRACE	28.45	TRACE	5,429.70
		9/14/2023	TRACE	24.26	TRACE	5,433.89
		11/30/2023	TRACE	28.92	TRACE	5,429.23
		3/19/2024	TRACE	28.83	TRACE	5,429.32
		6/5/2024	TRACE	29.11	TRACE	5,429.04
		8/29/2024	TRACE	28.77	TRACE	5,429.38
		12/18/2024	TRACE	27.98	TRACE	5,430.17
MW-19	5,455.83	9/23/2021	27.92	28.91	0.99	5,427.71
		12/13/2021	27.49	27.83	0.34	5,428.27
		2/8/2022	27.25	27.27	0.02	5,428.58
		10/6/2022	NP	27.21	NP	5,428.62
		12/16/2022	TRACE	26.74	TRACE	5,429.09
		3/16/2023	TRACE	26.38	TRACE	5,429.45
		5/9/2023	TRACE	26.30	TRACE	5,429.53
		9/14/2023	TRACE	26.83	TRACE	5,429.00
		11/30/2023	TRACE	26.74	TRACE	5,429.09
		3/19/2024	TRACE	25.68	TRACE	5,430.15
		6/5/2024	TRACE	26.96	TRACE	5,428.87
		8/29/2024	TRACE	26.46	TRACE	5,429.37
		12/18/2024	TRACE	25.75	TRACE	5,430.08
MW-20	5,459.33	12/13/2021	31.21	31.70	0.49	5,428.02
		2/8/2022	30.98	31.15	0.17	5,428.32
		9/30/2022	30.93	31.10	0.17	5,428.37
		12/16/2022	TRACE	30.52	TRACE	5,428.81
		3/16/2023	30.00	30.21	0.21	5,429.29
		5/9/2023	30.02	30.05	0.03	5,429.30
		9/14/2023	30.65	30.69	0.04	5,428.67
		11/30/2023	TRACE	30.48	TRACE	5,428.85
		3/19/2024	NP	30.44	NP	5,428.89
		6/5/2024	TRACE	30.67	TRACE	5,428.66
		8/29/2024	TRACE	31.10	TRACE	5,428.23
		12/18/2024	TRACE	29.40	TRACE	5,429.93
MW-21	5,457.53	12/13/2021	NP	29.44	NP	5,428.09
		2/8/2022	NP	29.14	NP	5,428.39
		9/30/2022	NP	29.12	NP	5,428.41
		12/16/2022	NP	28.63	NP	5,428.90
		3/16/2023	NP	28.33	NP	5,429.20
		5/9/2023	NP	28.16	NP	5,429.37
		9/14/2023	NP	28.89	NP	5,428.64
		11/30/2023	NP	28.59	NP	5,428.94
		3/19/2024	TRACE	28.56	TRACE	5,428.97
		6/5/2024	TRACE	28.83	TRACE	5,428.70
		8/29/2024	NP	28.01	NP	5,429.52
		12/18/2024	NP	27.57	NP	5,429.96
MW-22	5,463.22	12/13/2021	Dry - No Product or Groundwater Observed			
		2/8/2022	NP	37.90	NP	5,425.32
		9/30/2022	Dry - No Product or Groundwater Observed			
		12/16/2022	NP	34.90	NP	5,428.32
		3/16/2023	NP	35.32	NP	5,427.90
		5/11/2023	NP	36.00	NP	5,427.22
		9/14/2023	NP	38.57	NP	5,424.65
		11/30/2023	NP	34.53	NP	5,428.69
		3/19/2024	NP	34.74	NP	5,428.48
		6/5/2024	NP	35.67	NP	5,427.55
		8/29/2024	NP	35.71	NP	5,427.51
		12/18/2024	TRACE	33.31	TRACE	5,429.91

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Well ID	Top of Casing Elevation (feet*)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-23	5,458.66	12/13/2021	30.60	31.23	0.63	5,427.93
		2/8/2022	30.37	30.67	0.30	5,428.23
		9/30/2022	30.35	30.61	0.26	5,428.26
		12/16/2022	TRACE	29.93	TRACE	5,428.73
		3/16/2023	29.60	29.67	0.07	5,429.05
		5/11/2023	29.47	29.50	0.03	5,429.18
		9/14/2023	29.98	30.24	0.26	5,428.63
		11/30/2023	TRACE	29.85	TRACE	5,428.81
		3/19/2024	TRACE	29.91	TRACE	5,428.75
		6/5/2024	30.09	30.11	0.02	5,428.57
		8/29/2024	TRACE	28.88	TRACE	5,429.78
		12/18/2024	TRACE	28.77	TRACE	5,429.89
MW-24	5,465.96	5/11/2023	TRACE	36.91	TRACE	5,429.05
		9/14/2023	TRACE	37.28	TRACE	5,428.68
		11/30/2023	TRACE	37.24	TRACE	5,421.42
		3/19/2024	NP	37.75	NP	5,428.21
		6/5/2024	TRACE	37.52	TRACE	5,428.44
		8/29/2024	TRACE	35.79	TRACE	5,430.17
		12/18/2024	TRACE	36.10	TRACE	5,429.86
MW-25	5,466.95	5/11/2023	NP	37.94	NP	5,429.01
		9/14/2023	NP	38.23	NP	5,428.72
		11/30/2023	NP	38.25	NP	5,427.71
		3/19/2024	TRACE	38.38	TRACE	5,428.57
		6/5/2024	NP	38.58	NP	5,428.37
		8/29/2024	NP	36.06	NP	5,430.89
		12/18/2024	NP	37.13	NP	5,429.82
MW-26	5,462.02	5/11/2023	NP	32.95	NP	5,429.07
		9/14/2023	NP	33.58	NP	5,428.44
		11/30/2023	NP	33.33	NP	5,428.69
		3/19/2024	NP	33.64	NP	5,428.38
		8/29/2024	NP	32.43	NP	5,429.59
		12/18/2024	NP	32.28	NP	5,429.74
MW-27	5,462.65	5/11/2023	NP	33.66	NP	5,428.99
		9/14/2023	NP	34.24	NP	5,428.41
		11/30/2023	NP	34.02	NP	5,428.63
		3/19/2024	NP	34.03	NP	5,428.62
		6/5/2024	NP	34.34	NP	5,428.31
		8/29/2024	NP	32.87	NP	5,429.78
		12/18/2024	NP	32.91	NP	5,429.74
MW-28	5,465.90	5/11/2023	NP	36.96	NP	5,428.94
		9/14/2023	NP	37.31	NP	5,428.59
		11/30/2023	NP	37.28	NP	5,428.62
		3/19/2024	NP	37.38	NP	5,428.52
		6/5/2024	NP	37.63	NP	5,428.27
		8/29/2024	NP	35.37	NP	5,430.53
		12/18/2024	NP	36.15	NP	5,429.75

Notes:

**: surveyed using North American Vertical Datum 1988 geoid 12B in U.S. survey feet*

***: Estimated based on volume recovered in a bailer*

****: Elevation could not be determined due to no groundwater present in monitoring well*

(1): not indicative of formation groundwater, low volumes insufficient for sampling and likely due to condensation buildup

--: not measured

NP: not present

Trace: visible sheen/product in bailer, but not detected by interface probe

A product density correction factor of 0.7996 was applied to the groundwater elevation in wells that contained free product.

ENSOLUM

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Sullivan Gas Com D#1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Date Sampled (1)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard		5	1,000	700	620
PR-1	9/25/2017	**3,580**	**19,500**	<100	**82,700**
	3/25/2019	**18**	650	130	**4,200**
	3/11/2020	**8.0**	340	73	**3,200**
	3/29/2021	**13**	94	67	**4,800**
	6/10/2021	9.0	35	26	**1,600**
	9/29/2022	<4.0	<4.0	52	**2,700**
	3/16/2023	<5.0	<10	24	**1,300**
	9/14/2023	<10	<10	42	**2,200**
	11/30/2023	<5.0	<5.0	26	**1,500**
PR-2	10/13/2017	**2,070**	**6,450**	555	**6,900**
	6/27/2018	**1,100**	810	400	**2,100**
	9/20/2018	**1,100**	**1,200**	430	**2,100**
	12/13/2018	**1,900**	**3,600**	**840**	**4,300**
	3/25/2019	**65**	41	120	270
	6/24/2019	**170**	180	130	390
	9/27/2019	**170**	230	180	**690**
	12/14/2021	**7.5**	28	57	**830**
	9/29/2022	**25**	9.1	82	**1,500**
	5/09/2023	2.9	<2.0	12	29
	9/14/2023	<5.0	<5.0	41	86
	11/30/2023	1.5	<1.0	19	55
MW-01	9/25/2017	**415**	**1,990**	222	**8,270**
	12/16/2022	<2.5	11	19	400
MW-02	9/10/2015	**6,500**	**24,200**	**1,770**	**11,400**
	12/15/2016	**2,730**	**5,960**	440	**9,450**
	6/27/2018	**220**	820	<100	**5,500**
	3/25/2019	<10	<10	13	**2,500**
	3/10/2020	<10	14	12	**3,400**
	10/06/2022	<10	<10	59	**670**
	3/16/2023	<8.0	<8.0	<8.0	63
MW-03	9/10/2015	**2,050**	420	390	**2,890**
	9/14/2015	**6,800**	**1,800**	**900**	**7,600**
	2/19/2016	**919**	232	130	**830**
	12/15/2016	**1,440**	251	283	**2,810**
	6/28/2017	**334**	146	117	**1,260**
	6/27/2018	<10	<10	<10	<15
	9/20/2018	<1.0	<1.0	<1.0	<2.0
	12/13/2018	<1.0	<1.0	<1.0	<2.0
	3/25/2019	<1.0	<1.0	<1.0	<1.5
	6/24/2019	<1.0	<1.0	<1.0	<2.0
	12/10/2019	<1.0	<1.0	<1.0	<2.0
	3/10/2020	<1.0	<1.0	<1.0	<1.5
	12/15/2020	<1.0	<1.0	<1.0	<2.0
	3/29/2021	<1.0	<1.0	<1.0	<1.5
	9/29/2022	<1.0	<1.0	<1.0	<1.5
	12/16/2022	<1.0	<1.0	<1.0	2.4
	3/17/2023	<1.0	<1.0	<1.0	<2.0
	5/09/2023	<1.0	<1.0	<1.0	<2.0
	9/14/2023	<1.0	<1.0	<1.0	<2.0
	11/30/2023	<1.0	<1.0	<1.0	<2.0
	3/20/2024	<1.0	<1.0	<1.0	<2.0
	9/03/2024	<1.0	<1.0	<1.0	<1.5
	12/18/2024	<1.0	<1.0	<1.0	<1.5

ENSOLUM

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Sullivan Gas Com D#1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Date Sampled (1)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard		5	1,000	700	620
MW-04	9/10/2015	**3,480**	30	60	180
	9/14/2015	**2,900**	25	110	290
	2/19/2016	<0.5	<5.0	<0.5	<1.50
	6/20/2016	**1,680**	<50.0	297	**2,210**
	9/30/2016	**630**	72	94	**640**
	12/15/2016	**1,520**	15.8	17.3	166
	6/28/2017	**24**	154	67.2	**2,350**
	6/27/2018	<10	<10	<10	<15
MW-05	12/15/2016	**2,440**	**6,700**	638	**8,470**
	3/11/2020	**44**	100	8.0	270
	3/30/2021	**220**	970	190	**6,200**
	10/06/2022	**210**	690	280	**4,300**
	3/16/2023	**350**	440	190	**6,100**
	9/14/2023	**220**	360	200	**4,700**
	11/30/2023	**140**	190	240	**7,400**
MW-06	12/15/2016	**1,810**	**3,640**	**811**	**14,200**
	9/25/2017	**1,450**	**3,840**	271	**7,970**
	6/27/2018	<10	93	46	**840**
	9/20/2018	**170**	**2,200**	**970**	**18,000**
	12/13/2018	**57**	**1,500**	660	**11,000**
	3/25/2019	**57**	**1,200**	**750**	**12,000**
	6/24/2019	**120**	**1,800**	**870**	**14,000**
	12/10/2019	**76**	**1,200**	620	**11,000**
	3/10/2020	**150**	**2,300**	**880**	**13,000**
	6/23/2020	**120**	**1,900**	**850**	**18,000**
	9/28/2020	**110**	**1,800**	**990**	**13,000**
	12/15/2020	**140**	**2,400**	**1,400**	**16,000**
	3/29/2021	**21**	310	340	**2,500**
	6/10/2021	**54**	340	480	**5,500**
	9/29/2022	**240**	**2,900**	**1,100**	**16,000**
	12/16/2022	**170**	**3,200**	**1,700**	**21,000**
	3/16/2023	**30**	760	560	**7,500**
	11/30/2023	<20	53	510	**1,800**

ENSOLUM

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Sullivan Gas Com D#1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Date Sampled (1)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard		5	1,000	700	620
MW-07	6/27/2018	<1.0	<1.0	<1.0	<1.5
	9/20/2018	<2.0	<2.0	<2.0	<4.0
	12/13/2018	<1.0	<1.0	<1.0	<2.0
	3/25/2019	<2.0	<2.0	<2.0	<3.0
	6/24/2019	<2.0	<2.0	<2.0	<4.0
	9/27/2019	<1.0	<1.0	<1.0	<2.0
	12/10/2019	<1.0	<1.0	<1.0	<2.0
	3/11/2020	<1.0	<1.0	<1.0	<1.5
	6/23/2020	<1.0	<1.0	<1.0	<1.5
	9/28/2020	<1.0	<1.0	<1.0	<1.5
	12/15/2020	<1.0	<1.0	<1.0	<2.0
	3/29/2021	<1.0	<1.0	<1.0	<1.5
	6/10/2021	<1.0	<1.0	<1.0	<1.5
	9/23/2021	<1.0	<1.0	<1.0	<2.0
	12/14/2021	<1.0	<1.0	<1.0	<2.0
	3/10/2022	<1.0	<1.0	<1.0	<1.5
	9/29/2022	<1.0	<1.0	<1.0	<1.5
	12/16/2022	<1.0	<1.0	<1.0	<1.5
	3/16/2023	<1.0	<1.0	<1.0	<2.0
	5/09/2023	<1.0	<1.0	<1.0	<2.0
	9/14/2023	<1.0	<1.0	<1.0	<2.0
	11/30/2023	<1.0	<1.0	<1.0	<2.0
	3/20/2024	<1.0	<1.0	<1.0	<2.0
	6/06/2024	<1.0	<1.0	<1.0	<1.5
	9/03/2024	<1.0	<1.0	<1.0	<1.5
	12/18/2024	<1.0	<1.0	<1.0	<1.5
MW-08	10/06/2022	**290**	850	210	**3,400**
MW-09	10/13/2017	0.9	4.51	<0.5	8.98
	6/27/2018	<1.0	<1.0	<1.0	<1.5
	9/20/2018	<1.0	<1.0	<1.0	<2.0
	12/13/2018	<1.0	<1.0	<1.0	<2.0
	3/25/2019	<1.0	<1.0	<1.0	<1.5
	6/24/2019	<1.0	<1.0	<1.0	<1.5
	12/17/2019	<1.0	<1.0	<1.0	<2.0
	3/11/2020	<1.0	<1.0	<1.0	<1.5
	6/23/2020	<1.0	<1.0	<1.0	<1.5
	9/28/2020	<1.0	<1.0	<1.0	<1.5
	12/14/2020	<1.0	<1.0	<1.0	<2.0
	3/29/2021	<1.0	<1.0	<1.0	<1.5
	6/10/2021	<1.0	<1.0	<1.0	<1.5
	9/23/2021	<1.0	<1.0	<1.0	<2.0
	12/14/2021	<1.0	<1.0	<1.0	<2.0
	3/10/2022	<1.0	<1.1	<1.2	<1.5
	12/16/2022	<1.0	<1.1	<1.2	<1.5
	3/17/2023	<1.0	<1.0	<1.0	<2.0
	5/09/2023	<1.0	<1.0	<1.0	<2.0
	11/30/2023	<1.0	<1.0	<1.0	<2.0
	3/20/2024	<1.0	<1.0	<1.0	<2.0
	6/06/2024	<1.0	<1.0	<1.0	<1.5
	9/03/2024	<1.0	<1.0	<1.0	<1.5
	12/19/2024	<1.0	<1.0	<1.0	<1.5

ENSOLUM

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Sullivan Gas Com D#1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Date Sampled (1)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard		5	1,000	700	620
MW-10	10/13/2017	<0.5	2.28	<0.5	3.33
	6/27/2018	<1.0	<1.0	<1.0	<1.5
	9/20/2018	<1.0	<1.0	<1.0	<2.0
	12/13/2018	<1.0	<1.0	<1.0	<2.0
	3/25/2019	<1.0	<1.0	<1.0	<1.5
	6/24/2019	<1.0	<1.0	<1.0	<2.0
	9/27/2019	<1.0	<1.0	<1.0	<2.0
	12/10/2019	<1.0	<1.0	<1.0	<2.0
	3/11/2020	<1.0	<1.0	<1.0	<1.5
	6/23/2020	<1.0	<1.0	<1.0	<1.5
	9/28/2020	<1.0	<1.0	<1.0	<1.5
	12/15/2020	<1.0	<1.0	<1.0	<2.0
	3/29/2021	<1.0	<1.0	<1.0	<1.5
	6/10/2021	<1.0	<1.0	<1.0	<1.5
	9/23/2021	<1.0	<1.0	<1.0	<2.0
	12/14/2021	<1.0	<1.0	<1.0	<2.0
	3/10/2022	<1.0	<1.0	<1.0	<1.5
	9/30/2022	<1.0	<1.0	<1.0	<1.5
	12/16/2022	<1.0	<1.0	<1.0	<1.5
	3/17/2023	<1.0	<1.0	<1.0	<2.0
	5/09/2023	<1.0	<1.0	<1.0	<2.0
	9/14/2023	<1.0	<1.0	<1.0	<2.0
	11/30/2023	<1.0	<1.0	<1.0	<2.0
	3/20/2024	<1.0	<1.0	<1.0	<2.0
	6/06/2024	<1.0	<1.0	<1.0	<1.5
	9/03/2024	<1.0	<1.0	<1.0	<1.5
	12/19/2024	<1.0	<1.0	<1.0	<1.5
MW-11	10/13/2017	<0.5	<1.0	<0.5	<1.5
	6/27/2018	<1.0	<1.0	<1.0	<1.5
	9/20/2018	<1.0	<1.0	<1.0	<2.0
	12/13/2018	<1.0	<1.0	<1.0	<2.0
	3/25/2019	<1.0	<1.0	<1.0	<1.5
	6/24/2019	<1.0	<1.0	<1.0	<2.0
	9/27/2019	<1.0	<1.0	<1.0	<2.0
	12/10/2019	<1.0	<1.0	<1.0	<2.0
	3/11/2020	<1.0	<1.0	<1.0	<1.5
	6/23/2020	<1.0	<1.0	<1.0	<1.5
	9/28/2020	<1.0	<1.0	<1.0	<1.5
	12/15/2020	<1.0	<1.0	<1.0	<2.0
	3/29/2021	<1.0	<1.0	<1.0	<1.5
	6/10/2021	<1.0	<1.0	<1.0	<1.5
	9/23/2021	<1.0	<1.0	<1.0	<2.0
	12/14/2021	<1.0	<1.0	<1.0	<2.0
	3/10/2022	<1.0	<1.0	<1.0	<1.5
	9/29/2022	<1.0	<1.0	<1.0	<1.5
	12/16/2022	<1.0	<1.0	<1.0	<1.5
	3/17/2023	<1.0	<1.0	<1.0	<2.0
	5/09/2023	<1.0	<1.0	<1.0	<2.0
	9/14/2023	<1.0	<1.0	<1.0	<2.0
	11/30/2023	<1.0	<1.0	<1.0	<2.0
	3/20/2024	<1.0	<1.0	<1.0	<2.0
	6/06/2024	<1.0	<1.0	<1.0	<1.5
	9/03/2024	<1.0	<1.0	<1.0	<1.5
	12/18/2024	<1.0	<1.0	<1.0	<1.5

ENSOLUM

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Sullivan Gas Com D#1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Date Sampled (1)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard		5	1,000	700	620
MW-12	10/06/2022	**760**	330	150	**7,700**
	3/16/2023	**470**	58	100	**3,200**
MW-13	9/24/2021	**23**	<5.0	54	**750**
	3/11/2022	**22**	5.9	58	**3,300**
	9/29/2022	**16**	<5.0	130	**840**
	3/16/2023	4.3	<5.0	33	110
	5/09/2023	**5.3**	<2.0	17	47
	9/14/2023	<5.0	<5.0	9.9	24
	11/30/2023	<1.0	<1.0	6.5	10
	8/30/2024	**10**	<1.0 S1+	61	24
MW-14	10/06/2022	**1,900**	**7,300**	**890**	**17,000**
MW-15	9/24/2021	**5.2**	<5.0	120	**1,100**
	3/11/2022	**8.6**	29	630	**7,400**
	10/06/2022	**12**	63	390	**3,100**
	12/16/2022	<2.5	7.0	130	550
	3/16/2023	<1.0	2.8	49	200
	5/09/2023	<2.0	8.1	210	**850**
	9/14/2023	<5.0	<5.0	70	250
	11/30/2023	<1.0	1.1	18	55
	3/19/2024	<1.0	<1.0	45	91
MW-16	9/23/2021	<1.0	<1.0	<1.0	<2.0
	3/11/2022	<1.0	<1.0	<1.0	<1.5
	9/29/2022	<1.0	<1.0	<1.0	<1.5
	12/16/2022	<1.0	<1.0	<1.0	<1.5
	3/16/2023	<1.0	<1.0	<1.0	<1.5
	5/09/2023	<1.0	<1.0	<1.0	<2.0
	9/14/2023	<1.0	<1.0	<1.0	<2.0
	11/30/2023	<1.0	<1.0	<1.0	<2.0
	3/19/2024	<1.0	<1.0	<1.0	<2.0
	6/06/2024	<1.0	<1.0	<1.0	<1.5
	8/30/2024	<1.0	<1.0	<1.0	<1.5
	12/19/2024	<1.0	<1.0	<1.0	<1.5
MW-17	9/23/2021	<1.0	<1.0	<1.0	<2.0
	12/14/2021	<1.0	<1.0	<1.0	<2.0
	3/11/2022	<1.0	<1.0	<1.0	<1.5
	9/29/2022	<1.0	<1.0	<1.0	<1.5
	12/16/2022	<1.0	<1.0	<1.0	<2.0
	3/16/2023	<1.0	<1.0	<1.0	<2.0
	5/09/2023	<1.0	<1.0	<1.0	<2.0
	9/14/2023	<1.0	<1.0	<1.0	<2.0
	11/30/2023	<1.0	<1.0	<1.0	<2.0
	3/20/2024	<1.0	<1.0	<1.0	<2.0
	6/06/2024	<1.0	<1.0	<1.0	<1.5
	8/30/2024	<1.0	<1.0	<1.0	<1.5
	12/19/2024	<1.0	<1.0	<1.0	<1.5

ENSOLUM

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Sullivan Gas Com D#1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Date Sampled (1)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard		5	1,000	700	620
MW-18	10/06/2022	**1,900**	**1,300**	**1,000**	**10,000**
MW-19	10/06/2022	**1,100**	240	**900**	**8,200**
MW-20	3/19/2024	<1.0	<1.0	<1.0	<2.0
MW-21	10/12/2021	<1.0	<1.0	<1.0	<1.5
	12/14/2021	<1.0	<1.0	<1.0	<2.0
	3/11/2022	<1.0	<1.0	<1.0	<1.5
	9/30/2022	<1.0	<1.0	<1.0	<1.5
	12/16/2022	<1.0	11	11	190
	3/17/2023	<1.0	<1.0	<1.0	<2.0
	5/11/2023	<1.0	<1.0	<1.0	<2.0
	9/14/2023	<1.0	<1.0	<1.0	<2.0
	11/30/2023	<1.0	<1.0	<1.0	<2.0
	6/05/2024	<1.0 P2	<1.0 P2	<1.0 P2	<1.5 P2
	8/29/2024	<1.0	<1.0	<1.0	<1.5
	12/19/2024	<1.0	<1.0	<1.0	<1.5
MW-22	12/16/2022	**35**	<2.5	<2.5	<5.0
	3/17/2023	**13**	<5.0	<5.0	14
	5/11/2023	**5.6**	<2.5	<2.5	11
	11/30/2023	2.0	<1.0	<1.0	<2.0
	3/19/2024	<5.0	<5.0	<5.0	<10
	6/05/2024	1.6	<1.0	<1.0	<1.5
	8/29/2024	3.4	<1.0	<1.0	<1.5
MW-24	3/19/2024	**760**	**1,500**	**1,100**	**6,400**
MW-25	5/11/2023	**56**	180	330	**4,200**
	9/14/2023	<5.0	<5.0	74	360
	11/30/2023	**32**	<5.0	180	410
	6/05/2024	**11**	30	2.6	38
	8/29/2024	<5.0	<5.0	<5.0	<7.5
	12/19/2024	<1.0	<1.0	<1.0	<1.5
MW-26	5/11/2023	<1.0	<1.0	<1.0	<2.0
	9/14/2023	<1.0	<1.0	<1.0	<2.0
	11/30/2023	<1.0	<1.0	<1.0	<2.0
	3/19/2024	<1.0	<1.0	<1.0	<2.0
	6/05/2024	<1.0	<1.0	<1.0	<1.5
	8/29/2024	<1.0	<1.0	<1.0	<1.5
	12/19/2024	<1.0	<1.0	<1.0	<1.5
MW-27	5/11/2023	<1.0	<1.0	<1.0	<2.0
	9/14/2023	<1.0	<1.0	<1.0	<2.0
	11/302023	<1.0	<1.0	<1.0	<2.0
	3/19/2024	<1.0	<1.0	<1.0	<2.0
	6/05/2024	<1.0	<1.0	<1.0	<1.5
	8/29/2024	<1.0	<1.0	<1.0	<1.5
	12/19/2024	2.2	<1.0	<1.0	<1.5

ENSOLUM

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Sullivan Gas Com D#1E
Hilcorp Energy Company
San Juan County, New Mexico

Well ID	Date Sampled (1)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard		**5**	**1,000**	**700**	**620**
MW-28	5/11/2023	<1.0	<1.0	<1.0	<2.0
	9/14/2023	**330**	<1.0	170	**1,100**
	11/30/2023	**42**	<1.0	<1.0	<2.0
	3/19/2024	<1.0	1.1	<1.0	<2.0
	6/05/2024	<1.0	<1.0	<1.0	<1.5
	8/29/2024	**23**	<1.0	350	**2,200**
	12/19/2024	**35**	<1.0	240	**1,600**

Notes:

(1): wells with measurable phase separated hydrocarbons and/or dry were not sampled for laboratory analysis

µg/L: micrograms per liter

ND: not detected, practical quantitation limit unknown

NMWQCC: New Mexico Water Quality Control Commission

P2 : The sample was received with pH>2

S1+ Surrogate recovery exceeds control limits, high biased.

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

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

ENSOLUM

APPENDIX A

Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 27, 2023

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

RE: Sullivan OrderNo.: 2309932

Dear Kate Kaufman:

Hall Environmental Analysis Laboratory received 16 sample(s) on 9/16/2023 for the analyses presented in the following report.

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

Please 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** PR-1
Project: Sullivan **Collection Date:** 9/14/2023 10:55:00 AM
Lab ID: 2309932-001 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	10		µg/L	10	9/21/2023 12:34:26 AM
Toluene	ND	10		µg/L	10	9/21/2023 12:34:26 AM
Ethylbenzene	42	10		µg/L	10	9/21/2023 12:34:26 AM
Xylenes, Total	2200	200	P	µg/L	100	9/21/2023 12:55:36 PM
Surr: 4-Bromofluorobenzene	111	52.4-148		%Rec	10	9/21/2023 12:34:26 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** PR-2
Project: Sullivan **Collection Date:** 9/14/2023 11:30:00 AM
Lab ID: 2309932-002 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	5.0		µg/L	5	9/21/2023 12:57:54 AM
Toluene	ND	5.0		µg/L	5	9/21/2023 12:57:54 AM
Ethylbenzene	41	5.0		µg/L	5	9/21/2023 12:57:54 AM
Xylenes, Total	86	10		µg/L	5	9/21/2023 12:57:54 AM
Surr: 4-Bromofluorobenzene	110	52.4-148		%Rec	5	9/21/2023 12:57:54 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-3
Project: Sullivan **Collection Date:** 9/14/2023 11:20:00 AM
Lab ID: 2309932-003 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	9/21/2023 1:21:35 AM
Toluene	ND	1.0		µg/L	1	9/21/2023 1:21:35 AM
Ethylbenzene	ND	1.0		µg/L	1	9/21/2023 1:21:35 AM
Xylenes, Total	ND	2.0		µg/L	1	9/21/2023 1:21:35 AM
Surr: 4-Bromofluorobenzene	101	52.4-148		%Rec	1	9/21/2023 1:21:35 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-5
Project: Sullivan **Collection Date:** 9/14/2023 11:45:00 AM
Lab ID: 2309932-004 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	220	100		µg/L	100	9/21/2023 1:45:11 AM
Toluene	360	100		µg/L	100	9/21/2023 1:45:11 AM
Ethylbenzene	200	100		µg/L	100	9/21/2023 1:45:11 AM
Xylenes, Total	4700	200		µg/L	100	9/21/2023 1:45:11 AM
Surr: 4-Bromofluorobenzene	105	52.4-148		%Rec	100	9/21/2023 1:45:11 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-7
Project: Sullivan **Collection Date:** 9/14/2023 12:05:00 PM
Lab ID: 2309932-005 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	9/21/2023 2:08:45 AM
Toluene	ND	1.0		µg/L	1	9/21/2023 2:08:45 AM
Ethylbenzene	ND	1.0		µg/L	1	9/21/2023 2:08:45 AM
Xylenes, Total	ND	2.0		µg/L	1	9/21/2023 2:08:45 AM
Surr: 4-Bromofluorobenzene	104	52.4-148		%Rec	1	9/21/2023 2:08:45 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-10
Project: Sullivan **Collection Date:** 9/14/2023 11:50:00 AM
Lab ID: 2309932-006 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	9/21/2023 2:32:18 AM
Toluene	ND	1.0		µg/L	1	9/21/2023 2:32:18 AM
Ethylbenzene	ND	1.0		µg/L	1	9/21/2023 2:32:18 AM
Xylenes, Total	ND	2.0		µg/L	1	9/21/2023 2:32:18 AM
Surr: 4-Bromofluorobenzene	98.5	52.4-148		%Rec	1	9/21/2023 2:32:18 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-11
Project: Sullivan **Collection Date:** 9/14/2023 11:00:00 AM
Lab ID: 2309932-007 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	9/21/2023 2:55:52 AM
Toluene	ND	1.0		µg/L	1	9/21/2023 2:55:52 AM
Ethylbenzene	ND	1.0		µg/L	1	9/21/2023 2:55:52 AM
Xylenes, Total	ND	2.0		µg/L	1	9/21/2023 2:55:52 AM
Surr: 4-Bromofluorobenzene	103	52.4-148		%Rec	1	9/21/2023 2:55:52 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-13
Project: Sullivan **Collection Date:** 9/14/2023 1:00:00 PM
Lab ID: 2309932-008 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	5.0		µg/L	5	9/21/2023 3:19:27 AM
Toluene	ND	5.0		µg/L	5	9/21/2023 3:19:27 AM
Ethylbenzene	9.9	5.0		µg/L	5	9/21/2023 3:19:27 AM
Xylenes, Total	24	10		µg/L	5	9/21/2023 3:19:27 AM
Surr: 4-Bromofluorobenzene	106	52.4-148		%Rec	5	9/21/2023 3:19:27 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-15
Project: Sullivan **Collection Date:** 9/14/2023 1:15:00 PM
Lab ID: 2309932-009 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	5.0		µg/L	5	9/21/2023 3:43:03 AM
Toluene	ND	5.0		µg/L	5	9/21/2023 3:43:03 AM
Ethylbenzene	70	5.0		µg/L	5	9/21/2023 3:43:03 AM
Xylenes, Total	250	10		µg/L	5	9/21/2023 3:43:03 AM
Surr: 4-Bromofluorobenzene	126	52.4-148		%Rec	5	9/21/2023 3:43:03 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-16
Project: Sullivan **Collection Date:** 9/14/2023 1:06:00 PM
Lab ID: 2309932-010 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	9/21/2023 4:06:41 AM
Toluene	ND	1.0		µg/L	1	9/21/2023 4:06:41 AM
Ethylbenzene	ND	1.0		µg/L	1	9/21/2023 4:06:41 AM
Xylenes, Total	ND	2.0		µg/L	1	9/21/2023 4:06:41 AM
Surr: 4-Bromofluorobenzene	99.2	52.4-148		%Rec	1	9/21/2023 4:06:41 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-17
Project: Sullivan **Collection Date:** 9/14/2023 12:40:00 PM
Lab ID: 2309932-011 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	9/21/2023 4:53:39 AM
Toluene	ND	1.0		µg/L	1	9/21/2023 4:53:39 AM
Ethylbenzene	ND	1.0		µg/L	1	9/21/2023 4:53:39 AM
Xylenes, Total	ND	2.0		µg/L	1	9/21/2023 4:53:39 AM
Surr: 4-Bromofluorobenzene	101	52.4-148		%Rec	1	9/21/2023 4:53:39 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-21
Project: Sullivan **Collection Date:** 9/14/2023 3:00:00 PM
Lab ID: 2309932-012 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	9/21/2023 5:17:03 AM
Toluene	ND	1.0		µg/L	1	9/21/2023 5:17:03 AM
Ethylbenzene	ND	1.0		µg/L	1	9/21/2023 5:17:03 AM
Xylenes, Total	ND	2.0		µg/L	1	9/21/2023 5:17:03 AM
Surr: 4-Bromofluorobenzene	102	52.4-148		%Rec	1	9/21/2023 5:17:03 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-25
Project: Sullivan **Collection Date:** 9/14/2023 2:05:00 PM
Lab ID: 2309932-013 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	5.0		µg/L	5	9/21/2023 1:42:25 PM
Toluene	ND	5.0		µg/L	5	9/21/2023 1:42:25 PM
Ethylbenzene	74	5.0		µg/L	5	9/21/2023 1:42:25 PM
Xylenes, Total	360	10		µg/L	5	9/21/2023 1:42:25 PM
Surr: 4-Bromofluorobenzene	117	52.4-148		%Rec	5	9/21/2023 1:42:25 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-26
Project: Sullivan **Collection Date:** 9/14/2023 2:10:00 PM
Lab ID: 2309932-014 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	9/21/2023 6:04:10 AM
Toluene	ND	1.0		µg/L	1	9/21/2023 6:04:10 AM
Ethylbenzene	ND	1.0		µg/L	1	9/21/2023 6:04:10 AM
Xylenes, Total	ND	2.0		µg/L	1	9/21/2023 6:04:10 AM
Surr: 4-Bromofluorobenzene	103	52.4-148		%Rec	1	9/21/2023 6:04:10 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-27
Project: Sullivan **Collection Date:** 9/14/2023 2:30:00 PM
Lab ID: 2309932-015 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	9/21/2023 6:27:45 AM
Toluene	ND	1.0		µg/L	1	9/21/2023 6:27:45 AM
Ethylbenzene	ND	1.0		µg/L	1	9/21/2023 6:27:45 AM
Xylenes, Total	ND	2.0		µg/L	1	9/21/2023 6:27:45 AM
Surr: 4-Bromofluorobenzene	101	52.4-148		%Rec	1	9/21/2023 6:27:45 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 **2309932**
Date Reported: **9/27/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-28
Project: Sullivan **Collection Date:** 9/14/2023 2:55:00 PM
Lab ID: 2309932-016 **Matrix:** GROUNDWA **Received Date:** 9/16/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	330	10		µg/L	10	9/21/2023 1:19:00 PM
Toluene	ND	1.0		µg/L	1	9/21/2023 6:51:21 AM
Ethylbenzene	170	10		µg/L	10	9/21/2023 1:19:00 PM
Xylenes, Total	1100	20		µg/L	10	9/21/2023 1:19:00 PM
Surr: 4-Bromofluorobenzene	196	52.4-148	S	%Rec	1	9/21/2023 6:51:21 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#: **2309932**

27-Sep-23

Client: HILCORP ENERGY

Project: Sullivan

Sample ID: **100NG BTEX LCS-II**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **BWW99849**	RunNo: **99849**
Prep Date:	Analysis Date: **9/20/2023**	SeqNo: **3652057** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	22	1.0	20.00	0	108	70	130			
Ethylbenzene	22	1.0	20.00	0	108	70	130			
Xylenes, Total	65	2.0	60.00	0	108	70	130			
Surr: 4-Bromofluorobenzene	22		20.00		108	52.4	148			

Sample ID: **MB-II**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **BWW99849**	RunNo: **99849**
Prep Date:	Analysis Date: **9/21/2023**	SeqNo: **3652059** 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	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		105	52.4	148			

Sample ID: **2309932-016ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-28**	Batch ID: **BWW99849**	RunNo: **99886**
Prep Date:	Analysis Date: **9/21/2023**	SeqNo: **3653635** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	520	10	200.0	327.5	97.9	70	130			
Toluene	200	10	200.0	0	98.5	70	130			
Ethylbenzene	370	10	200.0	165.7	100	70	130			
Xylenes, Total	1700	20	600.0	1099	93.3	70	130			
Surr: 4-Bromofluorobenzene	220		200.0		110	52.4	148			

Sample ID: **2309932-016amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-28**	Batch ID: **BWW99849**	RunNo: **99886**
Prep Date:	Analysis Date: **9/21/2023**	SeqNo: **3653636** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	510	10	200.0	327.5	93.4	70	130	1.72	20	
Toluene	190	10	200.0	0	96.0	70	130	2.63	20	
Ethylbenzene	360	10	200.0	165.7	99.6	70	130	0.372	20	
Xylenes, Total	1600	20	600.0	1099	91.7	70	130	0.577	20	
Surr: 4-Bromofluorobenzene	220		200.0		111	52.4	148	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2309932 RcptNo: 1

Received By: Juan Rojas 9/16/2023 7:00:00 AM

Completed By: Desiree Dominguez 9/18/2023 9:40:03 AM

Reviewed By: JM 9/18/23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: SCM 9/18/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

Client did not provide address or phone number on COC. -DAD 9/18/23

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Not Present	Yogi		

Chain-of-Custody Record

Client: Hilcorp

Kate Kaufman

Mailing Address:

Phone #:

email or Fax#: KKaufman@hilcorp.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Sullivan

Project #:

Project Manager: Stuart Hyde - Ensolum.com

Sampler: E. Carroll / A Thomson

On Ice: ~~☐~~ Yes ☐ No

# of Coolers: 1 Yes

Cooler Temp(including CF): 0.5-0.1=0.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309932	BTEX / ~~MTBE~~ / ~~TMB's~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-14	10:55	GW	PR-1	3 VOA	HCl	-001	X									
	11:30		PR-2			-002										
	11:20		MW-3			-003										
	11:45		MW-5			-004										
	12:05		MW-7			-005										
	11:50		MW-10			-006										
	11:00		MW-11			-007										
	13:00		MW-13			-008										
	13:15		MW-15			-009										
	13:06		MW-16			-010										
	12:40		MW-17			-011										
	15:00		MW-21			-012										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9-15	1415		Chad Ward		9/15/23	1412
9/15/23	1754	Chad Ward		Courier	9/16/23	7:00

Remarks:

cc: ecarroll@ensolum.com

Chain-of-Custody Record

Client: Hilcorp

Kobe Kaufman

Mailing Address:

Phone #:

email or Fax#: KKaufman@hilcorp.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Sullivan

Project #:

Project Manager: Stuart Hyde - Ensolum

Sampler: E. Carroll / A. Thomson

On Ice: ☒ Yes ☐ No

# of Coolers: 1 Yoni

Cooler Temp(including CF): 0.5+0.1=0.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309932	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-14	14:05	GW	MW-25	3VOA	HCl	-013	X									
	14:10		MW-26			-014	X									
	14:30		MW-27			-015	X									
	14:55		MW-28			-016	X									

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9-15	14:15			Courier	9/15/23	1418
9/15/23	1754			Courier	9/16/23	7:00

Remarks:

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

eurofins | Environment Testing

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

December 07, 2023

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

RE: Sullivan GCD 1E OrderNo.: 2312091

Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 19 sample(s) on 12/2/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** PR01
Project: Sullivan GCD 1E **Collection Date:** 11/30/2023 11:05:00 AM
Lab ID: 2312091-001 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	5.0	D	µg/L	5	12/5/2023 1:02:45 PM
Toluene	ND	5.0	D	µg/L	5	12/5/2023 1:02:45 PM
Ethylbenzene	26	5.0	D	µg/L	5	12/5/2023 1:02:45 PM
Xylenes, Total	1500	200		µg/L	100	12/4/2023 11:46:08 PM
Surr: 4-Bromofluorobenzene	101	52.4-148	D	%Rec	5	12/5/2023 1:02:45 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** PR02
Project: Sullivan GCD 1E **Collection Date:** 11/30/2023 12:20:00 PM
Lab ID: 2312091-002 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	1.5	1.0		µg/L	1	12/5/2023 1:49:11 PM
Toluene	ND	1.0		µg/L	1	12/5/2023 1:49:11 PM
Ethylbenzene	19	1.0		µg/L	1	12/5/2023 1:49:11 PM
Xylenes, Total	55	2.0		µg/L	1	12/5/2023 1:49:11 PM
Surr: 4-Bromofluorobenzene	116	52.4-148		%Rec	1	12/5/2023 1:49:11 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 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW03
Project: Sullivan GCD 1E **Collection Date:** 11/30/2023 12:05:00 PM
Lab ID: 2312091-003 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 1:19:21 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 1:19:21 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 1:19:21 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 1:19:21 AM
Surr: 4-Bromofluorobenzene	92.3	52.4-148		%Rec	1	12/5/2023 1:19:21 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW05
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 11:50:00 AM
Lab ID: 2312091-004 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	140	100		µg/L	100	12/5/2023 1:42:37 AM
Toluene	190	100		µg/L	100	12/5/2023 1:42:37 AM
Ethylbenzene	240	100		µg/L	100	12/5/2023 1:42:37 AM
Xylenes, Total	7400	200		µg/L	100	12/5/2023 1:42:37 AM
Surr: 4-Bromofluorobenzene	93.7	52.4-148		%Rec	100	12/5/2023 1:42:37 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW06
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 10:55:00 AM
Lab ID: 2312091-005 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	20		µg/L	50	12/5/2023 2:05:47 AM
Toluene	53	50		µg/L	50	12/5/2023 2:05:47 AM
Ethylbenzene	510	50		µg/L	50	12/5/2023 2:05:47 AM
Xylenes, Total	1800	100		µg/L	50	12/5/2023 2:05:47 AM
Surr: 4-Bromofluorobenzene	103	52.4-148		%Rec	50	12/5/2023 2:05:47 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW07
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 11:32:00 AM
Lab ID: 2312091-006 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 2:28:57 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 2:28:57 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 2:28:57 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 2:28:57 AM
Surr: 4-Bromofluorobenzene	92.8	52.4-148		%Rec	1	12/5/2023 2:28:57 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW09
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 12:47:00 PM
Lab ID: 2312091-007 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 2:52:06 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 2:52:06 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 2:52:06 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 2:52:06 AM
Surr: 4-Bromofluorobenzene	92.8	52.4-148		%Rec	1	12/5/2023 2:52:06 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW10
Project: Sullivan GCD 1E **Collection Date:** 11/30/2023 12:30:00 PM
Lab ID: 2312091-008 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 3:15:12 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 3:15:12 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 3:15:12 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 3:15:12 AM
Surr: 4-Bromofluorobenzene	92.5	52.4-148		%Rec	1	12/5/2023 3:15:12 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW11
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 11:55:00 AM
Lab ID: 2312091-009 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 3:38:17 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 3:38:17 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 3:38:17 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 3:38:17 AM
Surr: 4-Bromofluorobenzene	91.1	52.4-148		%Rec	1	12/5/2023 3:38:17 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW13
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 1:15:00 PM
Lab ID: 2312091-010 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 2:12:24 PM
Toluene	ND	1.0		µg/L	1	12/5/2023 2:12:24 PM
Ethylbenzene	6.5	1.0		µg/L	1	12/5/2023 2:12:24 PM
Xylenes, Total	10	2.0		µg/L	1	12/5/2023 2:12:24 PM
Surr: 4-Bromofluorobenzene	106	52.4-148		%Rec	1	12/5/2023 2:12:24 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW15
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 1:37:00 PM
Lab ID: 2312091-011 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 5:19:58 PM
Toluene	1.1	1.0		µg/L	1	12/5/2023 5:19:58 PM
Ethylbenzene	18	1.0		µg/L	1	12/5/2023 5:19:58 PM
Xylenes, Total	55	2.0		µg/L	1	12/5/2023 5:19:58 PM
Surr: 4-Bromofluorobenzene	118	52.4-148		%Rec	1	12/5/2023 5:19:58 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW16
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 1:45:00 PM
Lab ID: 2312091-012 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 5:10:30 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 5:10:30 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 5:10:30 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 5:10:30 AM
Surr: 4-Bromofluorobenzene	91.5	52.4-148		%Rec	1	12/5/2023 5:10:30 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW17
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 1:00:00 PM
Lab ID: 2312091-013 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 5:33:34 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 5:33:34 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 5:33:34 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 5:33:34 AM
Surr: 4-Bromofluorobenzene	90.8	52.4-148		%Rec	1	12/5/2023 5:33:34 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW21
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 2:35:00 PM
Lab ID: 2312091-014 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 5:56:37 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 5:56:37 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 5:56:37 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 5:56:37 AM
Surr: 4-Bromofluorobenzene	91.1	52.4-148		%Rec	1	12/5/2023 5:56:37 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW22
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 2:55:00 PM
Lab ID: 2312091-015 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	2.0	1.0		µg/L	1	12/5/2023 6:19:39 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 6:19:39 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 6:19:39 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 6:19:39 AM
Surr: 4-Bromofluorobenzene	88.7	52.4-148		%Rec	1	12/5/2023 6:19:39 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW25
Project: Sullivan GCD 1E **Collection Date:** 12/1/2023 11:35:00 AM
Lab ID: 2312091-016 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	32	5.0		µg/L	5	12/5/2023 1:26:02 PM
Toluene	ND	5.0		µg/L	5	12/5/2023 1:26:02 PM
Ethylbenzene	180	5.0		µg/L	5	12/5/2023 1:26:02 PM
Xylenes, Total	410	10		µg/L	5	12/5/2023 1:26:02 PM
Surr: 4-Bromofluorobenzene	121	52.4-148		%Rec	5	12/5/2023 1:26:02 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 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW26
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 2:20:00 PM
Lab ID: 2312091-017 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 7:05:38 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 7:05:38 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 7:05:38 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 7:05:38 AM
Surr: 4-Bromofluorobenzene	89.8	52.4-148		%Rec	1	12/5/2023 7:05:38 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.		

Analytical Report
Lab Order **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW27
Project: Sullivan GCD 1E
Collection Date: 11/30/2023 2:51:00 PM
Lab ID: 2312091-018 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	1.0		µg/L	1	12/5/2023 7:28:39 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 7:28:39 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 7:28:39 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 7:28:39 AM
Surr: 4-Bromofluorobenzene	88.8	52.4-148		%Rec	1	12/5/2023 7:28:39 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 **2312091**
Date Reported: **12/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW28
Project: Sullivan GCD 1E
Collection Date: 12/1/2023 12:05:00 PM
Lab ID: 2312091-019 **Matrix:** AQUEOUS **Received Date:** 12/2/2023 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	42	1.0		µg/L	1	12/5/2023 7:51:40 AM
Toluene	ND	1.0		µg/L	1	12/5/2023 7:51:40 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 7:51:40 AM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2023 7:51:40 AM
Surr: 4-Bromofluorobenzene	117	52.4-148		%Rec	1	12/5/2023 7:51:40 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#: **2312091**

07-Dec-23

Client: HILCORP ENERGY

Project: Sullivan GCD 1E

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **BW101567**	RunNo: **101567**
Prep Date:	Analysis Date: **12/4/2023**	SeqNo: **3740493** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.3	70	130			
Toluene	19	1.0	20.00	0	95.7	70	130			
Ethylbenzene	19	1.0	20.00	0	96.1	70	130			
Xylenes, Total	58	2.0	60.00	0	96.6	70	130			
Surr: 4-Bromofluorobenzene	19		20.00		95.2	52.4	148			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **BW101567**	RunNo: **101567**
Prep Date:	Analysis Date: **12/4/2023**	SeqNo: **3740494** 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	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		94.6	52.4	148			

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **BW101599**	RunNo: **101599**
Prep Date:	Analysis Date: **12/5/2023**	SeqNo: **3741937** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.6	70	130			
Toluene	20	1.0	20.00	0	97.7	70	130			
Ethylbenzene	19	1.0	20.00	0	97.5	70	130			
Xylenes, Total	59	2.0	60.00	0	98.6	70	130			
Surr: 4-Bromofluorobenzene	20		20.00		98.0	52.4	148			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **BW101599**	RunNo: **101599**
Prep Date:	Analysis Date: **12/5/2023**	SeqNo: **3741938** 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	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		94.4	52.4	148			

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#: **2312091**

07-Dec-23

Client: HILCORP ENERGY

Project: Sullivan GCD 1E

Sample ID: **2312091-001ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PR01** Batch ID: **BW101599** RunNo: **101599**

Prep Date: Analysis Date: **12/5/2023** SeqNo: **3742566** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	93	5.0	100.0	0	93.0	70	130			D
Toluene	95	5.0	100.0	0	95.4	70	130			D
Ethylbenzene	120	5.0	100.0	26.13	94.4	70	130			D
Xylenes, Total	1700	10	300.0	1472	88.8	70	130			ED
Surr: 4-Bromofluorobenzene	98		100.0		98.1	52.4	148			D

Sample ID: **2312091-001amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PR01** Batch ID: **BW101599** RunNo: **101599**

Prep Date: Analysis Date: **12/5/2023** SeqNo: **3742567** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	91	5.0	100.0	0	90.7	70	130	2.54	20	D
Toluene	93	5.0	100.0	0	93.4	70	130	2.13	20	D
Ethylbenzene	120	5.0	100.0	26.13	92.6	70	130	1.48	20	D
Xylenes, Total	1700	10	300.0	1472	83.5	70	130	0.918	20	ED
Surr: 4-Bromofluorobenzene	97		100.0		96.7	52.4	148	0	0	D

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.		

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2312091 RcptNo: 1

Received By: Tracy Casarrubias 12/2/2023 8:30:00 AM

Completed By: Tracy Casarrubias 12/2/2023 9:26:51 AM

Reviewed By: SCM 12/4/23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: TM 12/4/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: Mailing address,phone number, and Email/Fax are missing on COC- TMC 12/2/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	Yes	Morty		

Chain-of-Custody Record

Client: Hilcorp attn: Mitch Killough

mkillough@hilcorp.com

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☑ Standard ☐ Rush

Project Name: Sullivan GC D #1E

Project #:

Project Manager: Stuart Hyde

shyde@ensolum.com

Sampler: Zach Myers/Al Thomson

On Ice: ☑ Yes ☐ No marty

# of Coolers: 1

Cooler Temp(including CF): 2.5 Ø: 2.5 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2312091	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
11-30	1105	water	PR01	3xVOA	HCl	001	✓									
	1220		PR02			002										
	1205		MW03			003										
	1150		MW05			004										
	1055		MW06			005										
	1132		MW07			006										
	1247		MW09			007										
	1230		MW10			008										
	1155		MW11			009										
	1315		MW13			010										
	1337		MW15			011										
↓	1345	↓	MW16	↓	↓	012	↓									

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
12/1/23	1322				12/1/23	1322
12/1/23	1830			courier	12/2/23	8:30

Remarks:

cc: zmyers athomson @ensolum.com

Chain-of-Custody Record

Client: Hilcorp attn: Mitch Killough
mkillough@hilcorp.com

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
Sullivan GC D #1E

Project #:

Project Manager: Stuart Hyde
shyde@ensolum.com

Sampler: Zach Myers / Al Thomson

On Ice: ☑ Yes ☐ No marty

# of Coolers: 1

Cooler Temp(including CF): 2.5-0=2.5 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2312091
11-30	1300	water	MW17	3xVOA	HCl	013
11-30	1435		MW21			014
11-30	1455		MW22			015
12-1	1135		MW25			016
11-30	1420		MW26			017
11-30	1451		MW27			018
12-1	1205		MW28			019

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
✓									
✓									
✓									
✓									
✓									
✓									
✓									

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
12/1/23	1322				12/1/23	1322
12/1/23	1530			courier	12/2/23	8:30

Remarks:
cc: zmyers athomson @ensolum.com

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 3/30/2024 8:45:27 PM

JOB DESCRIPTION

Sullivan GC D #1E

JOB NUMBER

885-1526-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
3/30/2024 8:45:27 PM

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

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Laboratory Job ID: 885-1526-1

Table of Contents

Definitions/Glossary

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Hilcorp Energy
Project: Sullivan GC D #1E

Job ID: 885-1526-1

Job ID: 885-1526-1 Eurofins Albuquerque

Job Narrative
885-1526-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 3/21/2024 6:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C.

GC VOA
Method 8021B: The following sample was diluted due to the nature of the sample matrix: MW-22 (885-1526-10). Elevated reporting limits (RLs) are provided.

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

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

Client Sample ID: MW-03
Date Collected: 03/20/24 11:47
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-1
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 15:09	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 15:09	1
Toluene	ND		1.0		ug/L			03/22/24 15:09	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*52 - 148*		*03/22/24 15:09*	*1*

Client Sample ID: MW-07
Date Collected: 03/20/24 11:15
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-2
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 15:32	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 15:32	1
Toluene	ND		1.0		ug/L			03/22/24 15:32	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*52 - 148*		*03/22/24 15:32*	*1*

Client Sample ID: MW-09
Date Collected: 03/20/24 10:40
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-3
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 15:56	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 15:56	1
Toluene	ND		1.0		ug/L			03/22/24 15:56	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 15:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*52 - 148*		*03/22/24 15:56*	*1*

Client Sample ID: MW-10
Date Collected: 03/20/24 11:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-4
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 16:20	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 16:20	1
Toluene	ND		1.0		ug/L			03/22/24 16:20	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*52 - 148*		*03/22/24 16:20*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

Client Sample ID: MW-11
Date Collected: 03/20/24 12:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-5
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 16:43	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 16:43	1
Toluene	ND		1.0		ug/L			03/22/24 16:43	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*52 - 148*		*03/22/24 16:43*	*1*

Client Sample ID: MW-15
Date Collected: 03/19/24 15:15
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-6
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/25/24 14:38	1
Ethylbenzene	**45**		1.0		ug/L			03/25/24 14:38	1
Toluene	ND		1.0		ug/L			03/25/24 14:38	1
Xylenes, Total	**91**		2.0		ug/L			03/25/24 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*148*		*52 - 148*		*03/25/24 14:38*	*1*

Client Sample ID: MW-16
Date Collected: 03/19/24 15:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-7
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 17:30	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 17:30	1
Toluene	ND		1.0		ug/L			03/22/24 17:30	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 17:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*52 - 148*		*03/22/24 17:30*	*1*

Client Sample ID: MW-17
Date Collected: 03/20/24 10:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-8
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 17:53	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 17:53	1
Toluene	ND		1.0		ug/L			03/22/24 17:53	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*52 - 148*		*03/22/24 17:53*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

Client Sample ID: MW-20
Date Collected: 03/19/24 13:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-9
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 18:40	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 18:40	1
Toluene	ND		1.0		ug/L			03/22/24 18:40	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*52 - 148*		*03/22/24 18:40*	*1*

Client Sample ID: MW-22
Date Collected: 03/19/24 12:30
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-10
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0		ug/L			03/22/24 19:03	5
Ethylbenzene	ND		5.0		ug/L			03/22/24 19:03	5
Toluene	ND		5.0		ug/L			03/22/24 19:03	5
Xylenes, Total	ND		10		ug/L			03/22/24 19:03	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*52 - 148*		*03/22/24 19:03*	*5*

Client Sample ID: MW-24
Date Collected: 03/19/24 12:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-11
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**760**		50		ug/L			03/22/24 19:27	50
Ethylbenzene	**1100**		50		ug/L			03/22/24 19:27	50
Toluene	**1500**		50		ug/L			03/22/24 19:27	50
Xylenes, Total	**6400**		100		ug/L			03/22/24 19:27	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*52 - 148*		*03/22/24 19:27*	*50*

Client Sample ID: MW-26
Date Collected: 03/19/24 14:25
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-12
Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 22:12	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 22:12	1
Toluene	ND		1.0		ug/L			03/22/24 22:12	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 22:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*52 - 148*		*03/22/24 22:12*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

Client Sample ID: MW-27

Lab Sample ID: 885-1526-13
Date Collected: 03/19/24 14:05
Matrix: Water
Date Received: 03/21/24 06:45

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 23:22	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 23:22	1
Toluene	ND		1.0		ug/L			03/22/24 23:22	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*52 - 148*		*03/22/24 23:22*	*1*

Client Sample ID: MW-28

Lab Sample ID: 885-1526-14
Date Collected: 03/19/24 13:33
Matrix: Water
Date Received: 03/21/24 06:45

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 23:46	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 23:46	1
Toluene	**1.1**		1.0		ug/L			03/22/24 23:46	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 23:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*52 - 148*		*03/22/24 23:46*	*1*

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-2231/24
Matrix: Water
Analysis Batch: 2231

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 10:03	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 10:03	1
Toluene	ND		1.0		ug/L			03/22/24 10:03	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 10:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*52 - 148*		*03/22/24 10:03*	*1*

Lab Sample ID: MB 885-2231/25
Matrix: Water
Analysis Batch: 2231

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/22/24 21:48	1
Ethylbenzene	ND		1.0		ug/L			03/22/24 21:48	1
Toluene	ND		1.0		ug/L			03/22/24 21:48	1
Xylenes, Total	ND		2.0		ug/L			03/22/24 21:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*52 - 148*		*03/22/24 21:48*	*1*

Lab Sample ID: LCS 885-2231/22
Matrix: Water
Analysis Batch: 2231

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	18.6		ug/L		93	70 - 130		
Ethylbenzene			20.0	18.9		ug/L		94	70 - 130		
m&p-Xylene			40.0	38.4		ug/L		96	70 - 130		
o-Xylene			20.0	18.7		ug/L		94	70 - 130		
Toluene			20.0	18.7		ug/L		94	70 - 130		
Xylenes, Total			60.0	57.1		ug/L		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*52 - 148*

Lab Sample ID: LCS 885-2231/23
Matrix: Water
Analysis Batch: 2231

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	18.3		ug/L		92	70 - 130		
Ethylbenzene			20.0	18.5		ug/L		92	70 - 130		
m&p-Xylene			40.0	37.3		ug/L		93	70 - 130		
o-Xylene			20.0	18.3		ug/L		92	70 - 130		
Toluene			20.0	18.3		ug/L		92	70 - 130		
Xylenes, Total			60.0	55.7		ug/L		93	70 - 130		

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 885-2231/23
Matrix: Water
Analysis Batch: 2231

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		52 - 148

Lab Sample ID: 885-1526-1 MS
Matrix: Water
Analysis Batch: 2231

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		20.0	17.6		ug/L		88	70 - 130
Ethylbenzene	ND		20.0	17.9		ug/L		89	70 - 130
m&p-Xylene	ND		40.0	36.2		ug/L		91	70 - 130
o-Xylene	ND		20.0	17.8		ug/L		89	70 - 130
Toluene	ND		20.0	17.7		ug/L		88	70 - 130
Xylenes, Total	ND		60.0	54.0		ug/L		90	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		52 - 148

Lab Sample ID: 885-1526-1 MSD
Matrix: Water
Analysis Batch: 2231

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		20.0	17.3		ug/L		86	70 - 130	2	20
Ethylbenzene	ND		20.0	17.6		ug/L		88	70 - 130	1	20
m&p-Xylene	ND		40.0	35.6		ug/L		89	70 - 130	2	20
o-Xylene	ND		20.0	17.6		ug/L		88	70 - 130	1	20
Toluene	ND		20.0	17.5		ug/L		87	70 - 130	1	20
Xylenes, Total	ND		60.0	53.2		ug/L		89	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		52 - 148

Lab Sample ID: 885-1526-12 MS
Matrix: Water
Analysis Batch: 2231

Client Sample ID: MW-26
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		20.0	17.6		ug/L		88	70 - 130
Ethylbenzene	ND		20.0	18.1		ug/L		90	70 - 130
m&p-Xylene	ND		40.0	36.4		ug/L		91	70 - 130
o-Xylene	ND		20.0	17.8		ug/L		89	70 - 130
Toluene	ND		20.0	17.8		ug/L		89	70 - 130
Xylenes, Total	ND		60.0	54.3		ug/L		90	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		52 - 148

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-1526-12 MSD
Matrix: Water
Analysis Batch: 2231

Client Sample ID: MW-26
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		20.0	17.7		ug/L		88	70 - 130	0	20
Ethylbenzene	ND		20.0	17.9		ug/L		90	70 - 130	1	20
m&p-Xylene	ND		40.0	36.4		ug/L		91	70 - 130	0	20
o-Xylene	ND		20.0	17.9		ug/L		89	70 - 130	0	20
Toluene	ND		20.0	17.8		ug/L		89	70 - 130	0	20
Xylenes, Total	ND		60.0	54.2		ug/L		90	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*52 - 148*

Lab Sample ID: MB 885-2295/12
Matrix: Water
Analysis Batch: 2295

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			03/25/24 10:42	1
Ethylbenzene	ND		1.0		ug/L			03/25/24 10:42	1
Toluene	ND		1.0		ug/L			03/25/24 10:42	1
Xylenes, Total	ND		2.0		ug/L			03/25/24 10:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*52 - 148*		*03/25/24 10:42*	*1*

Lab Sample ID: LCS 885-2295/11
Matrix: Water
Analysis Batch: 2295

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	17.8		ug/L		89	70 - 130		
Ethylbenzene			20.0	18.1		ug/L		91	70 - 130		
m&p-Xylene			40.0	36.7		ug/L		92	70 - 130		
o-Xylene			20.0	17.9		ug/L		89	70 - 130		
Toluene			20.0	18.0		ug/L		90	70 - 130		
Xylenes, Total			60.0	54.6		ug/L		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*52 - 148*

QC Association Summary

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

GC VOA

Analysis Batch: 2231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1526-1	MW-03	Total/NA	Water	8021B	
885-1526-2	MW-07	Total/NA	Water	8021B	
885-1526-3	MW-09	Total/NA	Water	8021B	
885-1526-4	MW-10	Total/NA	Water	8021B	
885-1526-5	MW-11	Total/NA	Water	8021B	
885-1526-7	MW-16	Total/NA	Water	8021B	
885-1526-8	MW-17	Total/NA	Water	8021B	
885-1526-9	MW-20	Total/NA	Water	8021B	
885-1526-10	MW-22	Total/NA	Water	8021B	
885-1526-11	MW-24	Total/NA	Water	8021B	
885-1526-12	MW-26	Total/NA	Water	8021B	
885-1526-13	MW-27	Total/NA	Water	8021B	
885-1526-14	MW-28	Total/NA	Water	8021B	
MB 885-2231/24	Method Blank	Total/NA	Water	8021B	
MB 885-2231/25	Method Blank	Total/NA	Water	8021B	
LCS 885-2231/22	Lab Control Sample	Total/NA	Water	8021B	
LCS 885-2231/23	Lab Control Sample	Total/NA	Water	8021B	
885-1526-1 MS	MW-03	Total/NA	Water	8021B	
885-1526-1 MSD	MW-03	Total/NA	Water	8021B	
885-1526-12 MS	MW-26	Total/NA	Water	8021B	
885-1526-12 MSD	MW-26	Total/NA	Water	8021B	

Analysis Batch: 2295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1526-6	MW-15	Total/NA	Water	8021B	
MB 885-2295/12	Method Blank	Total/NA	Water	8021B	
LCS 885-2295/11	Lab Control Sample	Total/NA	Water	8021B	

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

Client Sample ID: MW-03
Date Collected: 03/20/24 11:47
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2231	JP	EET ALB	03/22/24 15:09

Client Sample ID: MW-07
Date Collected: 03/20/24 11:15
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2231	JP	EET ALB	03/22/24 15:32

Client Sample ID: MW-09
Date Collected: 03/20/24 10:40
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2231	JP	EET ALB	03/22/24 15:56

Client Sample ID: MW-10
Date Collected: 03/20/24 11:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2231	JP	EET ALB	03/22/24 16:20

Client Sample ID: MW-11
Date Collected: 03/20/24 12:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2231	JP	EET ALB	03/22/24 16:43

Client Sample ID: MW-15
Date Collected: 03/19/24 15:15
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2295	JP	EET ALB	03/25/24 14:38

Client Sample ID: MW-16
Date Collected: 03/19/24 15:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2231	JP	EET ALB	03/22/24 17:30

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

Client Sample ID: MW-17
Date Collected: 03/20/24 10:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2231	JP	EET ALB	03/22/24 17:53

Client Sample ID: MW-20
Date Collected: 03/19/24 13:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2231	JP	EET ALB	03/22/24 18:40

Client Sample ID: MW-22
Date Collected: 03/19/24 12:30
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		5	2231	JP	EET ALB	03/22/24 19:03

Client Sample ID: MW-24
Date Collected: 03/19/24 12:00
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		50	2231	JP	EET ALB	03/22/24 19:27

Client Sample ID: MW-26
Date Collected: 03/19/24 14:25
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2231	JP	EET ALB	03/22/24 22:12

Client Sample ID: MW-27
Date Collected: 03/19/24 14:05
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2231	JP	EET ALB	03/22/24 23:22

Client Sample ID: MW-28
Date Collected: 03/19/24 13:33
Date Received: 03/21/24 06:45

Lab Sample ID: 885-1526-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8021B		1	2231	JP	EET ALB	03/22/24 23:46

Laboratory References:

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

Eurofins Albuquerque

Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-1526-1

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8021B		Water	Benzene
8021B		Water	Ethylbenzene
8021B		Water	Toluene
8021B		Water	Xylenes, Total

Oregon	NELAP	NM100001	02-26-25

Chain-of-Custody Record

Client: Hilcorp Energy Company
Attn: Mitch Killough
Mailing Address:

Phone #: 281-851-2338
email or Fax#: MKillough@hilcorp.com
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
5-day
☑ Standard ☐ Rush
Project Name:
Sullivan GC D #1E
Project #:
Project Manager: Stuart Hyde
shyde@ensolum.com
Sampler:
On Ice: ☒ Yes ☐ No marty
# of Coolers: 1
Cooler Temp(including CF): 0.9 - 0.1 = 0.8 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 8
Tel. 505-345-3975 Fax 505-345-41
885-1526 COC

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3-20	11:47	Aq	MW03	3x VOAs	HCl	1	X									
	11:15		MW07			2.										
	1040		MW09			3										
	1100		MW10			4										
↓	1200		MW11		↓	5										
3-19	1515		MW-15		$HgCl_2$	6										
3-19	1500		MW-16		$HgCl_2$	7										
3-20	1000		MW17		HCl	8										
3-19	1300		MW-20		$HgCl_2$	9										
3-19	1230		MW-22		$HgCl_2$	10										
	1200		MW-24		$HgCl_2$	11										
↓	1425	↓	MW-26	↓	HCl	12	↓									

Date	Time	Relinquished by	Received by	Via:	Date	Time
3-20	1340	Al Thomson	Chastan Walker		3/20/24	1340
3/20/24	1740	Chastan Walker		~~courier~~	3/21/24	6:45

Analysis Request

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

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

Chain-of-Custody Record

Client: Hilcorp Energy company
Attn: Mitch Killough
Mailing Address:
Phone #: 281-851-2338
email or Fax#: mkillough@hilcorp.com
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5-day
☑ Standard ☐ Rush
Project Name: Sullivan GC D #1E
Project #:
Project Manager: Stuart Hyde
Sampler: GP
On Ice: ☒ Yes ☐ No monty
# of Coolers: 1
Cooler Temp(including CF): 0.9-0.1=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.	BTEX / ~~MTBE / TMB's~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3-19	1405	Aq	MW-27	3x VOAs	HgCl	13	X									
↓	1333	↓	MW-28	↓	↓	14	↓									

Analysis Request

Date.	Time.	Relinquished by.	Received by:	Via:	Date	Time
3-20	1340	Al Thomson			3/20/24	1340
Date: 3/20/24	Time 1740	Relinquished by.	Received by	Via courier	Date 3/21/24	Time 6:45

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

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

Login Sample Receipt Checklist

Client: Hilcorp Energy Job Number: 885-1526-1

Login Number: 1526 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 6/13/2024 2:58:48 PM

JOB DESCRIPTION

Sullivan GC D #1E

JOB NUMBER

885-5751-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
6/13/2024 2:58:48 PM

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

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Laboratory Job ID: 885-5751-1

Table of Contents

Definitions/Glossary

Client: Hilcorp Energy
Job ID: 885-5751-1
Project/Site: Sullivan GC D #1E

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
P2	The sample was received with pH>2

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Hilcorp Energy
Project: Sullivan GC D #1E

Job ID: 885-5751-1

Job ID: 885-5751-1 Eurofins Albuquerque

Job Narrative
885-5751-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 6/6/2024 6:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.4°C.

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

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-5751-1

Client Sample ID: MW 21
Date Collected: 06/05/24 14:20
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-1
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	P2	1.0		ug/L			06/12/24 00:43	1
Ethylbenzene	ND	P2	1.0		ug/L			06/12/24 00:43	1
Toluene	ND	P2	1.0		ug/L			06/12/24 00:43	1
Xylenes, Total	ND	P2	1.5		ug/L			06/12/24 00:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*06/12/24 00:43*	*1*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*06/12/24 00:43*	*1*
Dibromofluoromethane (Surr)	*90*		*70 - 130*		*06/12/24 00:43*	*1*
Toluene-d8 (Surr)	*88*		*70 - 130*		*06/12/24 00:43*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-5751-1

Client Sample ID: MW 22

Date Collected: 06/05/24 14:05
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-2

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.6**		1.0		ug/L			06/12/24 01:56	1
Ethylbenzene	ND		1.0		ug/L			06/12/24 01:56	1
Toluene	ND		1.0		ug/L			06/12/24 01:56	1
Xylenes, Total	ND		1.5		ug/L			06/12/24 01:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*06/12/24 01:56*	*1*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*06/12/24 01:56*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*06/12/24 01:56*	*1*
Toluene-d8 (Surr)	*87*		*70 - 130*		*06/12/24 01:56*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-5751-1

Client Sample ID: MW 25

Date Collected: 06/05/24 14:35
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-3

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	11		2.0		ug/L			06/12/24 15:53	2
Ethylbenzene	30		2.0		ug/L			06/12/24 15:53	2
Toluene	2.6		2.0		ug/L			06/12/24 15:53	2
Xylenes, Total	38		3.0		ug/L			06/12/24 15:53	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*06/12/24 15:53*	*2*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*		*06/12/24 15:53*	*2*
Dibromofluoromethane (Surr)	*89*		*70 - 130*		*06/12/24 15:53*	*2*
Toluene-d8 (Surr)	*94*		*70 - 130*		*06/12/24 15:53*	*2*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-5751-1

Client Sample ID: MW 26

Date Collected: 06/05/24 13:00
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-4

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/24 02:45	1
Ethylbenzene	ND		1.0		ug/L			06/12/24 02:45	1
Toluene	ND		1.0		ug/L			06/12/24 02:45	1
Xylenes, Total	ND		1.5		ug/L			06/12/24 02:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*06/12/24 02:45*	*1*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*06/12/24 02:45*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*06/12/24 02:45*	*1*
Toluene-d8 (Surr)	*89*		*70 - 130*		*06/12/24 02:45*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-5751-1

Client Sample ID: MW 27
Date Collected: 06/05/24 13:15
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-5
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/24 03:10	1
Ethylbenzene	ND		1.0		ug/L			06/12/24 03:10	1
Toluene	ND		1.0		ug/L			06/12/24 03:10	1
Xylenes, Total	ND		1.5		ug/L			06/12/24 03:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*06/12/24 03:10*	*1*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*06/12/24 03:10*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*06/12/24 03:10*	*1*
Toluene-d8 (Surr)	*89*		*70 - 130*		*06/12/24 03:10*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-5751-1

Client Sample ID: MW 28

Date Collected: 06/05/24 13:30
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-6

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/24 03:34	1
Ethylbenzene	ND		1.0		ug/L			06/12/24 03:34	1
Toluene	ND		1.0		ug/L			06/12/24 03:34	1
Xylenes, Total	ND		1.5		ug/L			06/12/24 03:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*06/12/24 03:34*	*1*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*06/12/24 03:34*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*06/12/24 03:34*	*1*
Toluene-d8 (Surr)	*89*		*70 - 130*		*06/12/24 03:34*	*1*

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-5751-1

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

Lab Sample ID: MB 885-6579/3
Matrix: Water
Analysis Batch: 6579

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/24 00:18	1
Ethylbenzene	ND		1.0		ug/L			06/12/24 00:18	1
Toluene	ND		1.0		ug/L			06/12/24 00:18	1
Xylenes, Total	ND		1.5		ug/L			06/12/24 00:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*06/12/24 00:18*	*1*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*06/12/24 00:18*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*06/12/24 00:18*	*1*
Toluene-d8 (Surr)	*90*		*70 - 130*		*06/12/24 00:18*	*1*

Lab Sample ID: LCS 885-6579/2
Matrix: Water
Analysis Batch: 6579

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.1	21.5		ug/L		107	70 - 130		
Toluene			20.2	20.8		ug/L		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
Dibromofluoromethane (Surr)	*90*		*70 - 130*
Toluene-d8 (Surr)	*91*		*70 - 130*

Lab Sample ID: 885-5751-1 MS
Matrix: Water
Analysis Batch: 6579

Client Sample ID: MW 21
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND	P2	20.1	22.0		ug/L		109	70 - 130		
Toluene	ND	P2	20.2	20.9		ug/L		104	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
Dibromofluoromethane (Surr)	*91*		*70 - 130*
Toluene-d8 (Surr)	*89*		*70 - 130*

Lab Sample ID: 885-5751-1 MSD
Matrix: Water
Analysis Batch: 6579

Client Sample ID: MW 21
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND	P2	20.1	21.0		ug/L		104	70 - 130	5	20
Toluene	ND	P2	20.2	19.9		ug/L		99	70 - 130	5	20

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-5751-1

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

Lab Sample ID: 885-5751-1 MSD
Matrix: Water
Analysis Batch: 6579

Client Sample ID: MW 21
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
Dibromofluoromethane (Surr)	*91*		*70 - 130*
Toluene-d8 (Surr)	*90*		*70 - 130*

Lab Sample ID: MB 885-6640/3
Matrix: Water
Analysis Batch: 6640

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/24 12:59	1
Ethylbenzene	ND		1.0		ug/L			06/12/24 12:59	1
Toluene	ND		1.0		ug/L			06/12/24 12:59	1
Xylenes, Total	ND		1.5		ug/L			06/12/24 12:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*06/12/24 12:59*	*1*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*06/12/24 12:59*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*06/12/24 12:59*	*1*
Toluene-d8 (Surr)	*89*		*70 - 130*		*06/12/24 12:59*	*1*

Lab Sample ID: LCS 885-6640/2
Matrix: Water
Analysis Batch: 6640

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.1	20.5		ug/L		102	70 - 130		
Toluene			20.2	19.2		ug/L		95	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
Dibromofluoromethane (Surr)	*89*		*70 - 130*
Toluene-d8 (Surr)	*89*		*70 - 130*

QC Association Summary

Client: Hilcorp Energy
Job ID: 885-5751-1
Project/Site: Sullivan GC D #1E

GC/MS VOA

Analysis Batch: 6579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5751-1	MW 21	Total/NA	Water	8260B	
885-5751-2	MW 22	Total/NA	Water	8260B	
885-5751-4	MW 26	Total/NA	Water	8260B	
885-5751-5	MW 27	Total/NA	Water	8260B	
885-5751-6	MW 28	Total/NA	Water	8260B	
MB 885-6579/3	Method Blank	Total/NA	Water	8260B	
LCS 885-6579/2	Lab Control Sample	Total/NA	Water	8260B	
885-5751-1 MS	MW 21	Total/NA	Water	8260B	
885-5751-1 MSD	MW 21	Total/NA	Water	8260B	

Analysis Batch: 6640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5751-3	MW 25	Total/NA	Water	8260B	
MB 885-6640/3	Method Blank	Total/NA	Water	8260B	
LCS 885-6640/2	Lab Control Sample	Total/NA	Water	8260B	

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-5751-1

Client Sample ID: MW 21
Date Collected: 06/05/24 14:20
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	6579	CM	EET ALB	06/12/24 00:43

Client Sample ID: MW 22
Date Collected: 06/05/24 14:05
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	6579	CM	EET ALB	06/12/24 01:56

Client Sample ID: MW 25
Date Collected: 06/05/24 14:35
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		2	6640	CM	EET ALB	06/12/24 15:53

Client Sample ID: MW 26
Date Collected: 06/05/24 13:00
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	6579	CM	EET ALB	06/12/24 02:45

Client Sample ID: MW 27
Date Collected: 06/05/24 13:15
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	6579	CM	EET ALB	06/12/24 03:10

Client Sample ID: MW 28
Date Collected: 06/05/24 13:30
Date Received: 06/06/24 06:35

Lab Sample ID: 885-5751-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	6579	CM	EET ALB	06/12/24 03:34

Laboratory References:

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

Accreditation/Certification Summary

Client: Hilcorp Energy
Job ID: 885-5751-1
Project/Site: Sullivan GC D #1E

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	Benzene
8260B		Water	Ethylbenzene
8260B		Water	Toluene
8260B		Water	Xylenes, Total

Oregon	NELAP	NM100001	02-26-25

Chain-of-Custody Record

Client: Hilcorp Energy Company
Attn: Mitch Killough
Mailing Address:
Phone #: 281-851-2338
email or Fax#:
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other
☑ EDD (Type)

Turn-Around Time: 5-day
☑ Standard ☐ Rush
Project Name: Sullivan GC D #1E
Project #: 07A1988029
Project Manager: Stuart Hyde
Sampler: AT
On Ice: ☑ Yes ☐ No
# of Coolers: 1 4oz
Cooler Temp(Including CF): 3.3+0.1=3.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
885-5751 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / ~~MTBE / TMBs~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6-5	1420	AQ	MW 21	3x VOA	HCl		X									
	1405		MW 22		HCl											
	1435		MW 25		$HgCl_2$											
	1300		MW 26		HCl											
	1315		MW 27		HCl											
↓	1330	↓	MW 28	↓	HCl		↓									

Date	Time	Relinquished by	Received by	Via	Date	Time
6-5	1545	Al Thomson				
6/5/24	1745			courier	6/6/24	6:35

Remarks: Please CC: shyde@ensolum.com

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

Login Sample Receipt Checklist

Client: Hilcorp Energy Job Number: 885-5751-1

Login Number: 5751 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Dominguez, Desiree

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 6/18/2024 8:38:15 AM

JOB DESCRIPTION

Sullivan GC D#1E

JOB NUMBER

885-5797-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

my EOL

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
6/18/2024 8:38:15 AM

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

Client: Hilcorp Energy
Project/Site: Sullivan GC D#1E

Laboratory Job ID: 885-5797-1

Table of Contents

Definitions/Glossary

Client: Hilcorp Energy
Job ID: 885-5797-1
Project/Site: Sullivan GC D#1E

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Hilcorp Energy
Project: Sullivan GC D#1E

Job ID: 885-5797-1

Job ID: 885-5797-1 Eurofins Albuquerque

Job Narrative
885-5797-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 6/7/2024 6:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -1.1°C.

Receipt Exceptions
The Field Sampler was not listed on the Chain of Custody.

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

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D#1E

Job ID: 885-5797-1

Client Sample ID: MW-07

Date Collected: 06/06/24 12:40
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-1

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/13/24 18:23	1
Ethylbenzene	ND		1.0		ug/L			06/13/24 18:23	1
Toluene	ND		1.0		ug/L			06/13/24 18:23	1
Xylenes, Total	ND		1.5		ug/L			06/13/24 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*06/13/24 18:23*	*1*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*06/13/24 18:23*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*06/13/24 18:23*	*1*
Toluene-d8 (Surr)	*88*		*70 - 130*		*06/13/24 18:23*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D#1E

Job ID: 885-5797-1

Client Sample ID: MW-09

Date Collected: 06/06/24 11:25
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-2

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/13/24 19:37	1
Ethylbenzene	ND		1.0		ug/L			06/13/24 19:37	1
Toluene	ND		1.0		ug/L			06/13/24 19:37	1
Xylenes, Total	ND		1.5		ug/L			06/13/24 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*06/13/24 19:37*	*1*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*06/13/24 19:37*	*1*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*06/13/24 19:37*	*1*
Toluene-d8 (Surr)	*87*		*70 - 130*		*06/13/24 19:37*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D#1E

Job ID: 885-5797-1

Client Sample ID: MW-10

Date Collected: 06/06/24 12:00
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-3

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/13/24 20:01	1
Ethylbenzene	ND		1.0		ug/L			06/13/24 20:01	1
Toluene	ND		1.0		ug/L			06/13/24 20:01	1
Xylenes, Total	ND		1.5		ug/L			06/13/24 20:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*06/13/24 20:01*	*1*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*06/13/24 20:01*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*06/13/24 20:01*	*1*
Toluene-d8 (Surr)	*87*		*70 - 130*		*06/13/24 20:01*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D#1E

Job ID: 885-5797-1

Client Sample ID: MW-11

Date Collected: 06/06/24 12:30
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-4

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/13/24 20:26	1
Ethylbenzene	ND		1.0		ug/L			06/13/24 20:26	1
Toluene	ND		1.0		ug/L			06/13/24 20:26	1
Xylenes, Total	ND		1.5		ug/L			06/13/24 20:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*06/13/24 20:26*	*1*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*		*06/13/24 20:26*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*06/13/24 20:26*	*1*
Toluene-d8 (Surr)	*87*		*70 - 130*		*06/13/24 20:26*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D#1E

Job ID: 885-5797-1

Client Sample ID: MW-16

Date Collected: 06/06/24 10:45
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-5

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/13/24 20:51	1
Ethylbenzene	ND		1.0		ug/L			06/13/24 20:51	1
Toluene	ND		1.0		ug/L			06/13/24 20:51	1
Xylenes, Total	ND		1.5		ug/L			06/13/24 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*06/13/24 20:51*	*1*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*		*06/13/24 20:51*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*06/13/24 20:51*	*1*
Toluene-d8 (Surr)	*87*		*70 - 130*		*06/13/24 20:51*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D#1E

Job ID: 885-5797-1

Client Sample ID: MW-17

Date Collected: 06/06/24 11:00
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-6

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/13/24 21:15	1
Ethylbenzene	ND		1.0		ug/L			06/13/24 21:15	1
Toluene	ND		1.0		ug/L			06/13/24 21:15	1
Xylenes, Total	ND		1.5		ug/L			06/13/24 21:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*06/13/24 21:15*	*1*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*06/13/24 21:15*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*06/13/24 21:15*	*1*
Toluene-d8 (Surr)	*86*		*70 - 130*		*06/13/24 21:15*	*1*

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D#1E

Job ID: 885-5797-1

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

Lab Sample ID: MB 885-6749/3
Matrix: Water
Analysis Batch: 6749

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/13/24 13:26	1
Ethylbenzene	ND		1.0		ug/L			06/13/24 13:26	1
Toluene	ND		1.0		ug/L			06/13/24 13:26	1
Xylenes, Total	ND		1.5		ug/L			06/13/24 13:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*06/13/24 13:26*	*1*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*06/13/24 13:26*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*06/13/24 13:26*	*1*
Toluene-d8 (Surr)	*89*		*70 - 130*		*06/13/24 13:26*	*1*

Lab Sample ID: STOBLK 885-6749/18
Matrix: Water
Analysis Batch: 6749

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

Analyte	STOBLK Result	STOBLK Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/14/24 00:06	1
Ethylbenzene	ND		1.0		ug/L			06/14/24 00:06	1
Toluene	ND		1.0		ug/L			06/14/24 00:06	1
Xylenes, Total	ND		1.5		ug/L			06/14/24 00:06	1

Surrogate	*STOBLK %Recovery*	*STOBLK Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*06/14/24 00:06*	*1*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*		*06/14/24 00:06*	*1*
Dibromofluoromethane (Surr)	*98*		*70 - 130*		*06/14/24 00:06*	*1*
Toluene-d8 (Surr)	*87*		*70 - 130*		*06/14/24 00:06*	*1*

Lab Sample ID: LCS 885-6749/2
Matrix: Water
Analysis Batch: 6749

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.1	21.0		ug/L		105	70 - 130		
Toluene			20.2	19.8		ug/L		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
Dibromofluoromethane (Surr)	*91*		*70 - 130*
Toluene-d8 (Surr)	*90*		*70 - 130*

Lab Sample ID: 885-5797-1 MS
Matrix: Water
Analysis Batch: 6749

Client Sample ID: MW-07
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		20.1	22.9		ug/L		114	70 - 130		
Toluene	ND		20.2	19.9		ug/L		99	70 - 130		

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D#1E

Job ID: 885-5797-1

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

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	112		70 - 130
Dibromofluoromethane (Surr)	92		70 - 130
Toluene-d8 (Surr)	87		70 - 130

Lab Sample ID: 885-5797-1 MSD
Matrix: Water
Analysis Batch: 6749

Client Sample ID: MW-07
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		20.1	21.4		ug/L		106	70 - 130	7	20
Toluene	ND		20.2	19.3		ug/L		95	70 - 130	3	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	111		70 - 130
Dibromofluoromethane (Surr)	92		70 - 130
Toluene-d8 (Surr)	87		70 - 130

QC Association Summary

Client: Hilcorp Energy
Job ID: 885-5797-1
Project/Site: Sullivan GC D#1E

GC/MS VOA

Analysis Batch: 6749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5797-1	MW-07	Total/NA	Water	8260B	
885-5797-2	MW-09	Total/NA	Water	8260B	
885-5797-3	MW-10	Total/NA	Water	8260B	
885-5797-4	MW-11	Total/NA	Water	8260B	
885-5797-5	MW-16	Total/NA	Water	8260B	
885-5797-6	MW-17	Total/NA	Water	8260B	
MB 885-6749/3	Method Blank	Total/NA	Water	8260B	
STOBLK 885-6749/18	Method Blank	Total/NA	Water	8260B	
LCS 885-6749/2	Lab Control Sample	Total/NA	Water	8260B	
885-5797-1 MS	MW-07	Total/NA	Water	8260B	
885-5797-1 MSD	MW-07	Total/NA	Water	8260B	

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Sullivan GC D#1E

Job ID: 885-5797-1

Client Sample ID: MW-07
Date Collected: 06/06/24 12:40
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	6749	CM	EET ALB	06/13/24 18:23

Client Sample ID: MW-09
Date Collected: 06/06/24 11:25
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	6749	CM	EET ALB	06/13/24 19:37

Client Sample ID: MW-10
Date Collected: 06/06/24 12:00
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	6749	CM	EET ALB	06/13/24 20:01

Client Sample ID: MW-11
Date Collected: 06/06/24 12:30
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	6749	CM	EET ALB	06/13/24 20:26

Client Sample ID: MW-16
Date Collected: 06/06/24 10:45
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	6749	CM	EET ALB	06/13/24 20:51

Client Sample ID: MW-17
Date Collected: 06/06/24 11:00
Date Received: 06/07/24 06:30

Lab Sample ID: 885-5797-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	6749	CM	EET ALB	06/13/24 21:15

Laboratory References:

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

Accreditation/Certification Summary

Client: Hilcorp Energy
Job ID: 885-5797-1
Project/Site: Sullivan GC D#1E

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	Benzene
8260B		Water	Ethylbenzene
8260B		Water	Toluene
8260B		Water	Xylenes, Total

Oregon	NELAP	NM100001	02-26-25

Chain-of-Custody Record

Client: Hilcorp ~~Energy~~ SC Energy Company
Attn: Mitch Killough
Mailing Address:

Phone #: 281-851-2338
email or Fax#: MKillough@hilcorp.com
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
5day
☑ Standard ☐ Rush
Project Name:
Sullivan CC D #1E
Project #:

Project Manager: Stuart Hyde
shyde@ensolum.com
Sampler:
On Ice: ☑ Yes ☐ No
# of Coolers: 1 Yogi
Cooler Temp (including CF): -1.1-0.2=1.1 (°C)

HALL ENVIRONMI
ANALYSIS LABOR
www.hallenvironmental.com
885-5797 COC
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.
6/6	12:40	~~AQ~~	MW-07	3x VOAs	HCl	1
	11:25		MW-09		HCl	2
	12:00		MW-10		HgCl2	3
	12:30		MW-11		HCl	4
	10:45		MW-100			5
↓	11:00	↓	MW-17	↓	↓	6

Analysis Request

BTEX / ~~MTBE / TMB's~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
X									
↓									

Date.	Time	Relinquished by.	Received by:	Via:	Date	Time
6-6	13:20	Sierra Carter Seema Cate	[illegible]		6/6/24	1320
6/6/24	1720	Mustw Wade		courier	6/7/24	6:30

Remarks:
Please CC: ~~a Hawks~~ SC
shyde@ensolum.com

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

Login Sample Receipt Checklist

Client: Hilcorp Energy Job Number: 885-5797-1

Login Number: 5797 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Samples not frozen.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 9/11/2024 1:14:16 PM

JOB DESCRIPTION

Sullivan GC D 1E

JOB NUMBER

885-11254-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

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9/11/2024 1:14:16 PM

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

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Laboratory Job ID: 885-11254-1

Table of Contents

Definitions/Glossary

Client: Hilcorp Energy Job ID: 885-11254-1
Project/Site: Sullivan GC D 1E

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Hilcorp Energy
Project: Sullivan GC D 1E

Job ID: 885-11254-1

Job ID: 885-11254-1 Eurofins Albuquerque

Job Narrative
885-11254-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 9/5/2024 7:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.3°C.

GC/MS VOA
Method 8260B: Surrogate recovery for the following sample is outside the upper control limit: MW-13 (885-11254-6). Matrix interference from co-elution; T-d8 peak is correctly identified.

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

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-3
Date Collected: 09/03/24 12:45
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-1
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/09/24 18:36	1
Ethylbenzene	ND		1.0		ug/L			09/09/24 18:36	1
Toluene	ND		1.0		ug/L			09/09/24 18:36	1
Xylenes, Total	ND		1.5		ug/L			09/09/24 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*09/09/24 18:36*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*09/09/24 18:36*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*09/09/24 18:36*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*09/09/24 18:36*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-7

Date Collected: 09/03/24 11:00
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-2

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/09/24 19:49	1
Ethylbenzene	ND		1.0		ug/L			09/09/24 19:49	1
Toluene	ND		1.0		ug/L			09/09/24 19:49	1
Xylenes, Total	ND		1.5		ug/L			09/09/24 19:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*09/09/24 19:49*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*09/09/24 19:49*	*1*
Dibromofluoromethane (Surr)	*107*		*70 - 130*		*09/09/24 19:49*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*09/09/24 19:49*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-9

Date Collected: 09/03/24 11:45
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-3

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/09/24 20:13	1
Ethylbenzene	ND		1.0		ug/L			09/09/24 20:13	1
Toluene	ND		1.0		ug/L			09/09/24 20:13	1
Xylenes, Total	ND		1.5		ug/L			09/09/24 20:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*09/09/24 20:13*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*09/09/24 20:13*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*		*09/09/24 20:13*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*09/09/24 20:13*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-10

Date Collected: 09/03/24 12:25
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-4

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/09/24 20:38	1
Ethylbenzene	ND		1.0		ug/L			09/09/24 20:38	1
Toluene	ND		1.0		ug/L			09/09/24 20:38	1
Xylenes, Total	ND		1.5		ug/L			09/09/24 20:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*09/09/24 20:38*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*09/09/24 20:38*	*1*
Dibromofluoromethane (Surr)	*108*		*70 - 130*		*09/09/24 20:38*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*09/09/24 20:38*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-11

Date Collected: 09/03/24 13:20
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-5

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/09/24 21:02	1
Ethylbenzene	ND		1.0		ug/L			09/09/24 21:02	1
Toluene	ND		1.0		ug/L			09/09/24 21:02	1
Xylenes, Total	ND		1.5		ug/L			09/09/24 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*09/09/24 21:02*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*09/09/24 21:02*	*1*
Dibromofluoromethane (Surr)	*108*		*70 - 130*		*09/09/24 21:02*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*09/09/24 21:02*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-13

Date Collected: 08/30/24 10:40
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-6

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**10**		1.0		ug/L			09/09/24 21:26	1
Ethylbenzene	**61**		1.0		ug/L			09/09/24 21:26	1
Toluene	ND		1.0		ug/L			09/09/24 21:26	1
Xylenes, Total	**24**		1.5		ug/L			09/09/24 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*09/09/24 21:26*	*1*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*		*09/09/24 21:26*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*09/09/24 21:26*	*1*
Toluene-d8 (Surr)	*139*	*S1+*	*70 - 130*		*09/09/24 21:26*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-16

Date Collected: 08/30/24 11:30
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-7

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/09/24 21:51	1
Ethylbenzene	ND		1.0		ug/L			09/09/24 21:51	1
Toluene	ND		1.0		ug/L			09/09/24 21:51	1
Xylenes, Total	ND		1.5		ug/L			09/09/24 21:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*09/09/24 21:51*	*1*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*09/09/24 21:51*	*1*
Dibromofluoromethane (Surr)	*107*		*70 - 130*		*09/09/24 21:51*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*09/09/24 21:51*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-17

Date Collected: 08/30/24 10:00
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-8

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/09/24 22:15	1
Ethylbenzene	ND		1.0		ug/L			09/09/24 22:15	1
Toluene	ND		1.0		ug/L			09/09/24 22:15	1
Xylenes, Total	ND		1.5		ug/L			09/09/24 22:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*		*09/09/24 22:15*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*09/09/24 22:15*	*1*
Dibromofluoromethane (Surr)	*106*		*70 - 130*		*09/09/24 22:15*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*09/09/24 22:15*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-21

Date Collected: 08/29/24 16:20
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-9

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/06/24 18:32	1
Ethylbenzene	ND		1.0		ug/L			09/06/24 18:32	1
Toluene	ND		1.0		ug/L			09/06/24 18:32	1
Xylenes, Total	ND		1.5		ug/L			09/06/24 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*09/06/24 18:32*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*09/06/24 18:32*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*09/06/24 18:32*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*		*09/06/24 18:32*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-22

Date Collected: 08/29/24 12:30
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-10

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**3.4**		1.0		ug/L			09/06/24 18:56	1
Ethylbenzene	ND		1.0		ug/L			09/06/24 18:56	1
Toluene	ND		1.0		ug/L			09/06/24 18:56	1
Xylenes, Total	ND		1.5		ug/L			09/06/24 18:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*09/06/24 18:56*	*1*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*09/06/24 18:56*	*1*
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*09/06/24 18:56*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*09/06/24 18:56*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-25
Date Collected: 08/29/24 13:15
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-11
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0		ug/L			09/06/24 19:20	5
Ethylbenzene	ND		5.0		ug/L			09/06/24 19:20	5
Toluene	ND		5.0		ug/L			09/06/24 19:20	5
Xylenes, Total	ND		7.5		ug/L			09/06/24 19:20	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*09/06/24 19:20*	*5*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*09/06/24 19:20*	*5*
Dibromofluoromethane (Surr)	*99*		*70 - 130*		*09/06/24 19:20*	*5*
Toluene-d8 (Surr)	*103*		*70 - 130*		*09/06/24 19:20*	*5*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-26
Date Collected: 08/29/24 15:50
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-12
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/06/24 19:44	1
Ethylbenzene	ND		1.0		ug/L			09/06/24 19:44	1
Toluene	ND		1.0		ug/L			09/06/24 19:44	1
Xylenes, Total	ND		1.5		ug/L			09/06/24 19:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*09/06/24 19:44*	*1*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*09/06/24 19:44*	*1*
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*09/06/24 19:44*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*09/06/24 19:44*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-27

Date Collected: 08/29/24 15:05
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-13

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/06/24 20:09	1
Ethylbenzene	ND		1.0		ug/L			09/06/24 20:09	1
Toluene	ND		1.0		ug/L			09/06/24 20:09	1
Xylenes, Total	ND		1.5		ug/L			09/06/24 20:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*09/06/24 20:09*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*09/06/24 20:09*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*		*09/06/24 20:09*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*09/06/24 20:09*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-28

Date Collected: 08/29/24 14:30
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-14

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**23**		1.0		ug/L			09/06/24 20:33	1
Ethylbenzene	**350**		10		ug/L			09/09/24 18:12	10
Toluene	ND		1.0		ug/L			09/06/24 20:33	1
Xylenes, Total	**2200**		15		ug/L			09/09/24 18:12	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*70 - 130*		*09/06/24 20:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*09/09/24 18:12*	*10*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*		*09/06/24 20:33*	*1*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*		*09/09/24 18:12*	*10*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*09/06/24 20:33*	*1*
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*09/09/24 18:12*	*10*
Toluene-d8 (Surr)	*108*		*70 - 130*		*09/06/24 20:33*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*09/09/24 18:12*	*10*

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

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

Lab Sample ID: MB 885-11742/1004
Matrix: Water
Analysis Batch: 11742

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.10		ug/L			09/06/24 12:50	1
Ethylbenzene	ND		0.10		ug/L			09/06/24 12:50	1
Toluene	ND		0.10		ug/L			09/06/24 12:50	1
Xylenes, Total	ND		0.15		ug/L			09/06/24 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*09/06/24 12:50*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*09/06/24 12:50*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*		*09/06/24 12:50*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*09/06/24 12:50*	*1*

Lab Sample ID: MB 885-11742/4
Matrix: Water
Analysis Batch: 11742

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/06/24 12:50	1
Ethylbenzene	ND		1.0		ug/L			09/06/24 12:50	1
Toluene	ND		1.0		ug/L			09/06/24 12:50	1
Xylenes, Total	ND		1.5		ug/L			09/06/24 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*09/06/24 12:50*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*09/06/24 12:50*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*		*09/06/24 12:50*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*09/06/24 12:50*	*1*

Lab Sample ID: STOBLK 885-11742/24
Matrix: Water
Analysis Batch: 11742

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

Analyte	STOBLK Result	STOBLK Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/06/24 20:57	1
Ethylbenzene	ND		1.0		ug/L			09/06/24 20:57	1
Toluene	ND		1.0		ug/L			09/06/24 20:57	1
Xylenes, Total	ND		1.5		ug/L			09/06/24 20:57	1

Surrogate	*STOBLK %Recovery*	*STOBLK Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*09/06/24 20:57*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*09/06/24 20:57*	*1*
Dibromofluoromethane (Surr)	*98*		*70 - 130*		*09/06/24 20:57*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*09/06/24 20:57*	*1*

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

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

Lab Sample ID: LCS 885-11742/3
Matrix: Water
Analysis Batch: 11742

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.1	19.8		ug/L		99	70 - 130		
Toluene			20.2	20.3		ug/L		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
Toluene-d8 (Surr)	*104*		*70 - 130*

Lab Sample ID: MB 885-11844/1004
Matrix: Water
Analysis Batch: 11844

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.10		ug/L			09/09/24 12:55	1
Ethylbenzene	ND		0.10		ug/L			09/09/24 12:55	1
Toluene	ND		0.10		ug/L			09/09/24 12:55	1
Xylenes, Total	ND		0.15		ug/L			09/09/24 12:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*09/09/24 12:55*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*09/09/24 12:55*	*1*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*09/09/24 12:55*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*		*09/09/24 12:55*	*1*

Lab Sample ID: MB 885-11844/4
Matrix: Water
Analysis Batch: 11844

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/09/24 12:55	1
Ethylbenzene	ND		1.0		ug/L			09/09/24 12:55	1
Toluene	ND		1.0		ug/L			09/09/24 12:55	1
Xylenes, Total	ND		1.5		ug/L			09/09/24 12:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*09/09/24 12:55*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*09/09/24 12:55*	*1*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*09/09/24 12:55*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*		*09/09/24 12:55*	*1*

Lab Sample ID: STOBLK 885-11844/28
Matrix: Water
Analysis Batch: 11844

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

Analyte	STOBLK Result	STOBLK Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			09/09/24 23:04	1
Ethylbenzene	ND		1.0		ug/L			09/09/24 23:04	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

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

Lab Sample ID: STOBLK 885-11844/28
Matrix: Water
Analysis Batch: 11844

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

Analyte	STOBLK Result	STOBLK Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		1.0		ug/L			09/09/24 23:04	1
Xylenes, Total	ND		1.5		ug/L			09/09/24 23:04	1

Surrogate	*STOBLK %Recovery*	*STOBLK Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*09/09/24 23:04*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*09/09/24 23:04*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*09/09/24 23:04*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*09/09/24 23:04*	*1*

Lab Sample ID: LCS 885-11844/3
Matrix: Water
Analysis Batch: 11844

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.1	23.0		ug/L		114	70 - 130		
Toluene			20.2	23.7		ug/L		117	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
Dibromofluoromethane (Surr)	*98*		*70 - 130*
Toluene-d8 (Surr)	*104*		*70 - 130*

Lab Sample ID: 885-11254-1 MS
Matrix: Water
Analysis Batch: 11844

Client Sample ID: MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		20.1	26.0		ug/L		129	70 - 130		
Toluene	ND		20.2	24.5		ug/L		121	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*106*		*70 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Lab Sample ID: 885-11254-1 MSD
Matrix: Water
Analysis Batch: 11844

Client Sample ID: MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		20.1	25.2		ug/L		126	70 - 130	3	20
Toluene	ND		20.2	23.8		ug/L		118	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

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

Lab Sample ID: 885-11254-1 MSD
Matrix: Water
Analysis Batch: 11844

Client Sample ID: MW-3
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
Dibromofluoromethane (Surr)	108		70 - 130
Toluene-d8 (Surr)	103		70 - 130

QC Association Summary

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

GC/MS VOA

Analysis Batch: 11742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-11254-9	MW-21	Total/NA	Water	8260B	
885-11254-10	MW-22	Total/NA	Water	8260B	
885-11254-11	MW-25	Total/NA	Water	8260B	
885-11254-12	MW-26	Total/NA	Water	8260B	
885-11254-13	MW-27	Total/NA	Water	8260B	
885-11254-14	MW-28	Total/NA	Water	8260B	
MB 885-11742/1004	Method Blank	Total/NA	Water	8260B	
MB 885-11742/4	Method Blank	Total/NA	Water	8260B	
STOBLK 885-11742/24	Method Blank	Total/NA	Water	8260B	
LCS 885-11742/3	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 11844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-11254-1	MW-3	Total/NA	Water	8260B	
885-11254-2	MW-7	Total/NA	Water	8260B	
885-11254-3	MW-9	Total/NA	Water	8260B	
885-11254-4	MW-10	Total/NA	Water	8260B	
885-11254-5	MW-11	Total/NA	Water	8260B	
885-11254-6	MW-13	Total/NA	Water	8260B	
885-11254-7	MW-16	Total/NA	Water	8260B	
885-11254-8	MW-17	Total/NA	Water	8260B	
885-11254-14	MW-28	Total/NA	Water	8260B	
MB 885-11844/1004	Method Blank	Total/NA	Water	8260B	
MB 885-11844/4	Method Blank	Total/NA	Water	8260B	
STOBLK 885-11844/28	Method Blank	Total/NA	Water	8260B	
LCS 885-11844/3	Lab Control Sample	Total/NA	Water	8260B	
885-11254-1 MS	MW-3	Total/NA	Water	8260B	
885-11254-1 MSD	MW-3	Total/NA	Water	8260B	

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-3
Lab Sample ID: 885-11254-1
Date Collected: 09/03/24 12:45
Matrix: Water
Date Received: 09/05/24 07:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11844	CM	EET ALB	09/09/24 18:36

Client Sample ID: MW-7
Lab Sample ID: 885-11254-2
Date Collected: 09/03/24 11:00
Matrix: Water
Date Received: 09/05/24 07:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11844	CM	EET ALB	09/09/24 19:49

Client Sample ID: MW-9
Lab Sample ID: 885-11254-3
Date Collected: 09/03/24 11:45
Matrix: Water
Date Received: 09/05/24 07:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11844	CM	EET ALB	09/09/24 20:13

Client Sample ID: MW-10
Lab Sample ID: 885-11254-4
Date Collected: 09/03/24 12:25
Matrix: Water
Date Received: 09/05/24 07:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11844	CM	EET ALB	09/09/24 20:38

Client Sample ID: MW-11
Lab Sample ID: 885-11254-5
Date Collected: 09/03/24 13:20
Matrix: Water
Date Received: 09/05/24 07:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11844	CM	EET ALB	09/09/24 21:02

Client Sample ID: MW-13
Lab Sample ID: 885-11254-6
Date Collected: 08/30/24 10:40
Matrix: Water
Date Received: 09/05/24 07:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11844	CM	EET ALB	09/09/24 21:26

Client Sample ID: MW-16
Lab Sample ID: 885-11254-7
Date Collected: 08/30/24 11:30
Matrix: Water
Date Received: 09/05/24 07:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11844	CM	EET ALB	09/09/24 21:51

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Client Sample ID: MW-17
Date Collected: 08/30/24 10:00
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11844	CM	EET ALB	09/09/24 22:15

Client Sample ID: MW-21
Date Collected: 08/29/24 16:20
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11742	CM	EET ALB	09/06/24 18:32

Client Sample ID: MW-22
Date Collected: 08/29/24 12:30
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11742	CM	EET ALB	09/06/24 18:56

Client Sample ID: MW-25
Date Collected: 08/29/24 13:15
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		5	11742	CM	EET ALB	09/06/24 19:20

Client Sample ID: MW-26
Date Collected: 08/29/24 15:50
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11742	CM	EET ALB	09/06/24 19:44

Client Sample ID: MW-27
Date Collected: 08/29/24 15:05
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11742	CM	EET ALB	09/06/24 20:09

Client Sample ID: MW-28
Date Collected: 08/29/24 14:30
Date Received: 09/05/24 07:35

Lab Sample ID: 885-11254-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	11742	CM	EET ALB	09/06/24 20:33
Total/NA	Analysis	8260B		10	11844	CM	EET ALB	09/09/24 18:12

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Sullivan GC D 1E

Job ID: 885-11254-1

Laboratory References:

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

Accreditation/Certification Summary

Client: Hilcorp Energy
Job ID: 885-11254-1
Project/Site: Sullivan GC D 1E

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	Benzene
8260B		Water	Ethylbenzene
8260B		Water	Toluene
8260B		Water	Xylenes, Total

Oregon	NELAP	NM100001	02-26-25

Chain-of-Custody Record

Client: Hilcorp Farmington NM

Mailing Address: 382 Road 3100 Aztec, NM 87410

Billing Address: PO Box 61529 Houston, TX 77208

Phone #: 505-486-9543

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

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other_____

☐ EDD (Type)_____

Turn-Around Time:

X Standard ☐ Rush_____

Project Name:

Sullivan GC D 1E

Project #:

Project Manager:

Mitch Killough

Sampler: Brandon Sinclair

On Ice: ☑ Yes ☐ No chilly

# of Coolers: 1

Cooler Temp(including CF): 4.4-0.1=4.3 °c

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

885-11254 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX ~~8021~~ 8260B
9-3	1245	H2O	MW-3	(3) 40ml VOA	HCL/Cool	1	
9-3	1100		MW-7			2	
9-3	1145		MW-9			3	
9-3	1225		MW-10			4	
9-3	1320		MW-11			5	
8-30	1040		MW-13			6	
8-30	1130		MW-16			7	
8-30	1000		MW-17			8	
8-29	1620		MW-21			9	
8-29	1230		MW-22			10	
8-29	1315		MW-25			11	
8-29	1550		MW-26			12	

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9/4/24	1634		Chat Ward		9/4/24	1636
9/4/24	1800			courier	9/5/24	7:35

Remarks: *Dissolved Mn and Fe are to be filterd 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.

Chain-of-Custody Record

Client: Hilcorp

Mailing Address: 382 Rd 3100 Aztec

Phone #:

email or Fax#: Brandon.sinclaire@hilcorp

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

Accreditation:
☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Sullivan GC D 1B

Project #:

Project Manager: Mitch Killough

Sampler: BS

On Ice: ☒ Yes ☐ No check

# of Coolers: 1

Cooler Temp(including CF): 4.4 - 0.1 = 4.3 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	8260B
8/29/24	1505	H_2O	MW-27	(3) VOA	HCl	13											X
8/29/24	1430	H_2O	MW-28	(3) VOA	HCl	14											X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9/4/24	1636				9/4/24	1636
9/4/24	1800			courier	9/5/24	7:35

Remarks:

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

Login Sample Receipt Checklist

Client: Hilcorp Energy Job Number: 885-11254-1

Login Number: 11254 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 1/6/2025 3:38:42 PM

JOB DESCRIPTION

Sullivan GC D #1E

JOB NUMBER

885-17419-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

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1/6/2025 3:38:42 PM

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

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Laboratory Job ID: 885-17419-1

Table of Contents

Definitions/Glossary

Client: Hilcorp Energy
Job ID: 885-17419-1
Project/Site: Sullivan GC D #1E

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Hilcorp Energy
Project: Sullivan GC D #1E

Job ID: 885-17419-1

Job ID: 885-17419-1 Eurofins Albuquerque

Job Narrative
885-17419-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/20/2024 7:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.4°C.

GC/MS VOA
Method 8260B: The continuing calibration verification (CCV) associated with batch 885-18783 recovered above the upper control limit for Vinyl Chloride. The specific analytes requested in the samples associated with this CCV are not reported; therefore, the data have been reported.

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

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-03

Date Collected: 12/18/24 15:01
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-1

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/24 01:03	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 01:03	1
Toluene	ND		1.0		ug/L			12/31/24 01:03	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 01:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 130*		*12/31/24 01:03*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/31/24 01:03*	*1*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*12/31/24 01:03*	*1*
Toluene-d8 (Surr)	*93*		*70 - 130*		*12/31/24 01:03*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-07

Date Collected: 12/18/24 15:28
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-2

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/24 02:17	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 02:17	1
Toluene	ND		1.0		ug/L			12/31/24 02:17	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 02:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*122*		*70 - 130*		*12/31/24 02:17*	*1*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*12/31/24 02:17*	*1*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*12/31/24 02:17*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*12/31/24 02:17*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-09
Date Collected: 12/19/24 11:37
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-3
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/24 02:42	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 02:42	1
Toluene	ND		1.0		ug/L			12/31/24 02:42	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 02:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*70 - 130*		*12/31/24 02:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/31/24 02:42*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*		*12/31/24 02:42*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*12/31/24 02:42*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-10

Date Collected: 12/19/24 11:18
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-4

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/24 03:06	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 03:06	1
Toluene	ND		1.0		ug/L			12/31/24 03:06	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 03:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*70 - 130*		*12/31/24 03:06*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/31/24 03:06*	*1*
Dibromofluoromethane (Surr)	*110*		*70 - 130*		*12/31/24 03:06*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*12/31/24 03:06*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-11

Date Collected: 12/18/24 14:47
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-5

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/24 03:31	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 03:31	1
Toluene	ND		1.0		ug/L			12/31/24 03:31	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 03:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*		*12/31/24 03:31*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/31/24 03:31*	*1*
Dibromofluoromethane (Surr)	*108*		*70 - 130*		*12/31/24 03:31*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*12/31/24 03:31*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-16
Date Collected: 12/19/24 12:22
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-6
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/24 03:55	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 03:55	1
Toluene	ND		1.0		ug/L			12/31/24 03:55	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 03:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 130*		*12/31/24 03:55*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*12/31/24 03:55*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*		*12/31/24 03:55*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*12/31/24 03:55*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-17

Date Collected: 12/19/24 11:56
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-7

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/24 04:20	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 04:20	1
Toluene	ND		1.0		ug/L			12/31/24 04:20	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 04:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*70 - 130*		*12/31/24 04:20*	*1*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*12/31/24 04:20*	*1*
Dibromofluoromethane (Surr)	*110*		*70 - 130*		*12/31/24 04:20*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*12/31/24 04:20*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-21

Date Collected: 12/19/24 13:30
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-8

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/24 04:44	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 04:44	1
Toluene	ND		1.0		ug/L			12/31/24 04:44	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 04:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*		*12/31/24 04:44*	*1*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*12/31/24 04:44*	*1*
Dibromofluoromethane (Surr)	*108*		*70 - 130*		*12/31/24 04:44*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*12/31/24 04:44*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-25

Date Collected: 12/19/24 13:55
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-9

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/24 05:09	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 05:09	1
Toluene	ND		1.0		ug/L			12/31/24 05:09	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 05:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 130*		*12/31/24 05:09*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*12/31/24 05:09*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*		*12/31/24 05:09*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*12/31/24 05:09*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-26

Date Collected: 12/19/24 15:02
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-10

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/24 05:34	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 05:34	1
Toluene	ND		1.0		ug/L			12/31/24 05:34	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 05:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 130*		*12/31/24 05:34*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*12/31/24 05:34*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*		*12/31/24 05:34*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*12/31/24 05:34*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-27
Date Collected: 12/19/24 14:42
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-11
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2.2**		1.0		ug/L			12/31/24 05:58	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 05:58	1
Toluene	ND		1.0		ug/L			12/31/24 05:58	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 05:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*70 - 130*		*12/31/24 05:58*	*1*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*12/31/24 05:58*	*1*
Dibromofluoromethane (Surr)	*108*		*70 - 130*		*12/31/24 05:58*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*12/31/24 05:58*	*1*

Client Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-28

Date Collected: 12/19/24 14:22
Date Received: 12/20/24 07:10

Lab Sample ID: 885-17419-12

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**35**		1.0		ug/L			12/31/24 06:23	1
Ethylbenzene	**240**		20		ug/L			01/02/25 19:58	20
Toluene	ND		1.0		ug/L			12/31/24 06:23	1
Xylenes, Total	**1600**		30		ug/L			01/02/25 19:58	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*		*12/31/24 06:23*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/31/24 06:23*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*01/02/25 19:58*	*20*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*12/31/24 06:23*	*1*
Toluene-d8 (Surr)	*108*		*70 - 130*		*12/31/24 06:23*	*1*

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

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

Lab Sample ID: MB 885-18759/5
Matrix: Water
Analysis Batch: 18759

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			01/02/25 18:18	1
Ethylbenzene	ND		1.0		ug/L			01/02/25 18:18	1
Toluene	ND		1.0		ug/L			01/02/25 18:18	1
Xylenes, Total	ND		1.5		ug/L			01/02/25 18:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*01/02/25 18:18*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*01/02/25 18:18*	*1*
Dibromofluoromethane (Surr)	*103*		*70 - 130*		*01/02/25 18:18*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*01/02/25 18:18*	*1*

Lab Sample ID: LCS 885-18759/4
Matrix: Water
Analysis Batch: 18759

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.1	20.0		ug/L		100	70 - 130		
Toluene			20.2	20.7		ug/L		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*104*		*70 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Lab Sample ID: MB 885-18783/35
Matrix: Water
Analysis Batch: 18783

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/24 00:39	1
Ethylbenzene	ND		1.0		ug/L			12/31/24 00:39	1
Toluene	ND		1.0		ug/L			12/31/24 00:39	1
Xylenes, Total	ND		1.5		ug/L			12/31/24 00:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*70 - 130*		*12/31/24 00:39*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*12/31/24 00:39*	*1*
Dibromofluoromethane (Surr)	*118*		*70 - 130*		*12/31/24 00:39*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*12/31/24 00:39*	*1*

Lab Sample ID: LCS 885-18783/34
Matrix: Water
Analysis Batch: 18783

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.1	23.4		ug/L		116	70 - 130		
Toluene			20.2	20.1		ug/L		100	70 - 130		

QC Sample Results

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	123		70 - 130
4-Bromofluorobenzene (Surr)	96		70 - 130
Dibromofluoromethane (Surr)	113		70 - 130
Toluene-d8 (Surr)	95		70 - 130

Lab Sample ID: 885-17419-1 MS **Client Sample ID: MW-03**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 18783

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		20.1	23.7		ug/L		118	70 - 130
Toluene	ND		20.2	20.9		ug/L		104	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	119		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	111		70 - 130
Toluene-d8 (Surr)	95		70 - 130

Lab Sample ID: 885-17419-1 MSD **Client Sample ID: MW-03**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 18783

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		20.1	22.5		ug/L		112	70 - 130	5	20
Toluene	ND		20.2	19.7		ug/L		98	70 - 130	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	121		70 - 130
4-Bromofluorobenzene (Surr)	96		70 - 130
Dibromofluoromethane (Surr)	114		70 - 130
Toluene-d8 (Surr)	93		70 - 130

QC Association Summary

Client: Hilcorp Energy
Job ID: 885-17419-1
Project/Site: Sullivan GC D #1E

GC/MS VOA

Analysis Batch: 18759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17419-12	MW-28	Total/NA	Water	8260B	
MB 885-18759/5	Method Blank	Total/NA	Water	8260B	
LCS 885-18759/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 18783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17419-1	MW-03	Total/NA	Water	8260B	
885-17419-2	MW-07	Total/NA	Water	8260B	
885-17419-3	MW-09	Total/NA	Water	8260B	
885-17419-4	MW-10	Total/NA	Water	8260B	
885-17419-5	MW-11	Total/NA	Water	8260B	
885-17419-6	MW-16	Total/NA	Water	8260B	
885-17419-7	MW-17	Total/NA	Water	8260B	
885-17419-8	MW-21	Total/NA	Water	8260B	
885-17419-9	MW-25	Total/NA	Water	8260B	
885-17419-10	MW-26	Total/NA	Water	8260B	
885-17419-11	MW-27	Total/NA	Water	8260B	
885-17419-12	MW-28	Total/NA	Water	8260B	
MB 885-18783/35	Method Blank	Total/NA	Water	8260B	
LCS 885-18783/34	Lab Control Sample	Total/NA	Water	8260B	
885-17419-1 MS	MW-03	Total/NA	Water	8260B	
885-17419-1 MSD	MW-03	Total/NA	Water	8260B	

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Sullivan GC D #1E

Job ID: 885-17419-1

Client Sample ID: MW-03
Lab Sample ID: 885-17419-1
Date Collected: 12/18/24 15:01
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 01:03

Client Sample ID: MW-07
Lab Sample ID: 885-17419-2
Date Collected: 12/18/24 15:28
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 02:17

Client Sample ID: MW-09
Lab Sample ID: 885-17419-3
Date Collected: 12/19/24 11:37
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 02:42

Client Sample ID: MW-10
Lab Sample ID: 885-17419-4
Date Collected: 12/19/24 11:18
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 03:06

Client Sample ID: MW-11
Lab Sample ID: 885-17419-5
Date Collected: 12/18/24 14:47
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 03:31

Client Sample ID: MW-16
Lab Sample ID: 885-17419-6
Date Collected: 12/19/24 12:22
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 03:55

Client Sample ID: MW-17
Lab Sample ID: 885-17419-7
Date Collected: 12/19/24 11:56
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 04:20

Lab Chronicle

Client: Hilcorp Energy
Job ID: 885-17419-1
Project/Site: Sullivan GC D #1E

Client Sample ID: MW-21
Lab Sample ID: 885-17419-8
Date Collected: 12/19/24 13:30
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 04:44

Client Sample ID: MW-25
Lab Sample ID: 885-17419-9
Date Collected: 12/19/24 13:55
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 05:09

Client Sample ID: MW-26
Lab Sample ID: 885-17419-10
Date Collected: 12/19/24 15:02
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 05:34

Client Sample ID: MW-27
Lab Sample ID: 885-17419-11
Date Collected: 12/19/24 14:42
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 05:58

Client Sample ID: MW-28
Lab Sample ID: 885-17419-12
Date Collected: 12/19/24 14:22
Matrix: Water
Date Received: 12/20/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	18783	CM	EET ALB	12/31/24 06:23
Total/NA	Analysis	8260B		20	18759	CM	EET ALB	01/02/25 19:58

Laboratory References:

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

Accreditation/Certification Summary

Client: Hilcorp Energy
Job ID: 885-17419-1
Project/Site: Sullivan GC D #1E

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	Benzene
8260B		Water	Ethylbenzene
8260B		Water	Toluene
8260B		Water	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Chain-of-Custody Record

Client: Hilcorp
attn: Mitch Killough
Mailing Address:

Phone #:
email or Fax#: mkillough@hilcorp.com
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: Sullivan GC D #1E
Project #:
Project Manager: Stuart Hyde
shyde@ensolum.com
Sampler: Zach Myers
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 1.3 +0.1= 1.4 (°C)

HALL ENVIRONMEI
ANALYSIS LABORA
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
885-17419 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) BTEX	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12-18	1501	water	MW-03	3x VOA	HCl									X		
12-18	1528		MW-07													
12-19	1137		MW-09													
12-19	1118		MW-10													
12-18	1447		MW-11													
12-19	1222		MW-16													
	1156		MW-17													
	1330		MW-21													
	1355		MW-~~22~~ 25													
	1502		MW-26													
	1442		MW-27													
	1422		MW-28													

Date	Time	Relinquished by:	Received by	Via	Date	Time
12/19/24	1600	Zach Myers	[illegible]		12/19/24	1600
12/19/24	1736	[illegible]	[illegible]	Courier	12/20/24	7:10

Remarks: cc: zmyers@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.

Login Sample Receipt Checklist

Client: Hilcorp Energy Job Number: 885-17419-1

Login Number: 17419 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 444885
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the Sullivan Gas Com D #1E for CY 2024: content satisfactory 1. Continue to conduct groundwater sampling in wells on a quarterly schedule. 2. Please submit a copy of the BLM approved Plan of Development (POD) for the incident record. 3. Submit remediation plan for further delineation in the western portion of the release to advance characterization of the plume 4. Submit the remediation work plan to OCD via the online portal when complete, and submit the 2025 annual groundwater report to OCD no later than April 1, 2026.	5/5/2025