ENSOLUM

November 1, 2023

Review of the Additional Delineation Summary Report for Salty Dog Water Gathering System Report: **Contents Satisfactory**
1. Continue to sample for all COCs or submit a formal request to the director of NMOCD for a lesser, alternate number of samples per **19.15.39.9** paragraph **D**
2. Continue to assess groundwater downgradient of edge of plume.
3. Continue to conduct quarterly groundwater sampling events.
4. Submit the 2023 Groundwater Annual Report by April 1, 2024.

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

Re: Additional Delineation Summary Report
Salty Dog Water Gathering System
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident No: nCS1916853082
Abatement Plan No: AP-139

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Additional Delineation Summary Report* detailing delineation and groundwater sampling activities performed in 2023 associated with the Salty Dog Water Gathering System (Site) pipeline release. The Site is located approximately 1,146 feet south of the San Juan River on private land in Unit N of Section 18, Township 29 North, Range 13 West, in San Juan County, New Mexico (Figure 1).

INITIAL RELEASE AND SITE BACKGROUND

A complete history of Site activities and information pertaining to the release are included in the *Stage 1 Abatement Plan,* submitted to the New Mexico Oil Conservation Division (NMOCD) on December 20, 2019, and the *Executive Summary – November 2022* report, dated November 20, 2022. The initial release was assigned incident number nCS1916853082 and the *Stage 1 Abatement Plan* has been assigned AP-139. This report summarizes the additional drilling and delineation work performed in April 2023 and groundwater sampling activities conducted between October 2022 and September 2023.

2023 ADDITIONAL DRILLING AND DELINEATION ACTIVITIES

Data collected at the Site between 2019 and 2023, including soil data from drilling and delineation efforts in 2019 and 2020 and groundwater sampling data collected between 2019 and 2023, indicated chloride impacts to groundwater remained undelineated in downgradient areas northwest of the release. As such, additional drilling efforts were conducted in April 2023 in order to further delineate downgradient groundwater impacts at the Site. Seven additional borings (BH25 through BH31, shown on Figure 2) were advanced using a sonic drilling rig in order to continue delineation of impacted groundwater. During drilling, soil lithology and conditions were logged by an Ensolum geologist who assessed the soil for the presence or absence of petroleum hydrocarbon odor and/or staining or any other noticeable observations. Soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® QuanTab® test strips.

In general, borings encountered unconsolidated sand with varying volumes of silt, clay, and gravel from the ground surface to depths ranging from 20 feet to 35 feet below ground surface (bgs). The sand unit was underlain in most boring by dry, lean clay. Of the seven borings advanced in 2023, borings BH25 and BH26 were dry during drilling and backfilled with bentonite. Wet to saturated soils were present in borings BH27 through BH31 overlying the clay unit. As such, these borings were completed as permanent groundwater monitoring wells MW27 through MW31. Groundwater monitoring wells were constructed by installing screened casing across the groundwater interface and solid casing to surface. Monitoring wells were constructed out of 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 2 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 gradient could be determined relative to mean seal level. 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. Boring/monitoring well locations from this drilling event are depicted on Figure 2. Soil boring logs and monitoring well construction diagrams are included as Appendix A.

Soil Sampling and Results

In general, two soil samples from each soil boring were submitted for laboratory analysis: one from the most impacted sample interval based on field screening techniques, and one from the terminus of each boring. Soil samples were submitted to Hall Environmental Analysis Laboratory (Hall) for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) using United States Environmental Protection Agency (EPA) Method 8021B, total petroleum hydrocarbons (TPH) as gasoline range organics (GRO), diesel range organics (DRO), and motor-oil range organics (MRO) by EPA Method 8015M/D, and chloride by EPA Method 300.0.

Analytical results from the 2023 drilling event indicated that all concentrations of benzene, BTEX, TPH, and chloride were below laboratory reporting limits and below the NMOCD Table I Closure Criteria. The soil analytical results collected during the April 2023 drilling event, as well as historical sampling events, are summarized in Table 1 and Figure 2. The laboratory analytical reports for the newly collected soil samples are included as Appendix B.

SITEWIDE GROUNDWATER MONITORING

As proposed in the *Stage 1 Abatement Plan*, quarterly groundwater monitoring and sampling has been conducted beginning in the fourth quarter of 2019. Static groundwater levels are measured quarterly in all permanent monitoring wells at the Site using an oil/water interface probe. The interface probe is decontaminated with Alconox™ soap and rinsed with distilled water prior to each measurement. Groundwater elevations at the Site are summarized on Table 2. In general, groundwater typically flows to the west/northwest at the Site with a trough near the area of the previous excavation. Figures 3 through 6 depict groundwater elevations, inferred potentiometric contours, and estimated flow direction from the four most recent quarters of groundwater monitoring.

Of note, groundwater elevations in all Site wells have decreased since sampling began in 2019 and several wells are continually dry or do not contain sufficient volumes of water to collect groundwater samples. Historically, many of the Site wells are dry and/or contain insufficient volumes of water to sample during the winter months as the groundwater table fluctuates with seasonal variations; however, as seen across much of the region, this trend has extended into spring and summer months as well, likely in response to the ongoing drought conditions present in the area.

Groundwater Sampling and Results

Groundwater monitoring wells were sampled by purging a minimum of three casing volumes or purging until the well bails dry. Water quality parameters are collected during the purging process from each well. Once purging is complete, groundwater samples are collected directly into laboratory provided containers. Samples are labeled with the date and time of collection, sample name, sampler's name, and parameters to be analyzed. Strict chain-of-custody procedures are documented and include the date and time sampled, sample number, type of sample, sampler's name and signature, preservative used, and analysis required. Groundwater samples were analyzed for VOCs by EPA Method 8260B, general water chemistry (GWC) parameters including total dissolved solids (TDS) by EPA Standard Method (SM) 2540C, pH by EPA SM4500-H+B/9040C, anions (bromide, chloride, sulfate, fluoride, nitrite-nitrate, and phosphorus) by EPA Method 300.0, and cations (calcium, magnesium, potassium, and sodium) by EPA Method 200.7.

Based on historical results, all concentrations of analyzed VOCs have been below New Mexico Water Quality Control Commission (NMWQCC) standards since the first quarter of 2020. Of the general water chemistry parameters sampled during quarterly events, concentrations of chloride, sulfate, and TDS are the only constituents with exceedances of the NMWQCC standards at the Site. In general, most water chemistry parameters have been stable over time. Chloride concentrations have decreased in many of the Site wells since sampling began in 2019. Additionally, groundwater samples collected from MW21 through MW24 indicate background concentrations of chloride, sulfate, and TDS are also present above NMWQCC standards at the Site. All groundwater analytical results received for the Site, including background sampling results from temporary wells MW21 through MW24, are summarized in Tables 3 and 4. Groundwater analytical results for chloride and TDS from the previous four quarterly sampling events are presented on Figure 7. Complete groundwater laboratory analytical reports are included as Appendix C.

RECOMMENDATIONS

Based on previous soil and groundwater sampling conducted at the Site, Hilcorp and Ensolum performed additional drilling activities in April 2023 in attempts to fully delineate the groundwater impacts related to the produced water release. Wells MW28 and MW29 were installed in 2023 at distances of 150 feet and 270 feet, respectively, downgradient from MW18; however, analytical results and geochemical analysis results indicate these wells have also been impacted by the Site release. As such, additional delineation efforts will be required in order to continue assessing the downgradient edge of the plume.

Hilcorp and Ensolum will continue to sample Site wells on a quarterly basis while drilling and delineation efforts are being coordinated. Based on driller availability and pending landowner approval, additional drilling activities are anticipated to be conducted in the first quarter of 2024. Additionally, Hilcorp requests that groundwater analytes be reduced to chloride, sulfate, and TDS for all future sampling events, as these are the only constituents of concern that continue to exceed NMWQCC standards.

Ensolum appreciates the opportunity to provide this report to the NMOCD. Please direct any questions to the undersigned.

Sincerely,

Ensolum, LLC

Stuart Hyde, LG
Senior Geologist
(970) 903-1607
shyde@ensolum.com

Daniel R. Moir, PG
Senior Managing Geologist
(303) 887-2946
dmoir@ensolum.com

Attachments:

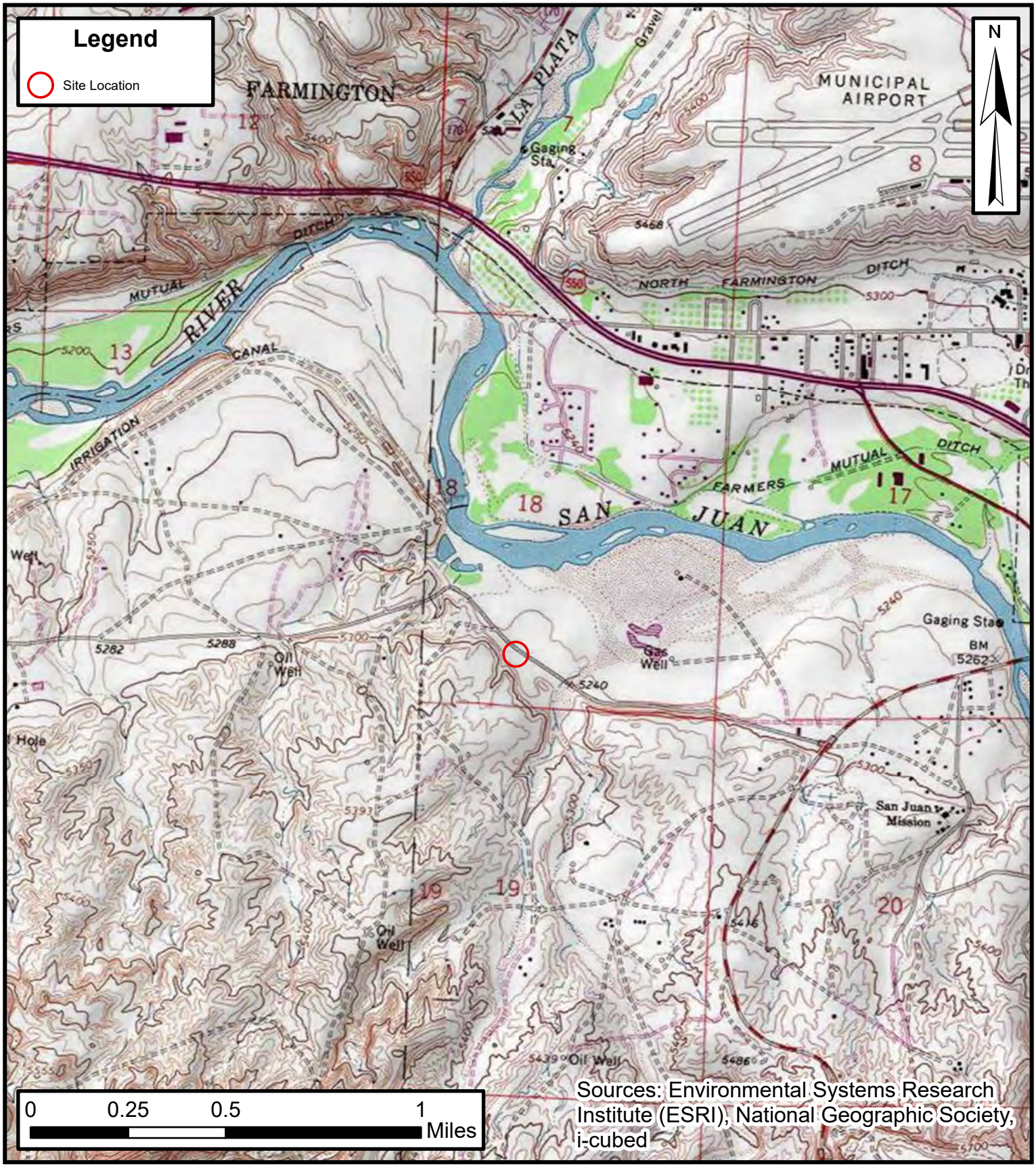
Figure 1: Site Location Map
Figure 2: Soil Analytical Results
Figure 3: Groundwater Elevation Contours – Q4 2022
Figure 4: Groundwater Elevation Contours – Q1 2023
Figure 5: Groundwater Elevation Contours – Q2 2023
Figure 6: Groundwater Elevation Contours – Q3 2023
Figure 7: Groundwater Analytical Results

Table 1: Soil Sample Analytical Results
Table 2: Groundwater Elevations
Table 3: Groundwater Analytical Results – Volatile Organic Compounds
Table 4: Groundwater Analytical Results - Inorganics

Appendix A: 2023 Drilling Boring Logs
Appendix B: Soil Sample Laboratory Analytical Reports
Appendix C: Groundwater Sample Laboratory Analytical Reports

ENSOLUM

FIGURES



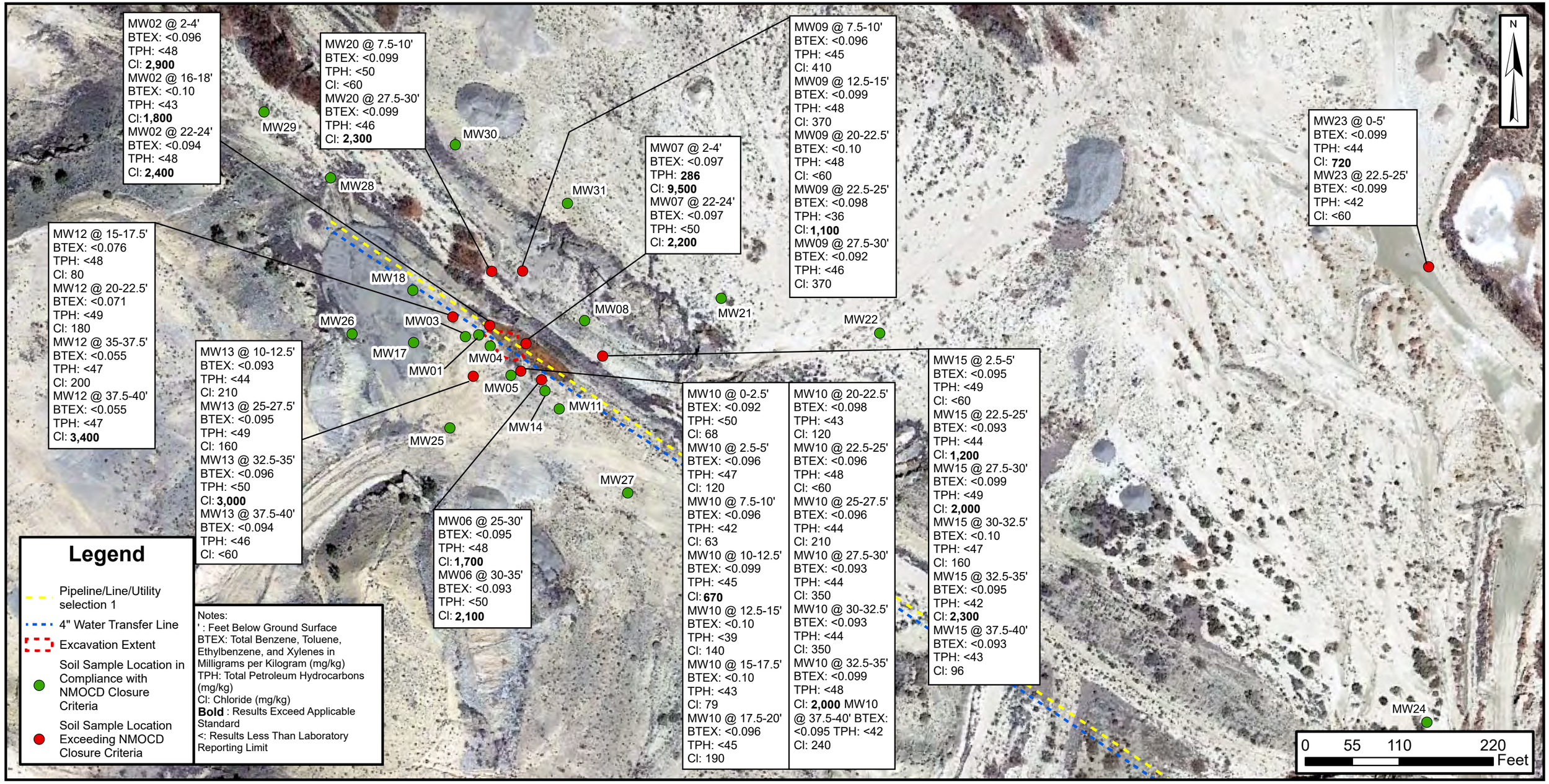
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Location Map

Salty Dog Water Gathering System
Hilcorp Energy Company

NMOCD Incident No: nCS1916853082
SEC 18-T29N-R13W
San Juan County, New Mexico

FIGURE
1



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

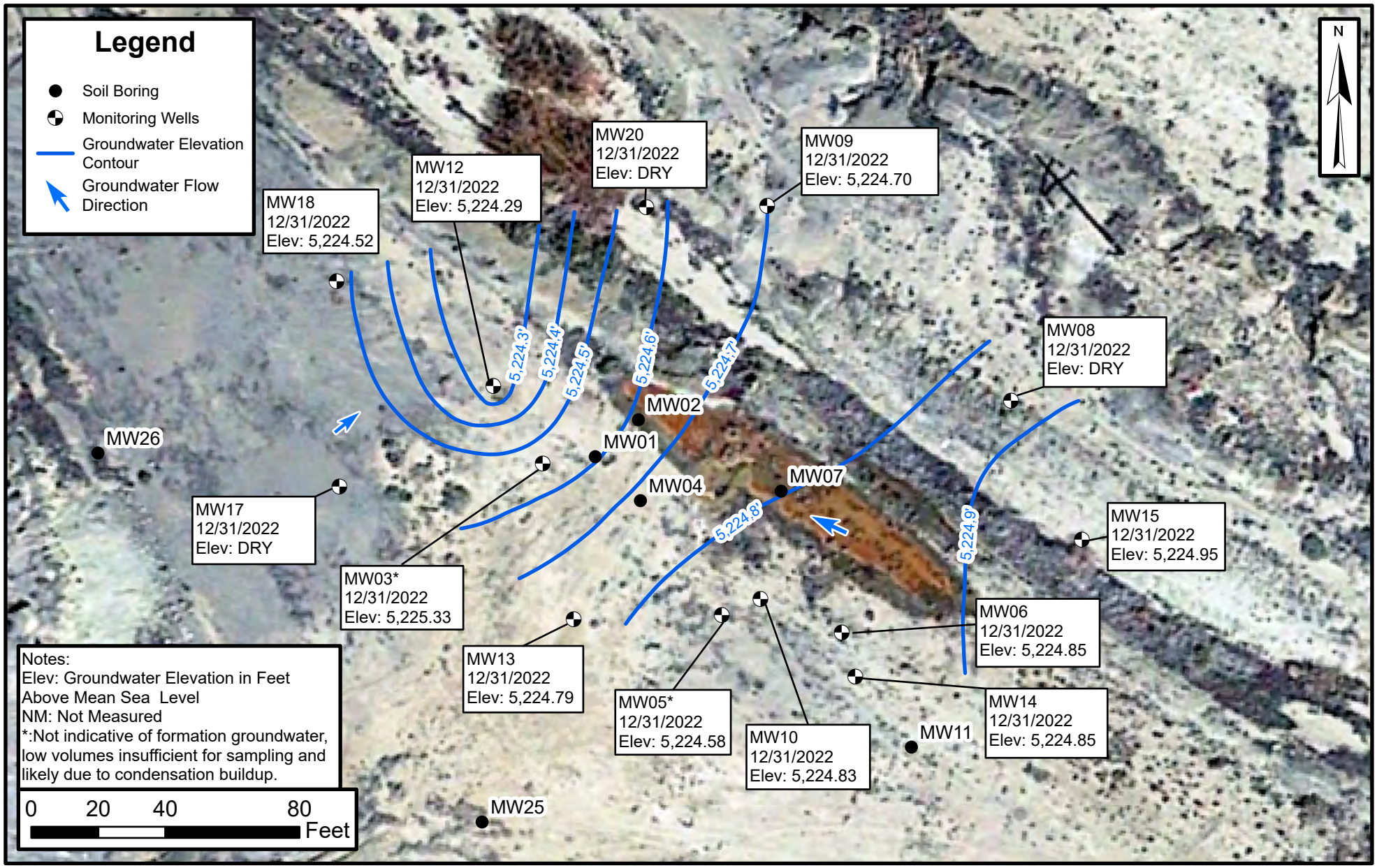
Soil Analytical Results

Salty Dog Water Gathering System
Hilcorp Energy Company

NMOCD Incident No: nCS1916853082
SEC 18-T29N-R13W
San Juan County, New Mexico

FIGURE
2

Sources: Google Earth



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

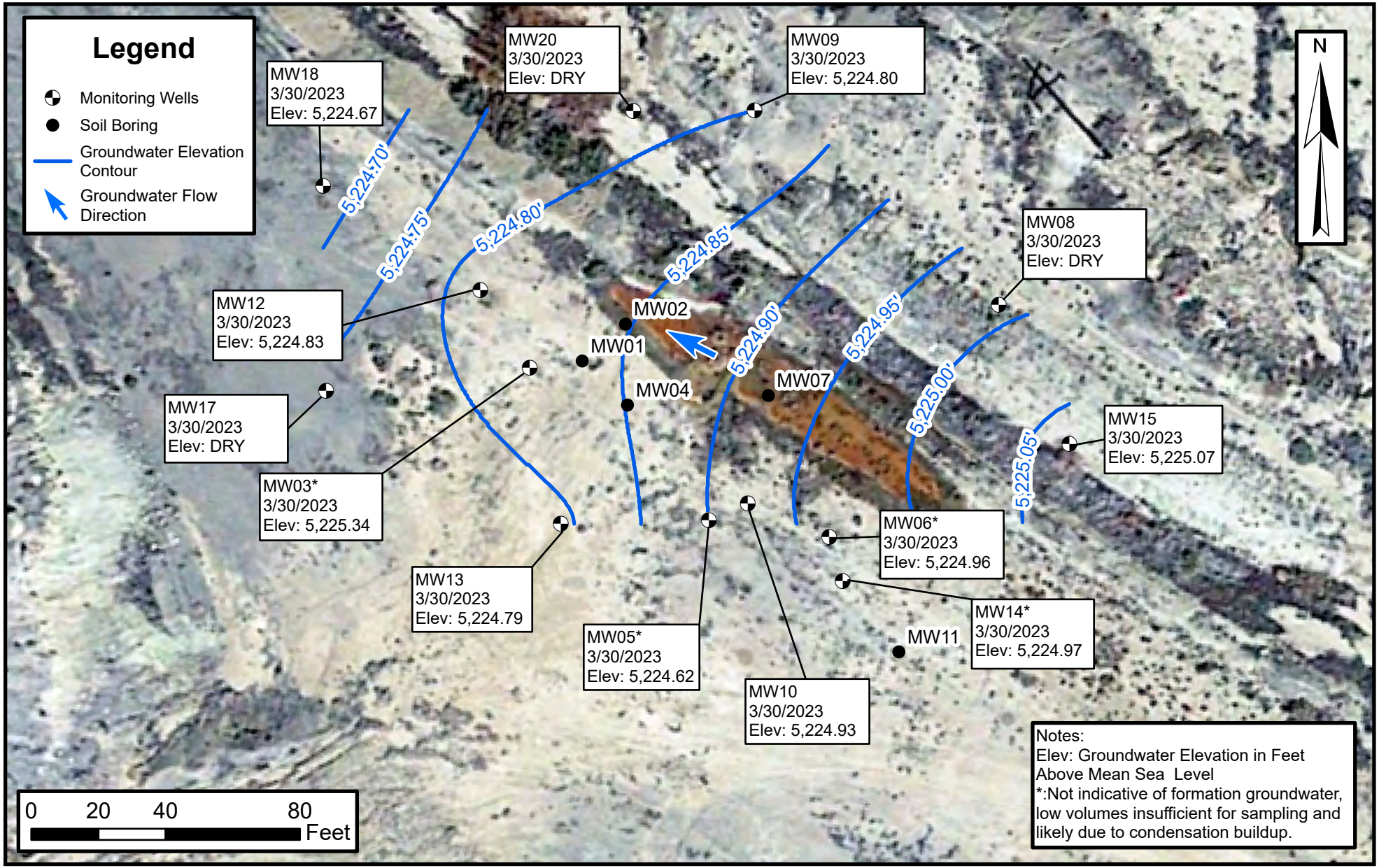
Groundwater Elevation Contours - Q4 2022

Salty Dog Water Gathering System
Hilcorp Energy Company

NMOCD Incident No: nCS1916853082
SEC 18-T29N-R13W
San Juan County, New Mexico

FIGURE
3

Sources: Google Earth



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

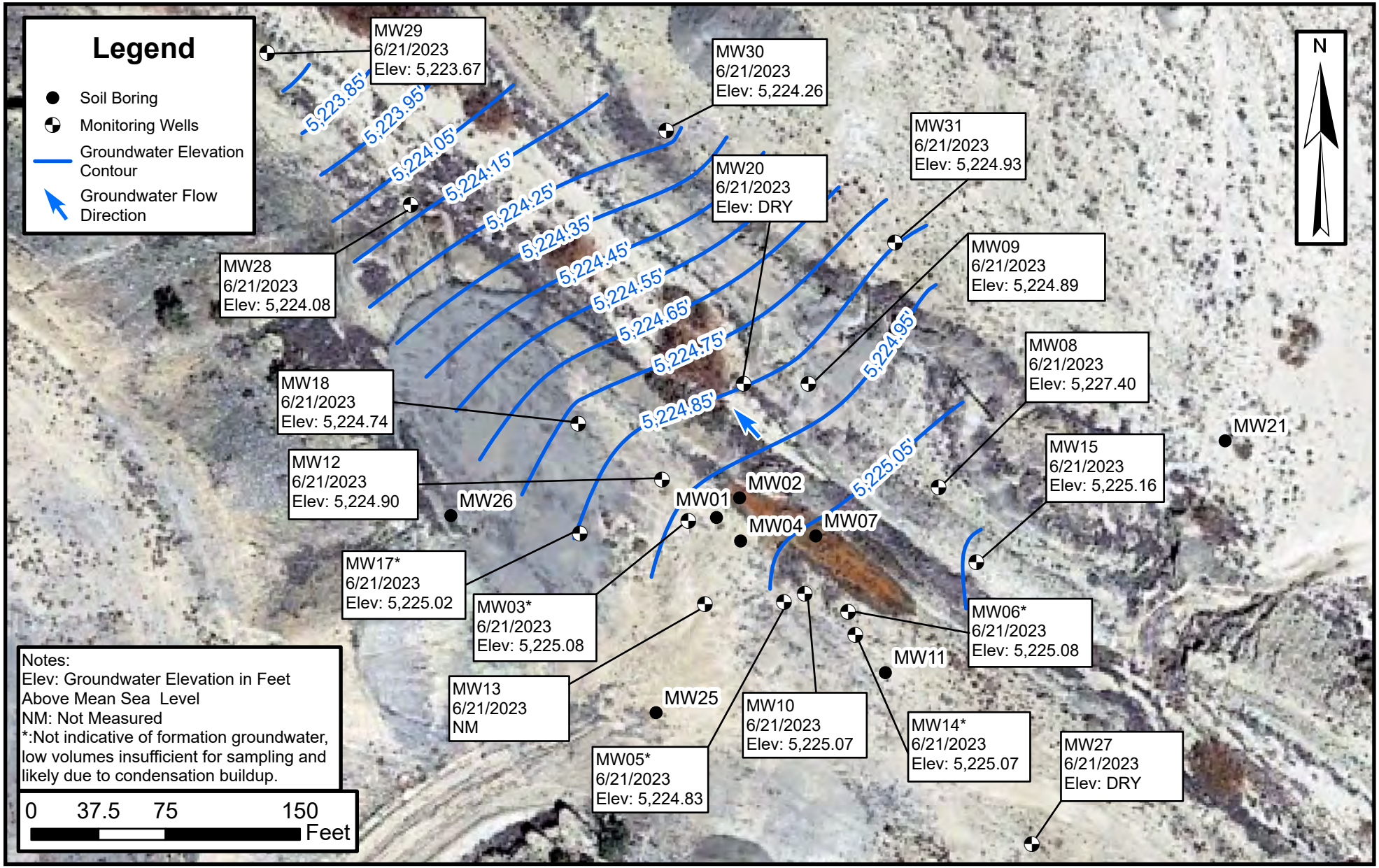
Groundwater Elevation Contours - Q1 2023

Salty Dog Water Gathering System
Hilcorp Energy Company

NMOCD Incident No: nCS1916853082
SEC 18-T29N-R13W
San Juan County, New Mexico

FIGURE
4

Sources: Google Earth



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

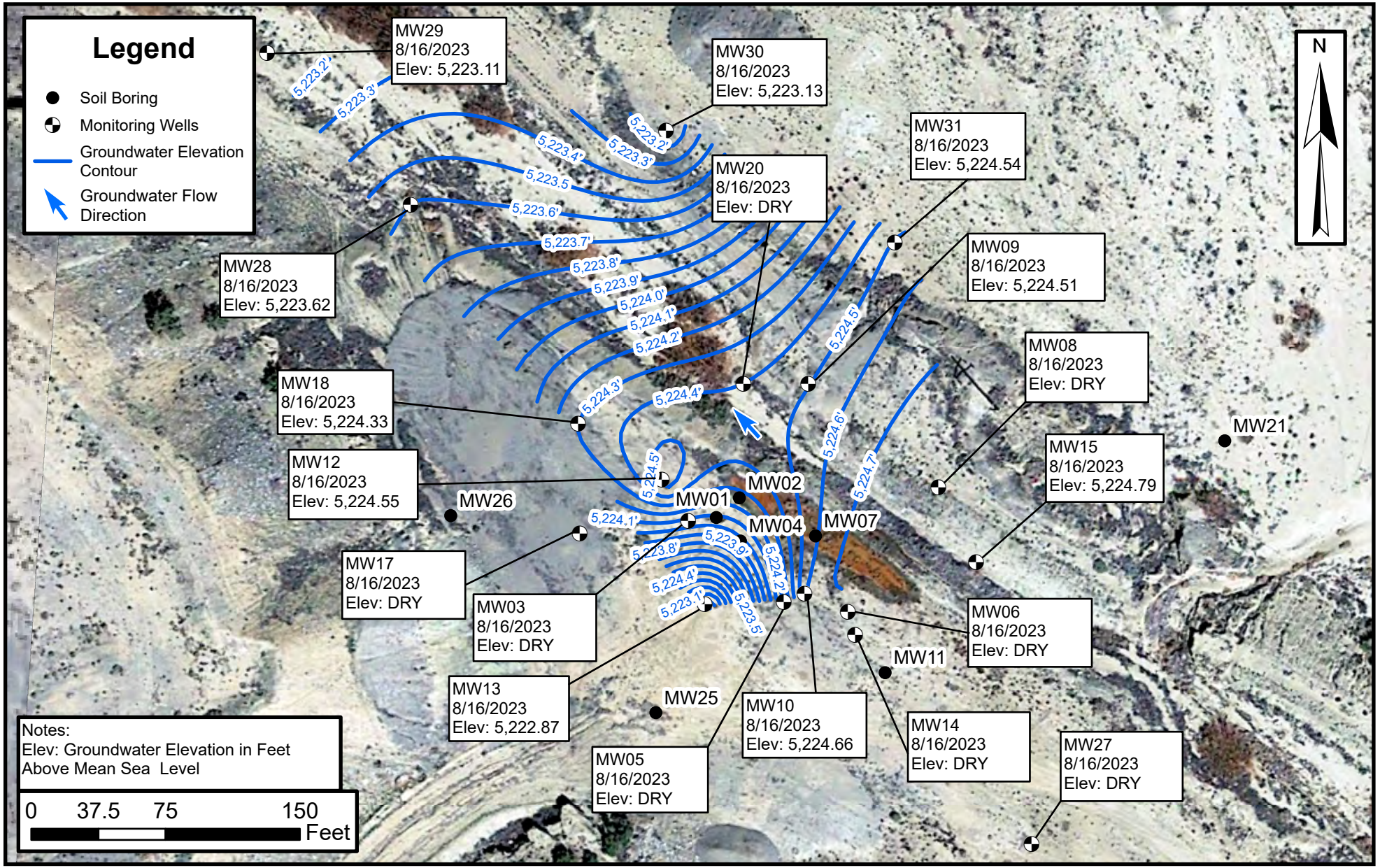
Groundwater Elevation Contours - Q2 2023

Salty Dog Water Gathering System
Hilcorp Energy Company

NMOCD Incident No: nCS1916853082
SEC 18-T29N-R13W
San Juan County, New Mexico

FIGURE
5

Sources: Google Earth



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

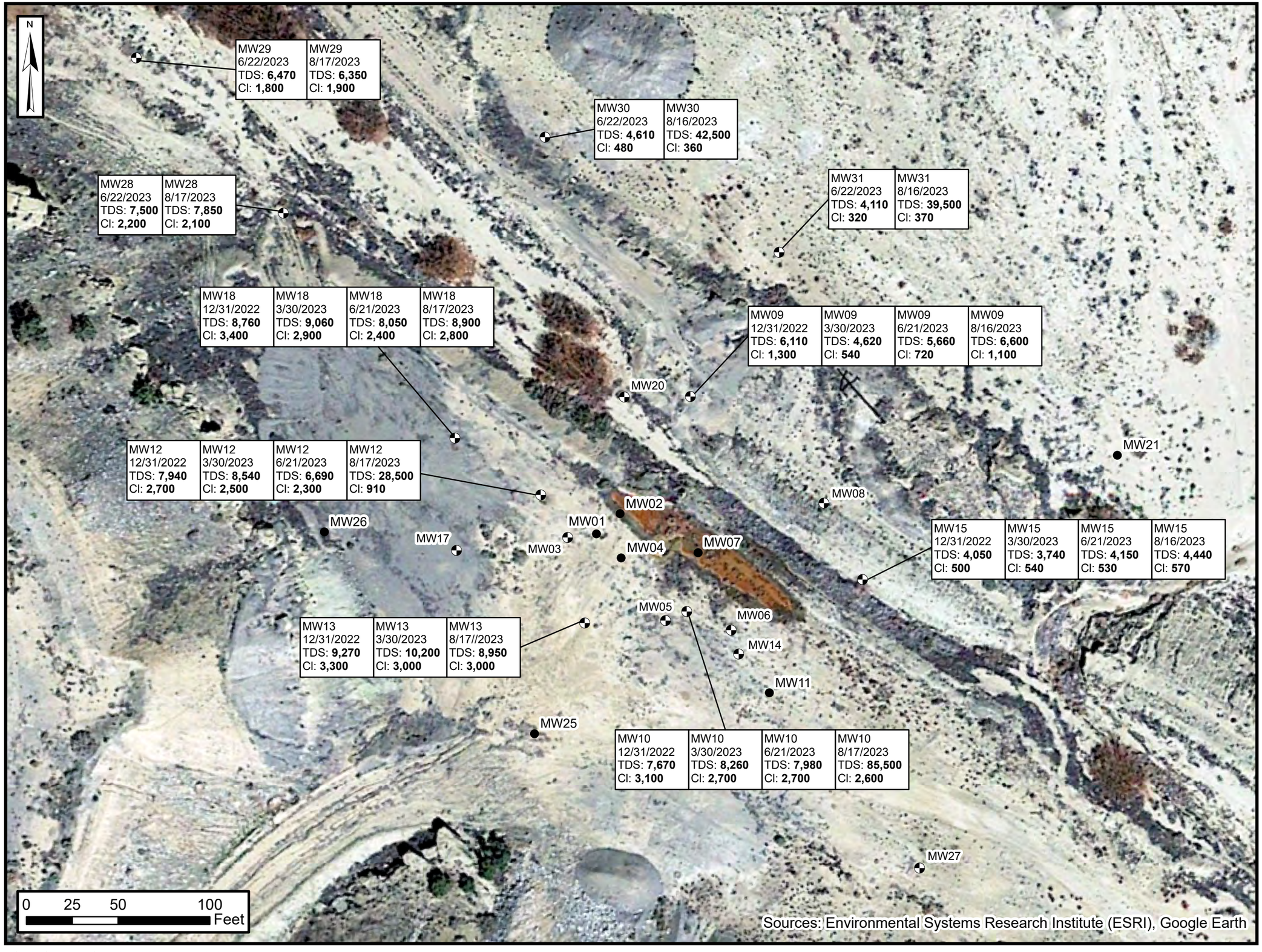
Groundwater Elevation Contours - Q3 2023

Salty Dog Water Gathering System
Hilcorp Energy Company

NMOCD Incident No: nCS1916853082
SEC 18-T29N-R13W
San Juan County, New Mexico

FIGURE
6

Sources: Google Earth



Legend

- Soil Boring
- Monitoring Wells

Notes:
TDS: Total Dissolved Solids
Cl: Chloride in Milligrams per Liter (mg/L)
Bold: Indicates Result Exceeds NMWQCC Standard
NMWQCC: New Mexico Water Quality Conservation Commission

Groundwater Analytical Results

Salty Dog Water Gathering System
Hilcorp Energy Company

NMOCD Incident No: nCS1916853082
SEC 18-T29N-R13W
San Juan County, New Mexico

Figure 7

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

ENSOLUM

TABLES

ENSOLUM

TABLE 1
SOIL ANALYTICAL RESULTS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Soil Sample Identification	Sample Date	Field Headspace (ppm)	Field Chloride (ppm)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Closure Criteria				10	50	100	600
MW01 @ 0' - 2'	8/30/2019	1.9	--	<0.023	<0.093	<46	<60
MW01 @ 8' - 10'	8/30/2019	1.0	--	<0.023	<0.094	<47	75
MW01 @ 10' - 12'	8/30/2019	1.0	--	<0.024	<0.096	<49	84
MW02 @ 2' - 4'	8/29/2019	9.1	--	<0.024	<0.096	<48	**2,900**
MW02 @ 16' - 18'	8/29/2019	4.8	--	<0.025	<0.10	<43	**1,800**
MW02 @ 22' - 24'	8/29/2019	1.9	--	<0.023	<0.094	<48	**2,400**
MW03 @ 14' - 16'	8/29/2019	7.6	--	<0.025	<0.099	<44	190
MW03 @ 26' - 28'	8/29/2019	2.7	--	<0.025	<0.10	<44	<61
MW04 @ 2' - 4'	8/30/2019	0.4	--	<0.025	<0.098	<48	390
MW04 @ 16' - 18'	8/30/2019	1.1	--	<0.023	<0.093	<49	160
MW04 @ 18' - 20'	8/30/2019	1.2	--	<0.025	<0.099	<49	110
MW05 @ 25' - 30'	8/28/2019	5.0	--	<0.024	<0.094	<49	390
MW05 @ 30' - 35'	8/28/2019	1.9	--	<0.025	<0.099	<48	110
MW06 @ 25' - 30'	8/28/2019	1.9	--	<0.024	<0.095	<48	**1,700**
MW06 @ 30' - 35'	8/28/2019	0.8	--	<0.023	<0.093	<50	**2,100**
MW07 @ 2'- 4'	8/29/2019	5.0	--	<0.024	<0.097	**286**	**9,500**
MW07 @ 22' - 24'	8/29/2019	5.0	--	<0.024	<0.097	<50	**2,200**
MW08 @ 2.5 - 5'	10/20/2019	0.2	<128	<0.024	<0.095	<41	<60
MW08 @ 20 - 22.5'	10/20/2019	0.4	<128	<0.025	<0.10	<46	<60
MW08 @ 22.5 - 25'	10/20/2019	0.3	<128	<0.025	<0.10	<42	69
MW08 @ 27.5 - 30'	10/20/2019	0.4	<128	<0.023	<0.093	<44	<60
MW09 @ 7.5 - 10'	10/20/2019	0.2	244	<0.024	<0.096	<45	410
MW09 @ 12.5 - 15'	10/20/2019	0.2	356	<0.025	<0.099	<48	370
MW09 @ 20 - 22.5'	10/23/2019	0.2	<128	<0.025	<0.10	<48	<60
MW09 @ 22.5 - 25'	10/20/2019	0.2	1,148	<0.024	<0.098	<36	**1,100**
MW09 @ 27.5 - 30'	10/20/2019	0.2	212	<0.023	<0.092	<46	370
MW10 @ 0 - 2.5'	10/21/2019	0.2	<128	<0.023	<0.092	<50	68
MW10 @ 2.5 - 5'	10/21/2019	0.3	<128	<0.024	<0.096	<47	120
MW10 @ 7.5 - 10'	10/21/2019	0.1	<128	<0.024	<0.096	<42	63
MW10 @ 10 - 12.5'	10/21/2019	0.9	776	<0.025	<0.099	<45	**670**
MW10 @ 12.5 - 15'	10/21/2019	0.6	<128	<0.025	<0.10	<39	140
MW10 @ 15 - 17.5'	10/21/2019	0.6	<128	<0.025	<0.10	<43	79
MW10 @ 17.5 - 20'	10/21/2019	0.4	184	<0.024	<0.096	<45	190
MW10 @ 20 - 22.5'	10/21/2019	0.4	184	<0.024	<0.098	<43	120
MW10 @ 22.5 - 25'	10/21/2019	0.2	<128	<0.024	<0.096	<48	<60
MW10 @ 25 - 27.5'	10/21/2019	0.4	184	<0.024	<0.096	<44	210
MW10 @ 27.5 - 30'	10/21/2019	0.7	988	<0.023	<0.093	<44	350
MW10 @ 30 - 32.5'	10/21/2019	0.2	656	<0.023	<0.093	<44	350
MW10 @ 32.5 - 35'	10/21/2019	0.2	1,148	<0.025	<0.099	<48	**2,000**
MW10 @ 37.5 - 40'	10/21/2019	0.6	<128	<0.024	<0.095	<42	240

ENSOLUM

TABLE 1
SOIL ANALYTICAL RESULTS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Soil Sample Identification	Sample Date	Field Headspace (ppm)	Field Chloride (ppm)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
MW11 @ 32.5 - 35'	10/21/2019	1.6	<128	<0.020	<0.079	<46	130
MW11 @ 37.5 - 40'	10/21/2019	0.7	<128	<0.019	<0.076	<47	97
MW12 @ 15 - 17.5'	10/21/2019	0.5	280	<0.019	<0.076	<48	80
MW12 @ 20 - 22.5'	10/21/2019	0.3	356	<0.018	<0.071	<49	180
MW12 @ 35 - 37.5'	10/21/2019	0.3	280	<0.014	<0.055	<47	200
MW12 @ 37.5 - 40'	10/21/2019	0.3	5,420	<0.014	<0.055	<47	**3,400**
MW13 @ 10 - 12.5'	10/21/2019	0.3	212	<0.023	<0.093	<44	210
MW13 @ 25 - 27.5'	10/21/2019	1.0	156	<0.024	<0.095	<49	160
MW13 @ 32.5 - 35'	10/21/2019	0.4	2,472	<0.024	<0.096	<50	**3,000**
MW13 @ 37.5 - 40'	10/21/2019	0.3	<128	<0.023	<0.094	<46	<60
MW14 @ 5 - 7.5'	10/22/2019	0.8	<128	<0.024	<0.094	<46	<60
MW14 @ 20 - 22.5'	10/22/2019	1.0	212	<0.024	<0.094	<49	270
MW14 @ 25 - 27.5'	10/22/2019	2.5	184	<0.025	<0.099	<48	75
MW14 @ 27.5 - 30'	10/22/2019	2.2	<128	<0.024	<0.097	<47	<60
MW14 @ 30 - 32.5'	10/22/2019	2.1	128	<0.024	<0.097	<46	230
MW15 @ 2.5 - 5'	10/22/2019	0.0	<128	<0.024	<0.095	<49	<60
MW15 @ 22.5 - 25'	10/22/2019	0.0	400	<0.023	<0.093	<44	**1,200**
MW15 @ 27.5 - 30'	10/22/2019	0.0	988	<0.025	<0.099	<49	**2,000**
MW15 @ 30 - 32.5'	10/23/2019	0.1	212	<0.025	<0.10	<47	160
MW15 @ 32.5 - 35'	10/22/2019	0.0	2,472	<0.024	<0.095	<42	**2,300**
MW15 @ 37.5 - 40'	10/22/2019	0.0	<128	<0.023	<0.093	<43	96
MW17 @ 17.5 - 20'	2/6/2020	2.4	<124	<0.025	<0.10	<47	120
MW17 @ 37.5 - 40'	2/6/2020	0.9	<31	<0.025	<0.10	<48	<60
MW18 @ 20 - 22.5'	2/5/2020	4.1	132	<0.025	<0.099	<45	86
MW18 @ 37.5 - 40'	2/5/2020	0.9	<112	<0.024	<0.097	<50	91
MW20 @ 7.5 - 10'	2/7/2020	0.9	<112	<0.025	<0.099	<50	<60
MW20 @ 27.5 - 30'	2/7/2020	0.0	964	<0.025	<0.099	<46	**2,300**
MW21 @ 15 - 17.5'	2/6/2020	0.1	<124	<0.025	<0.10	<46	160
MW21 @ 17.5 - 20'	2/6/2020	1.0	<124	<0.025	<0.099	<48	99
MW22 @ 15 - 17.5'	2/6/2020	0.1	<124	<0.025	<0.098	<49	<60
MW22 @ 17.5 - 20'	2/6/2020	0.2	<124	<0.024	<0.098	<47	<60
MW23 @ 0 - 5'	2/7/2020	0.5	892	<0.025	<0.099	<44	**720**
MW23 @ 22.5 - 25'	2/7/2020	0.1	<28	<0.025	<0.099	<42	<60
MW24 @ 4.5 - 7'	2/7/2020	1.5	<112	<0.025	<0.099	<46	<60
MW24 @ 17.5 - 20'	2/7/2020	0.2	<112	<0.024	<0.097	<49	180
BH25 @ 15-20'	4/11/2023	0.4	<120	<0.024	<0.095	<49	<60
BH25 @ 38-41'	4/11/2023	--	--	<0.025	<0.099	<50	<60
BH26 @ 30-35'	4/12/2023	0.2	--	<0.025	<0.098	<48	<60
BH26 @ 35-40'	4/12/2023	0.0	--	<0.025	<0.099	<49	<60
BH27 @ 30-34'	4/13/2023	0.4	<120	<0.023	<0.093	<47	<60
BH27 @ 35-40'	4/13/2023	0.4	<120	<0.024	<0.097	<50	<60

ENSOLUM

TABLE 1
SOIL ANALYTICAL RESULTS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Soil Sample Identification	Sample Date	Field Headspace (ppm)	Field Chloride (ppm)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
BH28 @ 25-30'	4/13/2023	1.2	<120	<0.024	<0.095	<47	210
BH28 @ 30-35'	4/13/2023	0.4	<120	<0.024	<0.095	<50	<60
BH29 @ 20-25'	4/14/2023	1.2	<120	<0.024	<0.095	<50	190
BH29 @ 25-30'	4/14/2023	3.0	356	<0.024	<0.097	<42	360
BH29 @ 30-32'	4/14/2023	0.6	<120	<0.024	<0.096	<50	<60
BH30 @ 20-25'	4/14/2023	1.2	<120	<0.024	<0.097	<43	110
BH30 @ 25-27'	4/14/2023	2.0	180	<0.025	<0.099	<43	190
BH31 @ 15-20'	4/14/2023	0.8	<120	<0.025	<0.10	<44	<60
BH31 @ 25-30'	4/14/2023	1.2	<120	<0.024	<0.097	<44	150

Notes:

--: not measured

BTEX: benzene, toluene, ethylbenzene, total xylenes

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

ppm: parts per million

TPH: total petroleum hydrocarbons

<: indicates result is less than the stated laboratory reporting limit

*Concentrations in **bold** and shaded exceed the NMOCD Closure Criteria, 19.15.29 of the New Mexico Administrative Code*

ENSOLUM

TABLE 2
GROUNDWATER ELEVATIONS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
MW03	5,262.40	9/12/2019	33.62	5,228.78
		10/22/2019	33.92	5,228.48
		10/24/2019	33.98	5,228.42
		2/11/2020	33.66	5,228.74
		3/12/2020	33.52	5,228.88
		6/22/2020	33.83	5,228.57
		9/10/2020	34.60	5,227.80
		12/1/2020	35.22	5,227.18
		2/22/2021	35.43	5,226.97
		6/24/2021	35.60	5,226.80
		9/28/2021*	36.23	5,226.17
		12/7/2021*	37.12	5,225.28
		3/15/2022*	36.65	5,225.75
		6/27/2022*	36.90	5,225.50
		9/23/2022*	37.04	5,225.36
		12/31/2022*	37.07	5,225.33
		3/30/2023*	37.06	5,225.34
		6/21/2023*	37.32	5,225.08
		8/16/2023	DRY	DRY
MW05	5,262.11	9/12/2019	33.36	5,228.75
		10/22/2019	33.70	5,228.41
		10/24/2019	33.70	5,228.41
		2/11/2020	33.48	5,228.63
		3/12/2020	33.35	5,228.76
		6/22/2020	33.65	5,228.46
		9/10/2020	34.43	5,227.68
		11/30/2020	35.10	5,227.01
		2/19/2021	35.32	5,226.79
		6/24/2021	35.48	5,226.63
		9/28/2021	36.09	5,226.02
		12/7/2021	36.42	5,225.69
		3/15/2022	36.54	5,225.57
		6/27/2022	36.92	5,225.19
		9/23/2022*	37.12	5,224.99
		12/31/2022*	37.53	5,224.58
		3/30/2023*	37.49	5,224.62
		6/21/2023*	37.28	5,224.83
		8/16/2023	DRY	DRY

ENSOLUM

TABLE 2
GROUNDWATER ELEVATIONS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
MW06	5,261.78	9/12/2019	32.74	5,229.04
		10/22/2019	33.05	5,228.73
		10/24/2019	33.08	5,228.70
		2/11/2020	32.87	5,228.91
		3/12/2020	32.76	5,229.02
		6/22/2020	33.00	5,228.78
		9/9/2020	33.73	5,228.05
		11/30/2020	34.42	5,227.36
		2/18/2021	34.64	5,227.14
		6/24/2021	34.81	5,226.97
		9/27/2021	35.47	5,226.31
		12/7/2021	35.79	5,225.99
		3/16/2022	35.88	5,225.90
		6/27/2022	35.97	5,225.81
		9/23/2022*	36.53	5,225.25
		12/31/2022*	36.93	5,224.85
		3/30/2023*	36.82	5,224.96
		6/21/2023*	36.70	5,225.08
		8/16/2023	DRY	DRY
MW08	5,252.50	10/22/2019	23.80	5,228.70
		10/24/2019	23.81	5,228.69
		2/11/200	23.98	5,228.52
		3/12/2020	23.50	5,229.00
		6/23/2020	23.76	5,228.74
		9/14/2020	24.50	5,228.00
		12/2/2020	25.03	5,227.47
		2/23/2021	25.18	5,227.32
		6/24/2021	25.21	5,227.29
		9/27/2021	25.21	5,227.29
		12/7/2021	DRY	DRY
		3/16/2022	DRY	DRY
		6/27/2022	DRY	DRY
		9/23/2022	DRY	DRY
		12/31/2022	DRY	DRY
		3/30/2023	DRY	DRY
		6/21/2023*	25.10	5,227.40
		8/16/2023	DRY	DRY

ENSOLUM

TABLE 2
GROUNDWATER ELEVATIONS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
MW09	5,252.38	10/22/2019	23.94	5,228.44
		10/24/2019	23.93	5,228.45
		2/11/2020	23.70	5,228.68
		3/12/2020	23.53	5,228.85
		6/23/2020	23.86	5,228.52
		9/15/2020	24.62	5,227.76
		12/2/2020	25.21	5,227.17
		2/23/2021	25.39	5,226.99
		6/24/2021	25.60	5,226.78
		9/28/2021	26.22	5,226.16
		12/7/2021	36.58	5,215.80
		3/16/2022	26.66	5,225.72
		6/27/2022	26.77	5,225.61
		9/23/2022	27.28	5,225.10
		12/31/2022	27.68	5,224.70
		3/30/2023	27.58	5,224.80
		6/21/2023	27.49	5,224.89
		8/16/2023	27.87	5,224.51
MW10	5,259.28	10/22/2019	30.59	5,228.69
		10/24/2019	30.60	5,228.68
		2/11/2020	30.35	5,228.93
		3/12/2020	30.25	5,229.03
		6/22/2020	30.52	5,228.76
		9/9/2020	31.26	5,228.02
		11/30/2020	31.93	5,227.35
		2/18/2021	32.16	5,227.12
		6/24/2021	32.32	5,226.96
		9/27/2021	33.00	5,226.28
		12/7/2021	33.34	5,225.94
		3/15/2022	33.43	5,225.85
		6/27/2022	34.53	5,224.75
		9/23/2022	34.06	5,225.22
		12/31/2022	34.45	5,224.83
		3/30/2023	34.35	5,224.93
		6/21/2023	34.21	5,225.07
		8/17/2023	34.62	5,224.66

ENSOLUM

TABLE 2
GROUNDWATER ELEVATIONS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
MW12	5,259.25	10/22/2019	30.85	5,228.40
		10/24/2019	30.83	5,228.42
		2/11/2020	30.55	5,228.70
		3/12/2020	30.41	5,228.84
		6/23/2020	30.72	5,228.53
		9/11/2020	31.49	5,227.76
		12/1/2020	32.11	5,227.14
		2/22/2021	32.33	5,226.92
		6/24/2021	32.57	5,226.68
		9/28/2021	32.12	5,227.13
		12/7/2021	33.45	5,225.80
		3/15/2022	33.54	5,225.71
		6/27/2022	33.65	5,225.60
		9/23/2022	34.15	5,225.10
		12/31/2022	34.96	5,224.29
		3/30/2023	34.42	5,224.83
		6/21/2023	34.35	5,224.90
		8/17/2023	34.70	5,224.55
MW13	5,260.32	10/22/2019	31.81	5,228.51
		10/24/2019	31.83	5,228.49
		2/11/2020	31.55	5,228.77
		3/12/2020	31.43	5,228.89
		6/22/2020	31.73	5,228.59
		9/10/2020	32.51	5,227.81
		12/1/2020	33.16	5,227.16
		2/19/2021	33.37	5,226.95
		6/24/2021	33.75	5,226.57
		9/28/2021	34.14	5,226.18
		12/7/2021	34.46	5,225.86
		3/15/2022	34.53	5,225.79
		6/27/2022	34.63	5,225.69
		9/23/2022	35.11	5,225.21
		12/31/2022	35.53	5,224.79
		3/30/2023	35.53	5,224.79
		6/21/2023	NM	NM
		8/17/2023	37.45	5,222.87

ENSOLUM

TABLE 2
GROUNDWATER ELEVATIONS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
MW14	5,259.67	10/22/2019	30.92	5,228.75
		10/24/2019	30.92	5,228.75
		2/11/2020	30.74	5,228.93
		3/12/2020	30.63	5,229.04
		6/23/2020	30.91	5,228.76
		9/9/2020	31.62	5,228.05
		11/30/2020	32.30	5,227.37
		2/18/2021	32.52	5,227.15
		6/24/2021	32.70	5,226.97
		9/27/2021	33.34	5,226.33
		12/7/2021	33.68	5,225.99
		3/15/2022	33.74	5,225.93
		6/27/2022	33.87	5,225.80
		9/23/2022*	34.40	5,225.27
		12/31/2022*	34.82	5,224.85
		3/30/2023*	34.70	5,224.97
		6/21/2023*	34.60	5,225.07
		8/17/2023	DRY	DRY
MW15	5,256.00	10/22/2019	27.20	5,228.80
		10/24/2019	27.15	5,228.85
		2/11/2020	26.96	5,229.04
		3/12/2020	26.84	5,229.16
		6/23/2020	27.12	5,228.88
		9/14/2020	27.91	5,228.09
		12/2/2020	28.55	5,227.45
		2/23/2021	28.76	5,227.24
		6/24/2021	28.92	5,227.08
		9/27/2021	29.59	5,226.41
		12/7/2021	29.92	5,226.08
		3/16/2022	29.97	5,226.03
		6/27/2022	30.12	5,225.88
		9/23/2022	30.63	5,225.37
		12/31/2022	31.05	5,224.95
		3/30/2023	30.93	5,225.07
		6/21/2023	30.84	5,225.16
		8/16/2023	31.21	5,224.79

ENSOLUM

TABLE 2
GROUNDWATER ELEVATIONS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
MW17	5,260.27	2/11/2020	31.60	5,228.67
		3/12/2020	31.47	5,228.80
		6/22/2020	31.87	5,228.40
		9/11/2020	32.69	5,227.58
		12/2/2020	33.32	5,226.95
		2/22/2021	33.54	5,226.73
		6/24/2021	--	--
		9/28/2021*	34.32	5,225.95
		12/6/2021*	34.61	5,225.66
		3/16/2022*	34.66	5,225.61
		6/27/2022*	35.18	5,225.09
		9/23/2022*	35.09	5,225.18
		12/31/2022	DRY	DRY
		3/30/2023	DRY	DRY
		6/21/2023*	35.25	5,225.02
		8/17/2023	DRY	DRY
MW18	5,259.64	2/11/2020	31.07	5,228.57
		3/12/2020	30.92	5,228.72
		6/22/2020	31.33	5,228.31
		9/11/2020	32.08	5,227.56
		12/1/2020	32.67	5,226.97
		2/22/2021	32.86	5,226.78
		6/24/2021	38.09	5,221.55
		9/28/2021	38.74	5,220.90
		12/6/2021	34.06	5,225.58
		3/14/2022	34.11	5,225.53
		6/27/2022	34.24	5,225.40
		9/23/2022	34.76	5,224.88
		12/31/2022	35.12	5,224.52
		3/30/2023	34.97	5,224.67
		6/21/2023	34.90	5,224.74
		8/17/2023	35.31	5,224.33

ENSOLUM

TABLE 2
GROUNDWATER ELEVATIONS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
MW20	5,252.11	2/11/2020	23.41	5,228.70
		3/12/2020	23.24	5,228.87
		6/23/2020	23.58	5,228.53
		9/15/2020	24.36	5,227.75
		12/2/2020	24.94	5,227.17
		2/23/2021	25.11	5,227.00
		6/24/2021	25.32	5,226.79
		9/28/2021	DRY	DRY
		12/7/2021	26.26	5,225.85
		3/16/2022	26.33	5,225.78
		6/27/2022	DRY	DRY
		9/23/2022	DRY	DRY
		12/31/2022	DRY	DRY
		3/30/2023	DRY	DRY
		6/21/2023	DRY	DRY
		8/17/2023	DRY	DRY
MW27	5,262.41	6/21/2023	DRY	DRY
		8/17/2023	DRY	DRY
MW28	5,252.68	6/21/2023	28.60	5,224.08
		8/17/2023	29.06	5,223.62
MW29	5,251.76	6/21/2023	28.09	5,223.67
		8/17/2023	28.65	5,223.11
MW30	5,243.58	6/21/2023	19.32	5,224.26
		8/17/2023	20.45	5,223.13
MW31	5,244.32	6/21/2023	19.39	5,224.93
		8/17/2023	19.78	5,224.54

Notes:

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

AMSL: above mean sea level

BTOC: below top of casing

NM: Not Measured

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Other VOCs (1)
NMWQCC Standard		5	1,000	700	620	NA
MW03	9/12/2019	<1.0	<1.0	<1.0	<1.5	ND
	3/12/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/22/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	<1.0	<1.0	<1.0	<3.0	ND
	12/1/2020	<1.0	<1.0	<1.0	<3.0	ND
	2/22/2021	<1.0	<1.0	<1.0	<3.0	ND
	6/24/2021	<1.0	<1.0	<1.0	<1.5	ND
	9/28/2021	Insufficient Water Volumes to Collect Sample				
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/16/2022	<1.0	<1.0	<1.0	<1.5	ND
	6/27/2022	Insufficient Water Volumes to Collect Sample				
	9/23/2022	Insufficient Water Volumes to Collect Sample				
	12/31/2022	Insufficient Water Volumes to Collect Sample				
	3/30/2023	Insufficient Water Volumes to Collect Sample				
	6/21/2023	Insufficient Water Volumes to Collect Sample				
	8/16/2023	Insufficient Water Volumes to Collect Sample				
MW05	9/12/2019	<1.0	<1.0	<1.0	<1.5	ND
	3/12/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/22/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	<1.0	<1.0	<1.0	<3.0	ND
	11/30/2020	<1.0	<1.0	<1.0	<3.0	ND
	2/22/2021	Insufficient Water Volumes to Collect Sample				
	6/24/2021	<1.0	<1.0	<1.0	<1.5	ND
	9/28/2021	Insufficient Water Volumes to Collect Sample				
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/17/2022	<1.0	<1.0	<1.0	<1.5	ND
	6/27/2022	Insufficient Water Volumes to Collect Sample				
	9/23/2022	Insufficient Water Volumes to Collect Sample				
	12/31/2022	Insufficient Water Volumes to Collect Sample				
	3/30/2023	Insufficient Water Volumes to Collect Sample				
	6/21/2023	Insufficient Water Volumes to Collect Sample				
	8/16/2023	Insufficient Water Volumes to Collect Sample				
MW06	9/12/2019	<1.0	<1.0	<1.0	<1.5	ND
	3/12/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/22/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	<1.0	<1.0	<1.0	<3.0	ND
	11/30/2020	<1.0	<1.0	<1.0	<3.0	ND

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Other VOCs (1)
NMWQCC Standard		5	1,000	700	620	NA
MW06	2/22/2021	Insufficient Water Volumes to Collect Sample				
	6/24/2021	<1.0	<1.0	<1.0	<1.5	ND
	9/28/2021	Insufficient Water Volumes to Collect Sample				
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/16/2022	<1.0	<1.0	<1.0	<1.5	ND
	6/28/2022	<1.0	<1.0	<1.0	<1.5	ND
	9/23/2022	Insufficient Water Volumes to Collect Sample				
	12/31/2022	Insufficient Water Volumes to Collect Sample				
	3/30/2023	Insufficient Water Volumes to Collect Sample				
	6/21/2023	Insufficient Water Volumes to Collect Sample				
	8/16/2023	Insufficient Water Volumes to Collect Sample				
MW08	10/24/2019	<1.0	<1.0	<1.0	<1.5	ND
	3/12/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/23/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	Insufficient Water Volumes to Collect Sample				
	11/30/2020	Insufficient Water Volumes to Collect Sample				
	2/22/2021	Insufficient Water Volumes to Collect Sample				
	6/24/2021	Insufficient Water Volumes to Collect Sample				
	9/28/2021	Insufficient Water Volumes to Collect Sample				
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/16/2022	Insufficient Water Volumes to Collect Sample				
	6/28/2022	Insufficient Water Volumes to Collect Sample				
	9/23/2022	Insufficient Water Volumes to Collect Sample				
	12/31/2022	Insufficient Water Volumes to Collect Sample				
	3/30/2023	Insufficient Water Volumes to Collect Sample				
	6/21/2023	Insufficient Water Volumes to Collect Sample				
	8/16/2023	Insufficient Water Volumes to Collect Sample				
MW09	10/24/2019	<1.0	<1.0	<1.0	<1.5	ND
	3/13/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/23/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	<1.0	<1.0	<1.0	<3.0	ND
	12/2/2020	<1.0	<1.0	<1.0	<3.0	ND
	2/22/2021	<1.0	<1.0	<1.0	<3.0	ND
	6/24/2021	<1.0	<1.0	<1.0	<1.5	ND
	9/27/2021	<1.0	<1.0	<1.0	<1.5	ND
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/16/2022	<1.0	<1.0	<1.0	<1.5	ND

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Other VOCs (1)
NMWQCC Standard		5	1,000	700	620	NA
MW09	6/28/2022	<1.0	<1.0	<1.0	<1.5	ND
	9/23/2022	<1.0	<1.0	<1.0	<1.5	ND
	12/31/2022	<1.0	<1.0	<1.0	<1.5	ND
	3/30/2023	<2.0	<2.0	<2.0	<3.0	ND
	6/21/2023	<1.0	<1.0	<1.0	<1.5	ND
	8/16/2023	<1.0	<1.0	<1.0	<1.5	ND
MW10	10/24/2019	<1.0	<1.0	<1.0	<1.5	ND
	3/12/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/22/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	<1.0	<1.0	<1.0	<3.0	ND
	11/30/2020	<1.0	<1.0	<1.0	<3.0	ND
	2/22/2021	Insufficient Water Volumes to Collect Sample				
	6/24/2021	<1.0	<1.0	<1.0	<1.5	ND
	9/27/2021	<1.0	<1.0	<1.0	<1.5	ND
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/15/2022	<1.0	<1.0	<1.0	<1.5	ND
	6/27/2022	<1.0	<1.0	<1.0	<1.5	ND
	9/23/2022	<1.0	<1.0	<1.0	<1.5	ND
	12/31/2022	<1.0	<1.0	<1.0	<1.5	ND
	3/30/2023	<1.0	<1.0	<1.0	<1.5	ND
	6/21/2023	<2.0	<2.0	<2.0	<3.0	ND
	8/17/2023	<1.0	<1.0	<1.0	<1.5	ND
MW12	10/24/2019	**26**	12	2.6	22	ND
	3/12/2020	2.0	<1.0	<1.0	<1.5	ND
	6/23/2020	<1.0	<1.0	<1.0	1.9	ND
	9/9/2020	2.32	<1.0	<1.0	4.14	ND
	12/1/2020	1.77	<1.0	<1.0	4.52	ND
	2/22/2021	1.20	<1.0	<1.0	4.42	ND
	6/28/2021	<2.0	<2.0	<2.0	<3.0	ND
	9/28/2021	<1.0	<1.0	<1.0	<1.5	ND
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/15/2022	<1.0	<1.0	<1.0	<1.5	ND
	6/27/2022	<1.0	<1.0	<1.0	<1.5	ND
	9/23/2022	<1.0	<1.0	<1.0	<1.5	ND
	12/31/2022	<1.0	<1.0	<1.0	<1.5	ND
	3/30/2023	<1.0	<1.0	<1.0	<1.5	ND
	6/21/2023	<1.0	<1.0	<1.0	<1.5	ND
	8/17/2023	<1.0	<1.0	<1.0	<1.5	ND

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Other VOCs (1)
NMWQCC Standard		5	1,000	700	620	NA
MW13	10/24/2019	<1.0	<1.0	<1.0	<1.5	ND
	3/12/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/22/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	<1.0	<1.0	<1.0	<3.0	ND
	12/1/2020	<1.0	<1.0	<1.0	<3.0	ND
	2/22/2021	Insufficient Water Volumes to Collect Sample				
	6/24/2021	<1.0	<1.0	<1.0	<1.5	ND
	9/28/2021	<1.0	<1.0	<1.0	<1.5	ND
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/15/2022	<1.0	<1.0	<1.0	<1.5	ND
	6/27/2022	<1.0	<1.0	<1.0	<1.5	ND
	9/23/2022	<1.0	<1.0	<1.0	<1.5	ND
	12/31/2022	<1.0	<1.0	<1.0	<1.5	ND
	3/30/2023	<1.0	<1.0	<1.0	<1.5	ND
	6/21/2023	Not Sampled				
	8/17/2023	<1.0	<1.0	<1.0	<1.5	ND
MW14	10/24/2019	<1.0	<1.0	<1.0	<1.5	ND
	3/12/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/23/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	<1.0	<1.0	<1.0	<3.0	ND
	11/30/2020	<1.0	<1.0	<1.0	<3.0	ND
	2/22/2021	Insufficient Water Volumes to Collect Sample				
	6/24/2021	<1.0	<1.0	<1.0	<1.5	ND
	9/28/2021	Insufficient Water Volumes to Collect Sample				
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/17/2022	<1.0	<1.0	<1.0	<1.5	ND
	6/28/2022	<1.0	<1.0	<1.0	<1.5	ND
	9/23/2022	Insufficient Water Volumes to Collect Sample				
	12/31/2022	Insufficient Water Volumes to Collect Sample				
	3/30/2023	Insufficient Water Volumes to Collect Sample				
	6/21/2023	Insufficient Water Volumes to Collect Sample				
	8/17/2023	Insufficient Water Volumes to Collect Sample				
MW15	10/24/2019	<1.0	<1.0	<1.0	<1.5	ND
	3/12/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/23/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	<1.0	<1.0	<1.0	<3.0	ND
	12/2/2020	<1.0	<1.0	<1.0	<3.0	ND

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Other VOCs (1)
NMWQCC Standard		5	1,000	700	620	NA
MW15	2/22/2021	<1.0	<1.0	<1.0	<3.0	ND
	6/24/2021	<1.0	<1.0	<1.0	<1.5	ND
	9/27/2021	<1.0	<1.0	<1.0	<1.5	ND
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/16/2022	<1.0	<1.0	<1.0	<1.5	ND
	6/28/2022	<1.0	<1.0	<1.0	<1.5	ND
	9/23/2022	<1.0	<1.0	<1.0	<1.5	ND
	12/31/2022	<2.0	<2.0	<2.0	<3.0	ND
	3/30/2023	<1.0	<1.0	<1.0	<1.5	ND
	6/21/2023	<1.0	<1.0	<1.0	<1.5	ND
	8/16/2023	<1.0	<1.0	<1.0	<1.5	ND
MW17	2/11/2020	<1.0	<1.0	<1.0	<1.5	ND
	3/12/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/22/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	<1.0	<1.0	<1.0	<3.0	ND
	12/1/2020	<1.0	<1.0	<1.0	<3.0	ND
	2/22/2021	<1.0	<1.0	<1.0	<3.0	ND
	6/24/2021	Insufficient Water Volumes to Collect Sample				
	9/27/2021	Insufficient Water Volumes to Collect Sample				
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/14/2022	<1.0	<1.0	<1.0	<1.5	ND
	6/28/2022	Insufficient Water Volumes to Collect Sample				
	9/23/2022	Insufficient Water Volumes to Collect Sample				
	12/31/2022	Insufficient Water Volumes to Collect Sample				
	3/30/2023	Insufficient Water Volumes to Collect Sample				
	6/21/2023	Insufficient Water Volumes to Collect Sample				
	8/17/2023	Insufficient Water Volumes to Collect Sample				
MW18	2/11/2020	<1.0	<1.0	<1.0	<1.5	ND
	3/12/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/22/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	<1.0	<1.0	<1.0	<3.0	ND
	12/1/2020	<1.0	<1.0	<1.0	<3.0	ND
	2/22/2021	<1.0	<1.0	<1.0	<3.0	ND
	6/28/2021	<2.0	<2.0	<2.0	--	ND
	9/27/2021	<1.0	<1.0	<1.0	<1.5	ND
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/14/2022	<1.0	<1.0	<1.0	<1.5	ND

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Other VOCs (1)
NMWQCC Standard		**5**	**1,000**	**700**	**620**	NA
MW18	6/27/2022	<1.0	<1.0	<1.0	<1.5	ND
	9/23/2022	<1.0	<1.0	<1.0	<1.5	ND
	12/31/2022	<1.0	<1.0	<1.0	<1.5	ND
	3/30/2023	<1.0	<1.0	<1.0	<1.5	ND
	6/21/2023	<2.0	<2.0	<2.0	<3.0	ND
	8/17/2023	<1.0	<1.0	<1.0	<1.5	ND
MW20	2/11/2020	<1.0	<1.0	<1.0	<1.5	ND
	3/13/2020	<1.0	<1.0	<1.0	<1.5	ND
	6/23/2020	<1.0	<1.0	<1.0	<1.5	ND
	9/9/2020	<1.0	<1.0	<1.0	<3.0	ND
	12/2/2020	<1.0	<1.0	<1.0	<3.0	ND
	2/22/2021	<1.0	<1.0	<1.0	<3.0	ND
	6/24/2021	<1.0	<1.0	<1.0	<1.5	ND
	9/27/2021	Insufficient Water Volumes to Collect Sample				
	12/7/2021	Insufficient Water Volumes to Collect Sample				
	3/16/2022	<1.0	<1.0	<1.0	<1.5	ND
	6/27/2022	Insufficient Water Volumes to Collect Sample				
	9/23/2022	Insufficient Water Volumes to Collect Sample				
	12/31/2022	Insufficient Water Volumes to Collect Sample				
	3/30/2023	Insufficient Water Volumes to Collect Sample				
	6/21/2023	Insufficient Water Volumes to Collect Sample				
	8/17/2023	Insufficient Water Volumes to Collect Sample				
MW21 (2)	2/6/2020	<5.0	<5.0	<5.0	<7.5	ND
MW22 (2)	2/7/2020	<1.0	<1.0	<1.0	<1.5	ND
MW23 (2)	2/7/2020	<5.0	<5.0	<5.0	<7.5	ND
MW24 (2)	2/15/2020	<1.0	<1.0	<1.0	<1.5	ND
MW27	6/21/2023	Insufficient Water Volumes to Collect Sample				
	8/17/2023	Insufficient Water Volumes to Collect Sample				
MW28	6/22/2023	<2.0	<2.0	<2.0	<3.0	ND
	8/17/2023	<1.0	<1.0	<1.0	<1.5	ND

ENSOLUM

TABLE 3
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Other VOCs (1)
NMWQCC Standard		**5**	**1,000**	**700**	**620**	NA
MW29	6/22/2023	<2.0	<2.0	<2.0	<3.0	ND
	8/17/2023	<1.0	<1.0	<1.0	<1.5	ND
MW30	6/22/2023	<2.0	<2.0	<2.0	<3.0	ND
	8/16/2023	<1.0	<1.0	<1.0	<1.5	ND
MW31	6/22/2023	<2.0	<2.0	<2.0	<3.0	ND
	8/16/2023	<1.0	<1.0	<1.0	<1.5	ND

Notes:

(1): Volatile organic compounds (VOCs) not detected above laboratory reporting limits were not included in this table. See Laboratory Analyitcal Reports for complete results.

(2): Groundwater samples collected from a temporary well screen placed in the open boring.

µg/L: micrograms per liter

NMWQCC: New Mexico Water Quality Control Commission

NS: Not Sampled

ND: not detected above laboratory reporting limit

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

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

ENSOLUM

TABLE 4
GROUNDWATER ANALYTICAL RESULTS - INORGANICS AND GENERAL CHEMISTRY
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	USEPA Method 300.0: Anions								USEPA Method 200.7: Dissolved Metals				Standard Method 2320B: Alkalinity			General Chemistry		
		Bromide (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)	Nitrogen, Nitrite as N (mg/L)	Nitrogen, Nitrate as N (mg/L)	Nitrate-Nitrite as N (mg/L)	Phosphorus, Orthophosphate (As P, mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Bicarbonate (As CaCO3) (mg/L)	Carbonate (As CaCO3) (mg/L)	Total Alkalinity (mg/L)	Conductivity (µmhos/cm)	Total Dissolved Solids	pH
NMWQCC Standard		NE	250	600	1.6	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	1,000	6-9
MW03	9/12/2019	13	13,000	1,600	<10	19	<10	--	<50	2,500	390	27	6,600	137.8	<2.000	137.8	45,000	30,000	7.41
	3/12/2020	19	15,000	1,700	<1.0	<10	<10	--	<5.0	2,500	410	25	6,500	--	--	--	--	26,700	7.38
	6/22/2020	16	12,000	1,800	<1.0	<10	<10	--	<5.0	1,900	350	25	5,500	131.1	<2.000	131.1	46,000	22,000	7.48
	9/9/2020	<500	14,900	2,830	<1.50	--	--	0.152	--	--	--	--	--	--	--	--	--	32,600	7.36
	12/1/2020	15.6	11,300	1,770	<1.50	--	--	0.233	--	--	--	--	--	--	--	--	--	25,700	7.31
	2/22/2021	<100	12,200	1,930	<1.50	--	--	0.359	--	--	--	--	--	--	--	--	--	29,200	7.25
	6/24/2021	15	11,000	1,900	<1.0	--	--	<10	<5.0	2,000	310	28	5,900	--	--	--	--	23,600	--
	9/28/2021	Insufficient Water Volumes to Collect Sample																	
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/16/2022	Insufficient Water Volumes to Collect Sample																	
	6/27/2022	Insufficient Water Volumes to Collect Sample																	
	9/23/2022	Insufficient Water Volumes to Collect Sample																	
	12/31/2022	Insufficient Water Volumes to Collect Sample																	
	3/30/2023	Insufficient Water Volumes to Collect Sample																	
	6/21/2023	Insufficient Water Volumes to Collect Sample																	
	8/16/2023	Insufficient Water Volumes to Collect Sample																	
MW05	9/12/2019	15	15,000	2,300	<1.0	20	21	--	<5.0	2,100	750	25	7,800	153.9	<2.000	153.9	54,000	34,000	7.25
	3/12/2020	4.3	3,400	2,600	<1.0	<4.0	<4.0	--	<5.0	760	110	12	2,300	--	--	--	--	8,420	7.57
	6/22/2020	5.8	4,500	2,100	<1.0	<4.0	<4.0	--	<5.0	1,000	150	16	2,500	199.6	<2.000	199.6	19,000	12,000	7.66
	9/9/2020	<100	1,780	3,000	0.761	--	--	1.83	--	--	--	--	--	--	--	--	--	6,720	7.46
	11/30/2020	<100	1,660	2,510	0.751	--	--	0.294	--	--	--	--	--	--	--	--	--	6,600	7.52
	2/22/2021	Insufficient Water Volumes to Collect Sample																	
	6/24/2021	2.5	1,900	2,300	<1.0	--	--	<1.0	<5.0	540	80	10	1300	--	--	--	--	6,420	--
	9/28/2021	Insufficient Water Volumes to Collect Sample																	
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/17/2022	4.9	3,300	4,700	<1.0	--	--	<2.0	<5.0	820	98	13	1,500	271.4	<2.000	271.4	22,000	13,100	7.68
	6/27/2022	Insufficient Water Volumes to Collect Sample																	
	9/23/2022	Insufficient Water Volumes to Collect Sample																	
	12/31/2022	Insufficient Water Volumes to Collect Sample																	
	3/30/2023	Insufficient Water Volumes to Collect Sample																	
	6/21/2023	Insufficient Water Volumes to Collect Sample																	
	8/16/2023	Insufficient Water Volumes to Collect Sample																	
MW06	9/12/2019	5.5	5,300	2,300	<1.0	<10	1.0	--	<5.0	1,100	170	16	3,500	200.8	<2.000	200.8	22,000	13,600	7.49
	3/12/2020	12	9,600	3,900	<1.0	<10	18	--	<5.0	1,100	450	18	5,400	--	--	--	--	19,800	7.50
	6/22/2020	9.8	7,200	3,800	<1.0	<10	13	--	<5.0	870	350	17	4,800	226.3	<2.000	226.3	31,000	18,200	7.69
	9/9/2020	<100	8,610	4,330	<1.50	--	--	13.4	--	--	--	--	--	--	--	--	--	18,400	7.35
	11/30/2020	13.5	9,100	3,700	<1.50	--	--	15.3	--	--	--	--	--	--	--	--	--	19,600	7.53
	2/22/2021	Insufficient Water Volumes to Collect Sample																	
	6/24/2021	7.3	4,900	4,700	1.2	--	--	9.6	<5.0	730	290	15	4,800	--	--	--	--	15,200	--
	9/28/2021	Insufficient Water Volumes to Collect Sample																	
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/16/2022	5	3,400	4,700	<1.0	--	--	5.0	<5.0	610	230	17	3,500	269.8	<2.000	269.8	23,000	13,300	7.73
	6/28/2022	3.9	2,300	4,000	0.86	--	--	2.3	<2.5	560	220	18	3,300	276.0	<2.000	276.0	20,000	11,800	--
	9/23/2022	Insufficient Water Volumes to Collect Sample																	
	12/31/2022	Insufficient Water Volumes to Collect Sample																	
	3/30/2023	Insufficient Water Volumes to Collect Sample																	
	6/21/2023	Insufficient Water Volumes to Collect Sample																	
	8/16/2023	Insufficient Water Volumes to Collect Sample																	
MW08	10/24/2019	2.4	1,500	3,100	2.8	<0.50	3.0	--	<10	580	200	9.0	1,800	--	--	--	--	7,700	7.76
	3/12/2020	1.4	670	4,400	2.8	<2.0	<2.0	--	<5.0	470	180	6.1	1,700	--	--	--	--	6,950	7.63
	6/23/2020	1.4	550	4,700	2.6	<1.0	<1.0	--	<5.0	450	190	6.2	1,800	232.2	<2.000	232.2	9,100	8,050	7.60
	9/9/2020	Insufficient Water Volumes to Collect Sample																	
	11/30/2020	Insufficient Water Volumes to Collect Sample																	
	2/22/2021	Insufficient Water Volumes to Collect Sample																	
	6/24/2021	Insufficient Water Volumes to Collect Sample																	
	9/28/2021	Insufficient Water Volumes to Collect Sample																	
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/16/2022	Insufficient Water Volumes to Collect Sample																	
	6/28/2022	Insufficient Water Volumes to Collect Sample																	
	9/23/2022	Insufficient Water Volumes to Collect Sample																	

ENSOLUM

TABLE 4
GROUNDWATER ANALYTICAL RESULTS - INORGANICS AND GENERAL CHEMISTRY
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	USEPA Method 300.0: Anions								USEPA Method 200.7: Dissolved Metals				Standard Method 2320B: Alkalinity			General Chemistry		
		Bromide (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)	Nitrogen, Nitrite as N (mg/L)	Nitrogen, Nitrate as N (mg/L)	Nitrate-Nitrite as N (mg/L)	Phosphorus, Orthophosphate (As P, mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Bicarbonate (As CaCO3) (mg/L)	Carbonate (As CaCO3) (mg/L)	Total Alkalinity (mg/L)	Conductivity (µmhos/cm)	Total Dissolved Solids	pH
NMWQCC Standard		NE	250	600	1.6	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	1,000	6-9
MW08	12/31/2022	Insufficient Water Volumes to Collect Sample																	
	3/30/2023	Insufficient Water Volumes to Collect Sample																	
	6/21/2023	Insufficient Water Volumes to Collect Sample																	
	8/16/2023	Insufficient Water Volumes to Collect Sample																	
MW09	10/24/2019	3.9	3,300	1,900	<0.50	<2.0	3.1	--	<2.5	1,100	190	14	1,600	--	--	--	--	8,410	7.35
	3/13/2020	4.5	3,400	2,200	<1.0	<2.0	3.5	--	<5.0	1,000	180	11	1,700	--	--	--	--	8,980	7.24
	6/23/2020	4.3	3,200	2,300	<1.0	<1.0	3.0	--	<5.0	870	170	11	1,900	236.1	<2.000	236.1	15,000	10,400	7.58
	9/9/2020	<100	1,720	2,870	<1.50	--	--	2.34	--	--	--	--	--	--	--	--	--	6,400	7.18
	12/2/2020	<10.0	1,410	2,380	<1.50	--	--	2.38	--	--	--	--	--	--	--	--	--	6,100	7.21
	2/22/2021	<100	1,240	2,580	<1.50	--	--	2.14	--	--	--	--	--	--	--	--	--	4,980	7.27
	6/24/2021	1.5	740	2,500	<1.0	--	--	<1.0	<5.0	530	94	12	860	--	--	--	--	5,100	--
	9/27/2021	2	1,200	2,600	<1.0	<1.0	1.1	--	<5.0	690	120	14	1,000	236.8	<2.000	236.8	7,300	5,560	7.19
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/16/2022	2.5	1,700	2,300	<1.0	--	--	<1.0	<5.0	710	130	15	1,200	229.8	<2.000	229.8	8,900	6,560	7.31
	6/28/2022	1.8	970	2,200	1.0	--	--	<1.0	<2.5	990	190	52	1,100	242.5	<2.000	242.5	7,200	5,370	--
	9/23/2022	4.5	3,500	2,200	0.62	--	--	<2.0	<2.5	1200	220	21	1,900	263.2	<2.000	263.2	15,000	8,750	7.36
	12/31/2022	2.0	1,300	2,400	<1.0	--	--	<1.0	<5.0	620	110	12	1,200	--	--	--	--	6,110	7.38
	3/30/2023	<0.50	540	2,100	<0.50	<0.50	<0.50	<0.50	<2.5	510	83	8.1	890	244.3	<2.000	244.3	6,000	4,620	7.22
	6/21/2023	1.6	720	2,800	<1.0	<1.0	<1.0	<1.0	<5.0	660	110	8.7	1,000	305.0	<2.000	305.0	7,200	5,660	7.42
	8/16/2023	2.3	1,100	3,600	0.94	<0.50	<0.50	--	<10	740	160	6.4	1,600	462.7	<2.000	462.7	9,600	6,600	7.72
MW10	10/24/2019	3.4	2,700	2,200	<0.50	<2.0	3.5	--	<10	600	82	9.1	2,300	--	--	--	--	8,040	7.24
	3/12/2020	2.9	2,200	2,200	<1.0	<2.0	2.2	--	<5.0	640	85	8.7	1,600	--	--	--	--	6,660	7.36
	6/22/2020	3.1	2,100	2,000	<1.0	<2.0	<2.0	--	<5.0	710	94	8.8	1,500	218.7	<2.000	218.7	9,900	7,200	7.65
	9/9/2020	<100	1,540	2,640	<1.50	--	--	1.78	--	--	--	--	--	--	--	--	--	5,370	7.45
	11/30/2020	<10.0	1,210	2,160	<1.50	--	--	1.67	--	--	--	--	--	--	--	--	--	5,950	7.42
	2/22/2021	Insufficient Water Volumes to Collect Sample																	
	6/24/2021	1.8	1,200	2,200	<1.0	--	--	<1.0	<5.0	510	77	9.5	1,200	--	--	--	--	5,690	--
	9/27/2021	5.3	3,600	1,900	<1.0	--	--	<4.0	<5.0	1,300	180	26	1,800	185.4	<2.000	185.4	16,000	9,510	7.34
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/15/2022	3.9	2,900	2,000	<1.0	--	--	<2.0	<5.0	1,100	120	18	1,700	198.5	<2.000	198.5	14,000	7,340	7.70
	6/27/2022	5.2	3,500	1,600	<0.50	--	--	<4.0	<2.5	1,500	200	39	2,000	170.8	<2.000	<170.8	18,000	10,100	--
	9/23/2022	4.5	3,300	1,600	0.71	--	--	<4.0	<2.5	920	120	18	1,800	180.7	<2.000	180.7	15,000	9,200	7.51
	12/31/2022	3.8	3,100	2,100	<1.0	--	--	<2.0	<5.0	910	120	16	1,800	--	--	--	--	7,670	7.66
	3/30/2023	2.5	2,700	1,800	<0.50	<2.0	<2.0	<2.0	<2.5	860	98	9.2	1,800	173.2	<2.000	173.2	13,000	8,260	7.62
	6/21/2023	<10	2,700	1,900	<10	<10	<10	<10	<50	880	98	11	1,800	194.2	<2.000	194.2	15,000	7,980	7.51
	8/17/2023	3.3	2,600	2,000	<0.50	<2.0	0.52	--	<10	830	87	10	1,700	207.9	<2.000	207.9	13,000	85,500	7.73
MW12	10/24/2019	35	27,000	2,400	<0.50	<20	<20	--	<2.5	2,800	400	75	18,000	--	--	--	--	57,000	7.34
	3/12/2020	33	28,000	2,400	<1.0	<20	<20	--	<5.0	2,400	370	67	13,000	--	--	--	--	42,900	7.20
	6/23/2020	32	25,000	2,400	<1.0	<10	2.5	--	<5.0	2,300	370	73	15,000	256.2	<2.000	256.2	91,000	52,000	7.45
	9/9/2020	<500	21,900	3,230	<1.5	--	--	2.24	--	--	--	--	--	--	--	--	--	41,600	7.07
	12/1/2020	22.4	18,600	<2500	<1.50	--	--	3.45	--	--	--	--	--	--	--	--	--	31,100	7.17
	2/22/2021	<100	14,400	2,860	<1.50	--	--	3.90	--	--	--	--	--	--	--	--	--	27,100	7.38
	6/28/2021	5.2	3,400	1,800	<1.0	--	--	<4.0	<5.0	1,100	150	12	1,800	--	--	--	--	10,500	--
	9/28/2021	11	8,300	2,900	<1.0	<1.0	4.9	4.90	<5.0	910	140	36	4,800	256.8	<2.000	256.6	36,000	18,900	7.39
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/15/2022	8.7	6,500	2,700	<1.0	--	--	6.90	<5.0	730	110	34	4,600	248.4	<2.000	248.6	30,000	15,200	7.48
	6/27/2022	7.7	5,900	2,400	<0.50	--	--	7.40	<2.5	670	110	27	4,100	245.6	<2.000	245.6	26,000	13,900	--
	9/23/2022	4.3	3,700	2,600	0.64	--	--	5.20	<2.5	490	73	20	3,200	226.6	<2.000	226.6	16,000	8,900	7.45
	12/31/2022	3.2	2,700	2,800	<1.0	--	--	5.50	<5.0	380	63	20	2,300	--	--	--	--	7,940	7.73
	3/30/2023	2.4	2,500	2,400	<0.50	<2.0	4.6	4.6	<2.5	360	55	15	2,600	254.6	<2.000	254.6	14,000	8,540	7.69
	6/21/2023	3.3	2,300	1,900	<2.0	<2.0	<2.0	<2.0	<10	260	42	14	2,000	252.0	<2.000	252.0	13,000	6,690	7.58
	8/17/2023	1.3	910	760	0.60	<0.50	<0.50	--	<2.5	120	23	17	780	171.5	<2.000	171.5	4,500	28,500	7.65
MW13	10/24/2019	24	19,000	1,600	4.4	<20	<20	--	<2.5	3,400	440	37	11,000	--	--	--	--	40,400	7.17
	3/12/2020	19	16,000	2,200	<1.0	<10	<10	--	<5.0	2,500	320	26	7,500	--	--	--	--	30,000	7.06
	6/22/2020	17	14,000	1,800	<1.0	<10	<10	--	<5.0	2,400	340	26	6,100	182.5	<2.000	182.5	47,000	29,200	7.36
	9/9/2020	<100	7,380	3,160	<1.50	--	--	4.76	--	--	--	--	--	--	--	--	--	15,900	7.25
	12/1/2020	12.3	8,030	2,420	<1.50	--	--	1.18	--	--	--	--	--	--	--	--	--	21,000	7.32
	2/22/2021	Insufficient Water Volumes to Collect Sample																	
	6/24/2021	9.8	6,900	1,900	<1.0	--	--	<10	<5.0	1,700	250	20	3,400	--	--	--	--	16,900	--
	9/28/2021	11	8,600	2,000	<1.0	<10	<1.0	--	<5.0	2,000	280	32	4,000	198.9	<2.000	198.9	33,000	17,200	7.29
	12/7/2021	Insufficient Water Volumes to Collect Sample																	

ENSOLUM

TABLE 4
GROUNDWATER ANALYTICAL RESULTS - INORGANICS AND GENERAL CHEMISTRY
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	USEPA Method 300.0: Anions								USEPA Method 200.7: Dissolved Metals				Standard Method 2320B: Alkalinity			General Chemistry		
		Bromide (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)	Nitrogen, Nitrite as N (mg/L)	Nitrogen, Nitrate as N (mg/L)	Nitrate-Nitrite as N (mg/L)	Phosphorus, Orthophosphate (As P, mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Bicarbonate (As CaCO3) (mg/L)	Carbonate (As CaCO3) (mg/L)	Total Alkalinity (mg/L)	Conductivity (µmhos/cm)	Total Dissolved Solids	pH
NMWQCC Standard		NE	250	600	1.6	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	1,000	6-9
MW13	3/15/2022	5.3	3,800	2,500	<1.0	--	--	<4.0	<5.0	780	100	16	2,800	249.3	<2.000	249.3	20,000	11,300	7.55
	6/27/2022	5.5	3,500	2,000	0.54	--	--	<2.0	<2.5	630	75	<10	2,600	231.1	<2.000	231.1	20,000	11,000	--
	9/23/2022	3.6	2,800	2,500	0.7	--	--	<2.0	<2.5	710	86	12	2,800	271.9	<2.000	271.9	16,000	8,950	7.55
	12/31/2022	3.8	3,300	2,600	<1.0	--	--	<2.0	<5.0	760	93	12	2,400	--	--	--	--	9,270	7.71
	3/30/2023	2.7	3,000	2,400	<0.50	<2.0	1.8	1.8	<2.5	780	96	11	2,600	240.6	<2.000	240.6	16,000	10,200	7.65
	6/21/2023	Not Sampled																	
	8/17/2023	3.7	3,000	2,600	<0.50	<2.0	2.1	--	<10	730	87	12	2,400	258.2	<2.000	258.2	16,000	8,950	7.72
MW14	10/24/2019	3.9	2,900	1,900	<0.50	<2.0	5.8	--	<2.5	960	160	12	1,900	--	--	--	--	8,860	7.29
	3/12/2020	3.9	3,000	2,200	<1.0	<2.0	4.5	--	<5.0	930	140	9.2	1,600	--	--	--	--	7,600	7.29
	6/23/2020	4.5	3,400	2,000	<1.0	<1.0	5.1	--	<5.0	940	150	10	1,800	223.0	<2.000	223.00	15,000	8,450	7.56
	9/9/2020	<100	3,640	2,430	<1.50	--	--	6.66	--	--	--	--	--	--	--	--	--	9,050	7.21
	11/30/2020	<10.0	2,700	2,180	<1.50	--	--	4.25	--	--	--	--	--	--	--	--	--	7,860	7.36
	2/22/2021	Insufficient Water Volumes to Collect Sample																	
	6/24/2021	4.0	2,900	2,400	<1.0	--	--	<1.0	<5.0	910	130	14	2,200	--	--	--	--	7,810	--
	9/28/2021	Insufficient Water Volumes to Collect Sample																	
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/17/2022	2.8	1,900	2,800	<1.0	--	--	<2.0	<5.0	760	95	12	1,900	225.6	<2.000	225.6	13,000	7,580	7.83
	6/28/2022	3.1	2,200	2,300	0.78	--	--	<2.0	<2.5	810	99	12	2,000	216.5	<2.000	216.5	14,000	8,060	--
	9/23/2022	Insufficient Water Volumes to Collect Sample																	
	12/31/2022	Insufficient Water Volumes to Collect Sample																	
	3/30/2023	Insufficient Water Volumes to Collect Sample																	
	6/21/2023	Insufficient Water Volumes to Collect Sample																	
	8/17/2023	Insufficient Water Volumes to Collect Sample																	
MW15	10/24/2019	2.7	1,600	1,700	<0.50	<0.50	2.1	--	<2.5	720	130	9.5	1,400	--	--	--	--	6,370	7.45
	3/12/2020	1.3	730	2,200	<1.0	<2.0	<2.0	--	<5.0	590	91	6.7	720	--	--	--	--	4,300	7.27
	6/23/2020	1.3	560	2,000	<1.0	<1.0	1.7	--	<5.0	520	89	6.7	670	232.8	<2.000	232.8	5,400	4,500	7.70
	9/9/2020	<100	650	2,750	0.810	--	--	1.72	--	--	--	--	--	--	--	--	--	3,790	7.14
	12/2/2020	<100	758	2,060	0.822	--	--	2.24	--	--	--	--	--	--	--	--	--	4,670	7.29
	2/22/2021	<100	630	2,390	<1.50	--	--	2.03	--	--	--	--	--	--	--	--	--	4,170	7.21
	6/24/2021	1.2	490	2,200	<1.0	--	--	1.1	<5.0	520	88	10.0	690	--	--	--	--	3,850	--
	9/27/2021	1.3	430	2,500	<1.0	--	--	1.8	<5.0	530	85	13.0	560	219.4	<2.000	219.4	4,900	3,990	7.29
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/16/2022	1.1	360	2,000	<1.0	--	--	1.2	<5.0	550	80	11.0	550	216.8	<2.000	216.8	5,000	4,180	7.63
	6/28/2022	0.98	430	2,200	1.2	--	--	<1.0	<2.5	570	83	13.0	580	215.0	<2.000	215.0	4,900	4,030	--
	9/23/2022	1.0	480	2,100	1.2	--	--	<1.0	<2.5	600	82	14.0	610	221.8	<2.000	221.8	5,000	3,820	7.43
	12/31/2022	<1.0	500	2,100	<1.0	--	--	<1.0	<5.0	590	80	12.0	630	--	--	--	--	4,050	7.49
	3/30/2023	0.84	540	2,100	<0.50	<0.50	0.69	0.69	<2.5	580	75	7.8	630	212.7	<2.000	212.7	5,200	3,740	7.50
	6/21/2023	1.2	530	2,000	<1.0	<1.0	<1.0	<1.0	<5.0	610	77	8.2	640	220.8	<2.000	220.8	5,400	4,150	7.28
	8/16/2023	1.1	570	2,000	<0.50	<0.50	<0.50	--	<10	600	77	7.7	650	222.4	<2.000	222.4	5,500	4,440	7.56
MW17	2/11/2020	2.5	1,900	2,300	<1.0	<1.0	2.7	--	<5.0	590	87	7.6	1,500	--	--	--	9,000	6,860	7.40
	3/12/2020	2.3	1,700	2,500	<1.0	<2.0	2.6	--	<5.0	590	87	6.7	1,400	--	--	--	--	6,570	7.41
	6/22/2020	2.2	1,500	2,400	<1.0	2.1	2.1	--	<5.0	550	82	7.0	1,300	242.0	<2.000	242.0	8,200	5,900	7.59
	9/9/2020	<100	2,650	3,170	0.862	--	--	1.93	--	--	--	--	--	--	--	--	--	7,650	7.41
	12/1/2020	<100	6,320	2,280	0.603	--	--	0.472	--	--	--	--	--	--	--	--	--	10,100	7.36
	2/22/2021	<100	7,210	2,130	<1.50	--	--	0.221	--	--	--	--	--	--	--	--	--	17,900	7.37
	6/24/2021	Insufficient Water Volumes to Collect Sample																	
	9/27/2021	Insufficient Water Volumes to Collect Sample																	
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/14/2022	Insufficient Water Volumes to Collect Sample																	
	6/28/2022	Insufficient Water Volumes to Collect Sample																	
	9/23/2022	Insufficient Water Volumes to Collect Sample																	
	12/31/2022	Insufficient Water Volumes to Collect Sample																	
	3/30/2023	Insufficient Water Volumes to Collect Sample																	
	6/21/2023	Insufficient Water Volumes to Collect Sample																	
	8/17/2023	Insufficient Water Volumes to Collect Sample																	
MW18	2/11/2020	11	8,200	2,300	<1.0	<10	1.6	--	<5.0	1,400	230	25	5,000	--	--	--	32,000	18,600	7.45
	3/12/2020	22	18,000	2,200	<1.0	<20	<20	--	<5.0	2,200	320	33	9,200	--	--	--	--	7,600	7.29
	6/22/2020	16	10,000	2,300	<1.0	<10	<10	--	<5.0	1,600	260	29	6,700	229.6	<2.000	229.6	47,000	21,800	7.33
	9/9/2020	<100	8,400	2,670	<1.50	--	--	2.97	--	--	--	--	--	--	--	--	--	17,600	7.04
	12/1/2020	<10	5,730	2,360	<1.50	--	--	3.28	--	--	--	--	--	--	--	--	--	12,700	7.26
	2/22/2021	<100	5,300	2,640	<1.50	--	--	3.32	--	--	--	--	--	--	--	--	--	12,400	7.25

ENSOLUM

TABLE 4
GROUNDWATER ANALYTICAL RESULTS - INORGANICS AND GENERAL CHEMISTRY
Salty Dog Water Gathering System
Hilcorp Energy Company
San Juan County, New Mexico

Well Identification	Sample Date	USEPA Method 300.0: Anions								USEPA Method 200.7: Dissolved Metals				Standard Method 2320B: Alkalinity			General Chemistry		
		Bromide (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)	Nitrogen, Nitrite as N (mg/L)	Nitrogen, Nitrate as N (mg/L)	Nitrate-Nitrite as N (mg/L)	Phosphorus, Orthophosphate (As P, mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Bicarbonate (As CaCO3) (mg/L)	Carbonate (As CaCO3) (mg/L)	Total Alkalinity (mg/L)	Conductivity (µmhos/cm)	Total Dissolved Solids	pH
NMWQCC Standard		NE	250	600	1.6	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	1,000	6-9
MW18	6/28/2021	3	1,900	2,200	<1.0	--	--	2.50	<5.0	600	87	7	1,400	--	--	--	--	6,750	--
	9/27/2021	4.3	3,300	2,600	<1.0	<1.0	2.6	--	<5.0	920	150	21	2,000	216.6	<2.000	216.6	15,000	7,890	7.25
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/14/2022	6.2	4,700	2,500	<1.0	--	--	5.0	<5.0	870	130	21	3,200	235.7	<2.000	235.7	23,000	10,500	7.64
	6/27/2022	5.8	3,700	2,200	<0.50	--	--	4.9	<2.5	800	120	18	3,100	235.8	<2.000	235.8	20,000	11,000	--
	9/23/2022	4.3	3,100	2,000	0.88	--	--	3.3	<2.5	870	130	20	2,800	222.6	<2.000	222.6	16,000	8,630	7.34
	12/31/2022	4.2	3,400	2,200	<1.0	--	--	3.4	<5.0	860	130	14	2,000	--	--	--	--	8,760	7.57
	3/30/2023	2.9	2,900	2,100	<0.50	<2.0	3.3	3.3	<2.5	820	120	10	2,000	221.9	<2.000	221.9	15,000	9,060	7.52
	6/21/2023	<10	2,400	2,800	<10	<10	<10	<10	<50	680	88	12	2,400	255.3	<2.000	255.3	16,000	8,050	7.47
	8/17/2023	3.6	2,800	2,600	<0.50	<2.0	4.0	--	<10	630	85	11	2,400	249.7	<2.000	249.7	16,000	8,900	7.67
MW20	2/11/2020	12	8,300	2,500	<1.0	<10	1.9	--	<5.0	970	190	23	5,800	--	--	--	32,000	19,300	7.26
	3/13/2020	9.2	7,300	2,500	<1.0	<10	<10	--	<5.0	880	180	17	4,600	--	--	--	--	13,800	7.30
	6/23/2020	4.9	3,400	2,300	<1.0	<10	2.0	--	<5.0	550	120	12	2,600	248.1	<2.000	248.1	16,000	10,200	7.69
	9/9/2020	<100	3,120	2,860	<1.50	--	--	1.61	--	--	--	--	--	--	--	--	--	8,650	7.30
	12/2/2020	<10.0	3,100	2,420	<1.50	--	--	1.76	--	--	--	--	--	--	--	--	--	8,480	7.35
	2/22/2021	<100	2,730	2,530	<1.50	--	--	1.67	--	--	--	--	--	--	--	--	--	8,020	7.24
	6/24/2021	2.8	1,700	2,300	<1.0	--	--	<1.0	<5.0	500	110	13.0	1600	--	--	--	--	7,010	--
	9/27/2021	Insufficient Water Volumes to Collect Sample																	
	12/7/2021	Insufficient Water Volumes to Collect Sample																	
	3/16/2022	1.7	920	2,100	<1.0	--	--	1.3	<5.0	500	93	14.0	980	228.8	<2.000	228.8	7,000	5,030	7.53
	6/27/2022	Insufficient Water Volumes to Collect Sample																	
	9/23/2022	Insufficient Water Volumes to Collect Sample																	
	12/31/2022	Insufficient Water Volumes to Collect Sample																	
	3/30/2023	Insufficient Water Volumes to Collect Sample																	
	6/21/2023	Insufficient Water Volumes to Collect Sample																	
	8/17/2023	Insufficient Water Volumes to Collect Sample																	
MW21 (1)	2/6/2020	1.1	360	2,200	<1.0	<1.0	<1.0	--	<5.0	540	76	<10.0	650	--	--	--	5,100	4,150	7.15
MW22 (1)	2/7/2020	<1.0	310	2,100	<1.0	<1.0	<1.0	--	<5.0	650	94	23	540	--	--	--	4,900	4,490	7.62
MW23 (1)	2/7/2020	<1.0	410	1,900	<1.0	<1.0	<1.0	--	<5.0	680	110	19	460	--	--	--	5,000	5,200	6.85
MW24 (1)	2/15/2020	<1.0	240	2,100	<1.0	<1.0	<1.0	--	<5.0	510	66	<10.0	530	--	--	--	4,400	3,860	7.24
MW27	6/21/2023	Insufficient Water Volumes to Collect Sample																	
	8/17/2023	Insufficient Water Volumes to Collect Sample																	
MW28	6/22/2023	2.9	2,200	2,500	<1.0	<1.0	1.4	1.4	<5.0	670	95	13	1,800	242.7	<2.000	242.7	13,000	7,500	7.43
	8/17/2023	3.0	2,100	2,300	<0.50	<2.0	1.5	--	<10	620	87	13	1,900	251.5	<2.000	251.5	13,000	7,850	7.69
MW29	6/22/2023	2.6	1,800	2,200	<1.0	<1.0	<1.0	<1.0	<5.0	490	71	9.5	1,700	251.1	<2.000	251.1	9,300	6,470	7.25
	8/17/2023	2.8	1,900	2,200	0.55	<2.0	<0.50	--	<10	530	69	11	1,800	254.0	<2.000	254.0	12,000	6,350	7.70
MW30	6/22/2023	1.1	480	2,000	<1.0	<1.0	<1.0	<1.0	<5.0	540	74	9.3	700	286.1	<2.000	286.1	5,400	4,610	7.61
	8/16/2023	1.0	360	2,100	<0.50	<0.50	<0.50	--	<10	600	84	10	720	277.5	<2.000	277.5	5,200	42,500	7.81
MW31	6/22/2023	<1.0	320	2,000	<1.0	<1.0	<1.0	<1.0	<5.0	530	74	7.9	600	216.3	<2.000	216.3	4,900	4,110	7.42
	8/16/2023	0.99	370	2,100	0.69	<0.50	0.91	--	<10	570	82	8.5	670	217.6	<2.000	217.6	5,000	39,500	7.79

Notes:

(1): Groundwater samples collected from a temporary well screen placed in the open boring.

mg/L: milligrams per liter

µmhos/cm: micromhos per centimeter

NMWQCC: New Mexico Water Quality Control Commission

--: not analyzed

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

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

ENSOLUM

APPENDIX A

2023 Drilling Boring Logs

ENSOLUM

Client: Hilcorp Energy Company
Project Name: Salty Dog Water Transfer
Project Location: Farmington, NM
Project Manager: Stuart Hyde

BORING LOG NUMBER
4-11-23
BH01 / BH25
Project No.:

Date Sampled: 4-11-23
Drilled By: Cascade
Driller: Jason Moore
Logged By: E. Carroll

Ground Surface Elevation:
Top of Casing Elevation: NA
North Coordinate:
West Coordinate:

Borehole Diameter: 8"
Casing Diameter:
Well Materials:
Surface Completion:
Boring Method: Sonic Core

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID READING (PPM) Cl	POTENTIOMETRIC SURFACE N/A	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
0						lt. brown moist sand, some silt/clay	
2	0-5	100	0.0 <120		SM	lt gray sand & gravel & cobbles dry	
4							
6							
8	5-10	100	0.0 <120		SM	Brown moist Sand & gravel	
10							
12			0.4 <120		SM	SAA	
14	10-20	100					
16					SM	lt. gray Sand & gravel some silt	
18			0.4 <120			17:00 Sample	
20							
22	20-25	100	0.0 <120		CL	gray brown sandy clay lean	
24							
26							
28	25-30	100	0.7 <120		CL	SAA	
30							
32	30-35	100			CL	SAA	
34							
36						lt gray clay/clay stone, ~~sa~~ few sand & gravel dry 15:30 Sample	
38							
40						TD = 40'	
42							
44							
46							
48							
50							

DRY. NO well set

ENSOLUM

Client: Hilcorp Energy Company
Project Name: Salty Dog Water Transfer
Project Location: Farmington, NM
Project Manager: Stuart Hyde

BORING LOG NUMBER: BH26
Project No.:

Date Sampled: 4-12-23
Drilled By: Cascade
Driller: Jason Moore
Logged By: E. Carroll

Ground Surface Elevation:
Top of Casing Elevation:
North Coordinate: NA
West Coordinate:

Borehole Diameter: 8"
Casing Diameter:
Well Materials:
Surface Completion:
Boring Method: Sonic Core

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID Cl⁻ READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
0–2	0-5	100	0.0		SM	lt brown sand & gravel moist	DRY NO well Set
2–4					SC	lt brown clayey sand moist	
4–8	5-10	100	0.0		SC	gray brown clayey sand moist some ~~few~~ gravel	
8–12	10-15	100	0.0		SC	SAA	
12–16	15-20	100	0.0		SC		
16–22	20-25	100	0.0		SC	Gray sandy clay some gravel	
22–28	25-30	100	0.0		SC	SAA	
28–32	30-35	100	0.2	?	CL	Gray sandy clay/claystone moisture in porespace	
32–50	35-40	100	0.0		CL	Dry gray blue claystone	

ENSOLUM

Client: Hilcorp Energy Company
Project Name: Salty Dog Water Transfer
Project Location: Farmington, NM
Project Manager: Stuart Hyde

BORING LOG NUMBER: BH27
Project No.:

Date Sampled: 4-13-23
Drilled By: Cascade
Driller: Jason Moore
Logged By: E. Carroll

Ground Surface Elevation:
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 8"
Casing Diameter: 2"
Well Materials: PVC
Surface Completion: Stickup
Boring Method: Sonic Core

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	~~PID~~ READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
0	0-5	0.0	100%		SP	moist red brown Sand few silt	
2		<120					
4					SP	Dry gray Sand & Gravel some cobbles	
6	5-10	0.2	100%		SP	SAA	
8		<120					
10							
12	10-15	0.0	100%		SP	moist red brown, medium Sand some silt	
14		<120					
16	15-20	0.0	100%		SP	moist red brown, medium to fine Sand, some clay	
18		<120					
20							
22	20-25	0.2	100%		SP	SAA	
24		<120					
26	25-30	0.6	100%		SM	moist lt red brown coarse Sand & gravel	
28		<120					
30							
32	30-35	0.4			SM	SAA 4-13 12:20	
34		<120			SM	wet lt brown Sand & gravel	
36	35-40	0.4			CL	Gray lean clay 4-13	
38		<120			CL	Brown lean clay 12:30	
40							
42						TD = 40' Sand X bags	
44						Screen = 15' bentonite X	
46						Blank = 30'	
48							
50							

ENSOLUM

Client: Hilcorp Energy Company
Project Name: Salty Dog Water Transfer
Project Location: Farmington, NM
Project Manager: Stuart Hyde

BORING LOG NUMBER: BH28
Project No.:

Date Sampled: 4/13/23
Drilled By: cascade
Driller: Jason Moore
Logged By: E. carroll

Ground Surface Elevation:
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 6"
Casing Diameter: 2"
Well Materials: PVC
Surface Completion: Stickup
Boring Method: Sonic Core

chloride

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
0–4	0-5	100			SP	moist, lt red brown Sand Some gravel	
6–10	5-10	100	0.6 <120		SP	SAA	
10–14	10-15	100	0.6 <120		SP	SAA	
16–20	15-20	100	0.6 <120		SC	moist dark brown clayey sand	
22–24	20-25	100	0.6 <120		SC	SAA	
26–30	25-30	100	1.2 <120	▽	SP	Wet sand & gravel	
32–34	30-35	100	0.4 <120		CL	dry, grey, sandy clay	
36–50						sand x 5bags bentonite 2 TD = 35' screen = 15'	

ENSOLUM

Client: Hilcorp Energy Company
Project Name: Salty Dog Water Transfer
Project Location: Farmington, NM
Project Manager: Stuart Hyde

BORING LOG NUMBER: BH 29
Project No.:

Date Sampled: 4/14/23
Drilled By: Cascade
Driller:
Logged By: ZM

Ground Surface Elevation:
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 6"
Casing Diameter: 2"
Well Materials: PVC
Surface Completion: STICKUP
Boring Method: Sonic Core

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	PID/PID READING (PPM) ppm	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
0	0-5	100	0.0		SW	coarse, dry sand - medium brown-tan	grout
2			<120				
4							
6	5-10	100	0.4		SW	md-cs sand, dry brown-tan, small cobbles gravel	
8			<120				
10							plug
12	10-15	160	1.0			moist, lean clay w/ sand brown-tan	
14			<120				15'
16	15-20	100	1.0			moist, lean clay w/ sand brown-tan	
18			<120			sandier w/ lean clay	
20							
22	20-25	100	1.2	23'		brownish red, coarse-med sand	sand
24			<120			dark grey sand, gravel, cobbles to 3" med/coarse	
26	25-30		3.0			SAA	
28			356				
30							30'
32	32		0 to 30			dark grey clay/silt, dry	sluff
34						5 max bags sand	
36						2 x hole plug	
38							
40							
42							
44							
46						TD → 30'	
48							
50							

ENSOLUM

Client: Hilcorp Energy Company
Project Name: Salty Dog Water Transfer
Project Location: Farmington, NM
Project Manager: Stuart Hyde

BORING LOG NUMBER: BH 30
Project No.:

Date Sampled: 4/14/23
Drilled By: Cascade
Driller:
Logged By: ZM

Ground Surface Elevation:
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 6"
Casing Diameter: 2"
Well Materials: PVC
Surface Completion: Stickup
Boring Method: Sonic Core

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
0–2	0-5	100	0.8 <120			reddish brown md-cs sand w/ gravel	12' plug
4–6							12'
6–8	5-10	100	0.8 <120			SAA brownish tean clay w/ sand sandy & mostly	15' screen
8–10							
10–12	10-15	100	0.8 <120	→	—	wet, dark grey sand w/ some clay	
12–14							
14–16							
16–18	15-20	100	1.0 <120			coarse sand w/ gravel, 3" cobbles poorly sorted, dark grey	
18–20							
20–22	20-25	100	1.2 <120			SAA some clay, s.lt, md/cs sand, gravel	
22–24							
24–26	25-27	100	2.0 180			SAA, w/ large cobbles	
26–28							
28–50						TD-20' 3 bags sand 1 bag hole plug	

BH30 20-25' 1110

BH30 25-27' 1115

ENSOLUM

Client: Hilcorp Energy Company
Project Name: Salty Dog Water Transfer
Project Location: Farmington, NM
Project Manager: Stuart Hyde

BORING LOG NUMBER: BH 31
Project No.:

Date Sampled: 4/14/23
Drilled By: Cascade
Driller:
Logged By: ZM

Ground Surface Elevation:
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 6"
Casing Diameter: 2"
Well Materials: PVC
Surface Completion: Stickup
Boring Method: Sonic Core

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
0–4	0-5	100	0.0 <120			poorly sorted, fn-cs sand w/ gravel, dry brownish-grey	
6–10	5-10	100				md-cs sand w/ some gravel, tan → brownish red moist at 8'	
10–14	10-15	100	0.8 <120			SAA, more gravel w/ cobbles up to 3"	
16–20	15-20	100	0.8 <120			SAA, wet at 18'ish	
20–24	20-25	100	0.6 <120			coarse gravel, small cobbles coarse sand (grey-brown), wet	
24–30	25-30	100	1.2 <120			fn-med grey-blue sand w/ silt coarse sand, gravel, wet dark grey	
32–50						TD: 30' 5x sand bag 3x hole plug	

ENSOLUM

APPENDIX B

Soil Sample 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

April 26, 2023

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

RE: Salty Dog OrderNo.: 2304666

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 15 sample(s) on 4/15/2023 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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH25 15-20'
Project: Salty Dog
Collection Date: 4/11/2023 12:00:00 PM
Lab ID: 2304666-001 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/19/2023 11:32:17 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/19/2023 11:32:17 PM
Surr: DNOP	86.0	69-147		%Rec	1	4/19/2023 11:32:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/19/2023 8:24:29 PM
Surr: BFB	103	37.7-212		%Rec	1	4/19/2023 8:24:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	4/19/2023 8:24:29 PM
Toluene	ND	0.048		mg/Kg	1	4/19/2023 8:24:29 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/19/2023 8:24:29 PM
Xylenes, Total	ND	0.095		mg/Kg	1	4/19/2023 8:24:29 PM
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	1	4/19/2023 8:24:29 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/19/2023 9:29:44 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH25 38-41'
Project: Salty Dog
Collection Date: 4/11/2023 3:30:00 PM
Lab ID: 2304666-002 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/19/2023 11:53:16 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/19/2023 11:53:16 PM
Surr: DNOP	82.1	69-147		%Rec	1	4/19/2023 11:53:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/19/2023 8:47:52 PM
Surr: BFB	108	37.7-212		%Rec	1	4/19/2023 8:47:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	4/19/2023 8:47:52 PM
Toluene	ND	0.049		mg/Kg	1	4/19/2023 8:47:52 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/19/2023 8:47:52 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/19/2023 8:47:52 PM
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	4/19/2023 8:47:52 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/19/2023 10:06:58 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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH26 30-35'
Project: Salty Dog
Collection Date: 4/12/2023 11:00:00 AM
Lab ID: 2304666-003 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/20/2023 12:03:45 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/20/2023 12:03:45 AM
Surr: DNOP	79.9	69-147		%Rec	1	4/20/2023 12:03:45 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/19/2023 9:11:12 PM
Surr: BFB	104	37.7-212		%Rec	1	4/19/2023 9:11:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	4/19/2023 9:11:12 PM
Toluene	ND	0.049		mg/Kg	1	4/19/2023 9:11:12 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/19/2023 9:11:12 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/19/2023 9:11:12 PM
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	4/19/2023 9:11:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/19/2023 10:19:22 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH26 35-40'
Project: Salty Dog
Collection Date: 4/12/2023 1:00:00 PM
Lab ID: 2304666-004 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/20/2023 12:14:15 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/20/2023 12:14:15 AM
Surr: DNOP	81.3	69-147		%Rec	1	4/20/2023 12:14:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/19/2023 9:34:31 PM
Surr: BFB	114	37.7-212		%Rec	1	4/19/2023 9:34:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	4/19/2023 9:34:31 PM
Toluene	ND	0.050		mg/Kg	1	4/19/2023 9:34:31 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/19/2023 9:34:31 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/19/2023 9:34:31 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/19/2023 9:34:31 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/19/2023 8:03:38 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH27 30-34'
Project: Salty Dog
Collection Date: 4/13/2023 12:20:00 PM
Lab ID: 2304666-005 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/20/2023 12:24:44 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/20/2023 12:24:44 AM
Surr: DNOP	84.8	69-147		%Rec	1	4/20/2023 12:24:44 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/19/2023 9:57:44 PM
Surr: BFB	110	37.7-212		%Rec	1	4/19/2023 9:57:44 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	4/19/2023 9:57:44 PM
Toluene	ND	0.046		mg/Kg	1	4/19/2023 9:57:44 PM
Ethylbenzene	ND	0.046		mg/Kg	1	4/19/2023 9:57:44 PM
Xylenes, Total	ND	0.093		mg/Kg	1	4/19/2023 9:57:44 PM
Surr: 4-Bromofluorobenzene	99.2	70-130		%Rec	1	4/19/2023 9:57:44 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/19/2023 9:05:40 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH27 35-40'
Project: Salty Dog
Collection Date: 4/13/2023 12:30:00 PM
Lab ID: 2304666-006 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/20/2023 12:35:15 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/20/2023 12:35:15 AM
Surr: DNOP	86.8	69-147		%Rec	1	4/20/2023 12:35:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/19/2023 10:20:57 PM
Surr: BFB	107	37.7-212		%Rec	1	4/19/2023 10:20:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	4/19/2023 10:20:57 PM
Toluene	ND	0.048		mg/Kg	1	4/19/2023 10:20:57 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/19/2023 10:20:57 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/19/2023 10:20:57 PM
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	4/19/2023 10:20:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/19/2023 9:18:04 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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH28 25-30'
Project: Salty Dog
Collection Date: 4/13/2023 4:40:00 PM
Lab ID: 2304666-007 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/20/2023 12:45:45 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/20/2023 12:45:45 AM
Surr: DNOP	82.4	69-147		%Rec	1	4/20/2023 12:45:45 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/19/2023 10:44:21 PM
Surr: BFB	98.5	37.7-212		%Rec	1	4/19/2023 10:44:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	4/19/2023 10:44:21 PM
Toluene	ND	0.047		mg/Kg	1	4/19/2023 10:44:21 PM
Ethylbenzene	ND	0.047		mg/Kg	1	4/19/2023 10:44:21 PM
Xylenes, Total	ND	0.095		mg/Kg	1	4/19/2023 10:44:21 PM
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	4/19/2023 10:44:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	210	60		mg/Kg	20	4/19/2023 9:30:29 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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH28 30-35'
Project: Salty Dog
Collection Date: 4/13/2023 4:50:00 PM
Lab ID: 2304666-008 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/20/2023 12:56:17 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/20/2023 12:56:17 AM
Surr: DNOP	80.4	69-147		%Rec	1	4/20/2023 12:56:17 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/19/2023 11:07:47 PM
Surr: BFB	95.6	37.7-212		%Rec	1	4/19/2023 11:07:47 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	4/19/2023 11:07:47 PM
Toluene	ND	0.047		mg/Kg	1	4/19/2023 11:07:47 PM
Ethylbenzene	ND	0.047		mg/Kg	1	4/19/2023 11:07:47 PM
Xylenes, Total	ND	0.095		mg/Kg	1	4/19/2023 11:07:47 PM
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	1	4/19/2023 11:07:47 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/19/2023 9:42:54 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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH29 20-25'
Project: Salty Dog
Collection Date: 4/14/2023 9:00:00 AM
Lab ID: 2304666-009 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/20/2023 1:06:48 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/20/2023 1:06:48 AM
Surr: DNOP	87.5	69-147		%Rec	1	4/20/2023 1:06:48 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/19/2023 11:31:18 PM
Surr: BFB	98.8	37.7-212		%Rec	1	4/19/2023 11:31:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	4/19/2023 11:31:18 PM
Toluene	ND	0.047		mg/Kg	1	4/19/2023 11:31:18 PM
Ethylbenzene	ND	0.047		mg/Kg	1	4/19/2023 11:31:18 PM
Xylenes, Total	ND	0.095		mg/Kg	1	4/19/2023 11:31:18 PM
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	1	4/19/2023 11:31:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	190	61		mg/Kg	20	4/19/2023 9:55:18 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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH29 25-30'
Project: Salty Dog
Collection Date: 4/14/2023 9:05:00 AM
Lab ID: 2304666-010 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	8.3		mg/Kg	1	4/20/2023 1:17:21 AM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	4/20/2023 1:17:21 AM
Surr: DNOP	86.1	69-147		%Rec	1	4/20/2023 1:17:21 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/19/2023 11:54:51 PM
Surr: BFB	105	37.7-212		%Rec	1	4/19/2023 11:54:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	4/19/2023 11:54:51 PM
Toluene	ND	0.048		mg/Kg	1	4/19/2023 11:54:51 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/19/2023 11:54:51 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/19/2023 11:54:51 PM
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	4/19/2023 11:54:51 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	360	60		mg/Kg	20	4/19/2023 10:07:43 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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH29 30-32'
Project: Salty Dog
Collection Date: 4/14/2023 9:10:00 AM
Lab ID: 2304666-011 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/20/2023 3:43:35 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/20/2023 3:43:35 PM
Surr: DNOP	84.5	69-147		%Rec	1	4/20/2023 3:43:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/20/2023 11:19:00 AM
Surr: BFB	91.4	37.7-212		%Rec	1	4/20/2023 11:19:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/20/2023 11:19:00 AM
Toluene	ND	0.048		mg/Kg	1	4/20/2023 11:19:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/20/2023 11:19:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/20/2023 11:19:00 AM
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	4/20/2023 11:19:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	4/21/2023 5:08:08 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH30 20-25'
Project: Salty Dog
Collection Date: 4/14/2023 11:10:00 AM
Lab ID: 2304666-012 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	4/20/2023 4:15:51 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	4/20/2023 4:15:51 PM
Surr: DNOP	79.5	69-147		%Rec	1	4/20/2023 4:15:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/20/2023 12:24:00 PM
Surr: BFB	90.1	37.7-212		%Rec	1	4/20/2023 12:24:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/20/2023 12:24:00 PM
Toluene	ND	0.049		mg/Kg	1	4/20/2023 12:24:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/20/2023 12:24:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/20/2023 12:24:00 PM
Surr: 4-Bromofluorobenzene	86.9	70-130		%Rec	1	4/20/2023 12:24:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	110	60		mg/Kg	20	4/21/2023 5:20:32 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH30 25-27'
Project: Salty Dog
Collection Date: 4/14/2023 11:15:00 AM
Lab ID: 2304666-013 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	4/20/2023 4:26:36 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	4/20/2023 4:26:36 PM
Surr: DNOP	79.0	69-147		%Rec	1	4/20/2023 4:26:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/20/2023 1:28:00 PM
Surr: BFB	87.5	37.7-212		%Rec	1	4/20/2023 1:28:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	4/20/2023 1:28:00 PM
Toluene	ND	0.049		mg/Kg	1	4/20/2023 1:28:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/20/2023 1:28:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/20/2023 1:28:00 PM
Surr: 4-Bromofluorobenzene	84.2	70-130		%Rec	1	4/20/2023 1:28:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	190	60		mg/Kg	20	4/21/2023 5:32:56 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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH31 15-20'
Project: Salty Dog
Collection Date: 4/14/2023 1:00:00 PM
Lab ID: 2304666-014 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	4/20/2023 4:37:20 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/20/2023 4:37:20 PM
Surr: DNOP	81.4	69-147		%Rec	1	4/20/2023 4:37:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/20/2023 1:50:00 PM
Surr: BFB	91.1	37.7-212		%Rec	1	4/20/2023 1:50:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	4/20/2023 1:50:00 PM
Toluene	ND	0.050		mg/Kg	1	4/20/2023 1:50:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/20/2023 1:50:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/20/2023 1:50:00 PM
Surr: 4-Bromofluorobenzene	86.6	70-130		%Rec	1	4/20/2023 1:50:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	4/21/2023 5:45:21 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 **2304666**
Date Reported: **4/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH31 25-30'
Project: Salty Dog
Collection Date: 4/14/2023 1:10:00 PM
Lab ID: 2304666-015 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	4/20/2023 4:48:02 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/20/2023 4:48:02 PM
Surr: DNOP	78.3	69-147		%Rec	1	4/20/2023 4:48:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/20/2023 2:11:00 PM
Surr: BFB	88.7	37.7-212		%Rec	1	4/20/2023 2:11:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/20/2023 2:11:00 PM
Toluene	ND	0.049		mg/Kg	1	4/20/2023 2:11:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/20/2023 2:11:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/20/2023 2:11:00 PM
Surr: 4-Bromofluorobenzene	85.6	70-130		%Rec	1	4/20/2023 2:11:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	150	59		mg/Kg	20	4/21/2023 5:57:45 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.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2304666**

26-Apr-23

Client: HILCORP ENERGY

Project: Salty Dog

Sample ID: **MB-74427** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **74427** RunNo: **96135**
Prep Date: **4/19/2023** Analysis Date: **4/19/2023** SeqNo: **3482392** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-74427** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **74427** RunNo: **96135**
Prep Date: **4/19/2023** Analysis Date: **4/19/2023** SeqNo: **3482393** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

Sample ID: **MB-74434** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **74434** RunNo: **96171**
Prep Date: **4/19/2023** Analysis Date: **4/19/2023** SeqNo: **3482512** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-74434** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **74434** RunNo: **96171**
Prep Date: **4/19/2023** Analysis Date: **4/19/2023** SeqNo: **3482513** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	90	110			

Sample ID: **MB-74444** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **74444** RunNo: **96239**
Prep Date: **4/20/2023** Analysis Date: **4/21/2023** SeqNo: **3484717** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-74444** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **74444** RunNo: **96239**
Prep Date: **4/20/2023** Analysis Date: **4/21/2023** SeqNo: **3484718** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.4	90	110			

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#: **2304666**
26-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog

Sample ID: **MB-74381** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **74381** RunNo: **96159**
Prep Date: **4/18/2023** Analysis Date: **4/19/2023** SeqNo: **3481897** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.8		10.00		87.7	69	147			

Sample ID: **MB-74417** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **74417** RunNo: **96159**
Prep Date: **4/19/2023** Analysis Date: **4/19/2023** SeqNo: **3481898** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.8		10.00		78.2	69	147			

Sample ID: **LCS-74381** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **74381** RunNo: **96159**
Prep Date: **4/18/2023** Analysis Date: **4/19/2023** SeqNo: **3481900** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		82.7	69	147			

Sample ID: **LCS-74417** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **74417** RunNo: **96159**
Prep Date: **4/19/2023** Analysis Date: **4/19/2023** SeqNo: **3481901** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	10	50.00	0	76.7	61.9	130			
Surr: DNOP	3.9		5.000		77.5	69	147			

Sample ID: **MB-74430** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **74430** RunNo: **96162**
Prep Date: **4/19/2023** Analysis Date: **4/20/2023** SeqNo: **3482718** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.9		10.00		79.3	69	147			

Sample ID: **LCS-74430** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **74430** RunNo: **96162**
Prep Date: **4/19/2023** Analysis Date: **4/20/2023** SeqNo: **3482719** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		96.6	69	147			

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#: **2304666**
26-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog

Sample ID: **MB-74418**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **74418**	RunNo: **96162**
Prep Date: **4/19/2023**	Analysis Date: **4/20/2023**	SeqNo: **3482949** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		104	69	147			

Sample ID: **LCS-74418**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **74418**	RunNo: **96162**
Prep Date: **4/19/2023**	Analysis Date: **4/20/2023**	SeqNo: **3483127** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	81.6	61.9	130			
Surr: DNOP	4.0		5.000		79.1	69	147			

Sample ID: **2304666-011AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH29 30-32'**	Batch ID: **74418**	RunNo: **96162**
Prep Date: **4/19/2023**	Analysis Date: **4/20/2023**	SeqNo: **3483129** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	10	49.90	0	75.5	54.2	135			
Surr: DNOP	4.3		4.990		86.7	69	147			

Sample ID: **2304666-011AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH29 30-32'**	Batch ID: **74418**	RunNo: **96162**
Prep Date: **4/19/2023**	Analysis Date: **4/20/2023**	SeqNo: **3483130** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	9.6	47.94	0	112	54.2	135	35.0	29.2	R
Surr: DNOP	6.6		4.794		137	69	147	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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2304666**
26-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog

Sample ID: **lcs-74399** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **74399** RunNo: **96164**
Prep Date: **4/18/2023** Analysis Date: **4/19/2023** SeqNo: **3482067** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	70	130			
Surr: BFB	5400		1000		541	37.7	212			S

Sample ID: **mb-74399** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **74399** RunNo: **96164**
Prep Date: **4/18/2023** Analysis Date: **4/19/2023** SeqNo: **3482068** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		111	37.7	212			

Sample ID: **lcs-74410** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **74410** RunNo: **96201**
Prep Date: **4/19/2023** Analysis Date: **4/20/2023** SeqNo: **3483284** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2000		1000		195	37.7	212			

Sample ID: **mb-74410** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **74410** RunNo: **96201**
Prep Date: **4/19/2023** Analysis Date: **4/20/2023** SeqNo: **3483285** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	900		1000		89.6	37.7	212			

Sample ID: **lcs-74401** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **74401** RunNo: **96201**
Prep Date: **4/18/2023** Analysis Date: **4/20/2023** SeqNo: **3483312** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.2	70	130			
Surr: BFB	2000		1000		201	37.7	212			

Sample ID: **mb-74401** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **74401** RunNo: **96201**
Prep Date: **4/18/2023** Analysis Date: **4/20/2023** SeqNo: **3483313** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		90.4	37.7	212			

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#: **2304666**

26-Apr-23

Client: HILCORP ENERGY

Project: Salty Dog

Sample ID: **2304666-011ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **BH29 30-32'** Batch ID: **74401** RunNo: **96201**

Prep Date: **4/18/2023** Analysis Date: **4/20/2023** SeqNo: **3483315** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	23.81	0	97.0	70	130			
Surr: BFB	2000		952.4		210	37.7	212			

Sample ID: **2304666-011amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **BH29 30-32'** Batch ID: **74401** RunNo: **96201**

Prep Date: **4/18/2023** Analysis Date: **4/20/2023** SeqNo: **3483316** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.11	0	96.1	70	130	0.334	20	
Surr: BFB	2000		964.3		213	37.7	212	0	0	S

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#: **2304666**
26-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog

Sample ID: **LCS-74399** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **74399** RunNo: **96164**
Prep Date: **4/18/2023** Analysis Date: **4/19/2023** SeqNo: **3482097** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.5	80	120			
Toluene	0.85	0.050	1.000	0	84.8	80	120			
Ethylbenzene	0.87	0.050	1.000	0	86.7	80	120			
Xylenes, Total	2.6	0.10	3.000	0	87.5	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.0	70	130			

Sample ID: **mb-74399** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **74399** RunNo: **96164**
Prep Date: **4/18/2023** Analysis Date: **4/19/2023** SeqNo: **3482098** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		97.9	70	130			

Sample ID: **lcs-74401** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **74401** RunNo: **96201**
Prep Date: **4/18/2023** Analysis Date: **4/20/2023** SeqNo: **3483335** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.1	80	120			
Toluene	0.87	0.050	1.000	0	87.4	80	120			
Ethylbenzene	0.86	0.050	1.000	0	85.8	80	120			
Xylenes, Total	2.5	0.10	3.000	0	84.7	80	120			
Surr: 4-Bromofluorobenzene	0.88		1.000		88.2	70	130			

Sample ID: **mb-74401** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **74401** RunNo: **96201**
Prep Date: **4/18/2023** Analysis Date: **4/20/2023** SeqNo: **3483336** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.85		1.000		85.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2304666**
26-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog

Sample ID: **2304666-012ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH30 20-25'** Batch ID: **74401** RunNo: **96201**
Prep Date: **4/18/2023** Analysis Date: **4/20/2023** SeqNo: **3483339** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.024	0.9794	0	85.9	68.8	120			
Toluene	0.85	0.049	0.9794	0	87.0	73.6	124			
Ethylbenzene	0.83	0.049	0.9794	0	84.8	72.7	129			
Xylenes, Total	2.5	0.098	2.938	0	84.0	75.7	126			
Surr: 4-Bromofluorobenzene	0.84		0.9794		85.4	70	130			

Sample ID: **2304666-012amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH30 20-25'** Batch ID: **74401** RunNo: **96201**
Prep Date: **4/18/2023** Analysis Date: **4/20/2023** SeqNo: **3483340** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9766	0	84.5	68.8	120	1.91	20	
Toluene	0.83	0.049	0.9766	0	84.8	73.6	124	2.86	20	
Ethylbenzene	0.81	0.049	0.9766	0	83.2	72.7	129	2.13	20	
Xylenes, Total	2.4	0.098	2.930	0	81.9	75.7	126	2.80	20	
Surr: 4-Bromofluorobenzene	0.84		0.9766		86.1	70	130	0	0	

Sample ID: **lcs-74410** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **74410** RunNo: **96201**
Prep Date: **4/19/2023** Analysis Date: **4/20/2023** SeqNo: **3483359** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.87		1.000		86.9	70	130			

Sample ID: **mb-74410** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **74410** RunNo: **96201**
Prep Date: **4/19/2023** Analysis Date: **4/20/2023** SeqNo: **3483360** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.85		1.000		85.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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: 2304666 RcptNo: 1

Received By: **Cheyenne Cason** 4/15/2023 8:40:00 AM

Completed By: **Cheyenne Cason** 4/17/2023 8:45:41 AM

Reviewed By: 4/17/23

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: JM 4/17/23

Special Handling (if applicable)

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

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

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.0	Good	Yes	Morty		

Chain-of-Custody Record

Client: Hilcorp

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 5-day

Project Name: Salty Dog

Project #:

Project Manager: Stuart Hyde

shyde@ensolum.com

Sampler: Zach Myers

On Ice: ☑ Yes ☐ No Molly

# of Coolers: 1

Cooler Temp(Including CF): 4.1-0.1=4.0(°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. 2304666	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)
4/11	12:00	soil	BH25 15-20'	1x4oz	cool	001	✓	✓					✓			
4/11	15:30	soil	BH25 38-41'			002										
4/12	11:00	soil	BH26 30-35'			003										
4/12	13:00	soil	BH26 35-40'			004										
4/13	12:20	soil	BH27 30-34'			005										
4/13	12:30	soil	BH27 35-40'			006										
4/13	16:40	soil	BH28 25-30'			007										
4/13	16:50	soil	BH28 30-35'			008										
4/14	9:00	soil	BH29 20-25'			009										
4/14	9:05	soil	BH29 25-30'			010										
4/14	9:10	soil	BH29 30-32'			011										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4/14/23	15:00		Emc Courier		4/16/23	0840
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

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.

Chain-of-Custody Record

Client: Hilcorp

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 5-day

Project Name: Salty Dog

Project #:

Project Manager: Stuart Hyde

shyde@ensolum.com

Sampler: Zach Myer

On Ice: ☑ Yes ☐ No Matt

# of Coolers: 1

Cooler Temp(Including CF): 4.1 - 0.1 = 4.0 (°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. 2304666	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)
4/14	11:10	soil	BH30 20-25'	1 x 4oz	cool	-012	✓	✓					✓			
4/14	11:15	soil	BH30 25'-27'			-013										
4/14	13:00	soil	BH31 15-20'			-014										
4/14	13:10	soil	BH31 25-30'			-015										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/14/23	15:00		Chris Cour		4/15/23	0840
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

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.

ENSOLUM

APPENDIX C

Groundwater Sample 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

January 17, 2023

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

RE: Salty Dog Pipeline OrderNo.: 2301091

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 6 sample(s) on 1/4/2023 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

CLIENT: HILCORP ENERGY
Client Sample ID: MW-15
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 2:03:00 PM
Lab ID: 2301091-001 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	1.0		mg/L	10	1/4/2023 4:48:26 PM
Chloride	500	50	*	mg/L	100	1/4/2023 5:27:01 PM
Bromide	ND	1.0		mg/L	10	1/4/2023 4:48:26 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	1/4/2023 4:48:26 PM
Sulfate	2100	50	*	mg/L	100	1/4/2023 5:27:01 PM
Nitrate+Nitrite as N	ND	1.0		mg/L	5	1/13/2023 3:06:24 AM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	590	10		mg/L	10	1/12/2023 12:33:17 PM
Magnesium	80	1.0		mg/L	1	1/11/2023 9:26:03 AM
Potassium	12	1.0		mg/L	1	1/11/2023 9:26:03 AM
Sodium	630	10		mg/L	10	1/12/2023 12:33:17 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Toluene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Ethylbenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Naphthalene	ND	4.0		µg/L	2	1/11/2023 2:32:00 PM
1-Methylnaphthalene	ND	8.0		µg/L	2	1/11/2023 2:32:00 PM
2-Methylnaphthalene	ND	8.0		µg/L	2	1/11/2023 2:32:00 PM
Acetone	ND	20		µg/L	2	1/11/2023 2:32:00 PM
Bromobenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Bromodichloromethane	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Bromoform	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Bromomethane	ND	6.0		µg/L	2	1/11/2023 2:32:00 PM
2-Butanone	ND	20		µg/L	2	1/11/2023 2:32:00 PM
Carbon disulfide	ND	20		µg/L	2	1/11/2023 2:32:00 PM
Carbon Tetrachloride	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Chlorobenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Chloroethane	ND	4.0		µg/L	2	1/11/2023 2:32:00 PM
Chloroform	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Chloromethane	ND	6.0		µg/L	2	1/11/2023 2:32:00 PM
2-Chlorotoluene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
4-Chlorotoluene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
cis-1,2-DCE	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-15
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 2:03:00 PM
Lab ID: 2301091-001 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	1/11/2023 2:32:00 PM
Dibromochloromethane	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Dibromomethane	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,2-Dichlorobenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,3-Dichlorobenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,4-Dichlorobenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Dichlorodifluoromethane	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,1-Dichloroethane	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,1-Dichloroethene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,2-Dichloropropane	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,3-Dichloropropane	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
2,2-Dichloropropane	ND	4.0		µg/L	2	1/11/2023 2:32:00 PM
1,1-Dichloropropene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Hexachlorobutadiene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
2-Hexanone	ND	20		µg/L	2	1/11/2023 2:32:00 PM
Isopropylbenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
4-Isopropyltoluene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
4-Methyl-2-pentanone	ND	20		µg/L	2	1/11/2023 2:32:00 PM
Methylene Chloride	ND	6.0		µg/L	2	1/11/2023 2:32:00 PM
n-Butylbenzene	ND	6.0		µg/L	2	1/11/2023 2:32:00 PM
n-Propylbenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
sec-Butylbenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Styrene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
tert-Butylbenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	1/11/2023 2:32:00 PM
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
trans-1,2-DCE	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Trichloroethene (TCE)	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Trichlorofluoromethane	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
1,2,3-Trichloropropane	ND	4.0		µg/L	2	1/11/2023 2:32:00 PM
Vinyl chloride	ND	2.0		µg/L	2	1/11/2023 2:32:00 PM
Xylenes, Total	ND	3.0		µg/L	2	1/11/2023 2:32:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-15
Project: Salty Dog Pipeline **Collection Date:** 12/31/2022 2:03:00 PM
Lab ID: 2301091-001 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	2	1/11/2023 2:32:00 PM
Surr: 4-Bromofluorobenzene	97.2	70-130		%Rec	2	1/11/2023 2:32:00 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	2	1/11/2023 2:32:00 PM
Surr: Toluene-d8	97.9	70-130		%Rec	2	1/11/2023 2:32:00 PM
SM4500-H+B / 9040C: PH						Analyst: **JTT**
pH	7.49		H	pH units	1	1/6/2023 4:37:07 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	4050	200	*D	mg/L	1	1/5/2023 12:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-10
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 12:50:00 PM
Lab ID: 2301091-002 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	1.0		mg/L	10	1/4/2023 5:39:54 PM
Chloride	3100	100	*	mg/L	200	1/10/2023 12:11:51 PM
Bromide	3.8	1.0		mg/L	10	1/4/2023 5:39:54 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	1/4/2023 5:39:54 PM
Sulfate	2100	50	*	mg/L	100	1/4/2023 5:52:45 PM
Nitrate+Nitrite as N	ND	2.0		mg/L	10	1/13/2023 3:57:49 AM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	910	10		mg/L	10	1/12/2023 12:42:34 PM
Magnesium	120	5.0		mg/L	5	1/11/2023 9:30:18 AM
Potassium	16	1.0		mg/L	1	1/11/2023 9:28:52 AM
Sodium	1800	20		mg/L	20	1/12/2023 12:43:55 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Toluene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Ethylbenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Naphthalene	ND	2.0		µg/L	1	1/9/2023 5:10:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	1/9/2023 5:10:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	1/9/2023 5:10:00 PM
Acetone	ND	10		µg/L	1	1/9/2023 5:10:00 PM
Bromobenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Bromoform	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Bromomethane	ND	3.0		µg/L	1	1/9/2023 5:10:00 PM
2-Butanone	ND	10		µg/L	1	1/9/2023 5:10:00 PM
Carbon disulfide	ND	10		µg/L	1	1/9/2023 5:10:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Chlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Chloroethane	ND	2.0		µg/L	1	1/9/2023 5:10:00 PM
Chloroform	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Chloromethane	ND	3.0		µg/L	1	1/9/2023 5:10:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
cis-1,2-DCE	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-10
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 12:50:00 PM
Lab ID: 2301091-002 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/9/2023 5:10:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Dibromomethane	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	1/9/2023 5:10:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
2-Hexanone	ND	10		µg/L	1	1/9/2023 5:10:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	1/9/2023 5:10:00 PM
Methylene Chloride	ND	3.0		µg/L	1	1/9/2023 5:10:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	1/9/2023 5:10:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Styrene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/9/2023 5:10:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/9/2023 5:10:00 PM
Vinyl chloride	ND	1.0		µg/L	1	1/9/2023 5:10:00 PM
Xylenes, Total	ND	1.5		µg/L	1	1/9/2023 5:10:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-10
Project: Salty Dog Pipeline **Collection Date:** 12/31/2022 12:50:00 PM
Lab ID: 2301091-002 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	1/9/2023 5:10:00 PM
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	1/9/2023 5:10:00 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	1/9/2023 5:10:00 PM
Surr: Toluene-d8	97.9	70-130		%Rec	1	1/9/2023 5:10:00 PM
SM4500-H+B / 9040C: PH						Analyst: **JTT**
pH	7.66		H	pH units	1	1/6/2023 4:41:15 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	7670	200	*D	mg/L	1	1/5/2023 12:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-12
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 12:05:00 PM
Lab ID: 2301091-003 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	1.0		mg/L	10	1/4/2023 6:05:38 PM
Chloride	2700	100	*	mg/L	200	1/10/2023 12:24:41 PM
Bromide	3.2	1.0		mg/L	10	1/4/2023 6:05:38 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	1/4/2023 6:05:38 PM
Sulfate	2800	50	*	mg/L	100	1/4/2023 6:18:29 PM
Nitrate+Nitrite as N	5.5	2.0		mg/L	10	1/13/2023 4:10:40 AM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	380	5.0		mg/L	5	1/11/2023 9:39:06 AM
Magnesium	63	1.0		mg/L	1	1/11/2023 9:31:37 AM
Potassium	20	1.0		mg/L	1	1/11/2023 9:31:37 AM
Sodium	2300	50		mg/L	50	1/13/2023 10:39:44 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Toluene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Ethylbenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Naphthalene	ND	2.0		µg/L	1	1/9/2023 5:34:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	1/9/2023 5:34:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	1/9/2023 5:34:00 PM
Acetone	ND	10		µg/L	1	1/9/2023 5:34:00 PM
Bromobenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Bromoform	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Bromomethane	ND	3.0		µg/L	1	1/9/2023 5:34:00 PM
2-Butanone	ND	10		µg/L	1	1/9/2023 5:34:00 PM
Carbon disulfide	ND	10		µg/L	1	1/9/2023 5:34:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Chlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Chloroethane	ND	2.0		µg/L	1	1/9/2023 5:34:00 PM
Chloroform	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Chloromethane	ND	3.0		µg/L	1	1/9/2023 5:34:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
cis-1,2-DCE	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-12
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 12:05:00 PM
Lab ID: 2301091-003 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/9/2023 5:34:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Dibromomethane	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	1/9/2023 5:34:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
2-Hexanone	ND	10		µg/L	1	1/9/2023 5:34:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	1/9/2023 5:34:00 PM
Methylene Chloride	ND	3.0		µg/L	1	1/9/2023 5:34:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	1/9/2023 5:34:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Styrene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/9/2023 5:34:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/9/2023 5:34:00 PM
Vinyl chloride	ND	1.0		µg/L	1	1/9/2023 5:34:00 PM
Xylenes, Total	ND	1.5		µg/L	1	1/9/2023 5:34:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-12
Project: Salty Dog Pipeline **Collection Date:** 12/31/2022 12:05:00 PM
Lab ID: 2301091-003 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	1/9/2023 5:34:00 PM
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	1/9/2023 5:34:00 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	1	1/9/2023 5:34:00 PM
Surr: Toluene-d8	100	70-130		%Rec	1	1/9/2023 5:34:00 PM
SM4500-H+B / 9040C: PH						Analyst: **JTT**
pH	7.73		H	pH units	1	1/6/2023 4:45:05 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	7940	200	*D	mg/L	1	1/5/2023 12:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-13
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 3:15:00 PM
Lab ID: 2301091-004 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	1.0		mg/L	10	1/4/2023 6:57:04 PM
Chloride	3300	100	*	mg/L	200	1/10/2023 12:37:32 PM
Bromide	3.8	1.0		mg/L	10	1/4/2023 6:57:04 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	1/4/2023 6:57:04 PM
Sulfate	2600	50	*	mg/L	100	1/4/2023 7:09:55 PM
Nitrate+Nitrite as N	ND	2.0		mg/L	10	1/13/2023 4:23:32 AM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	760	10		mg/L	10	1/12/2023 12:48:05 PM
Magnesium	93	1.0		mg/L	1	1/11/2023 9:40:21 AM
Potassium	12	1.0		mg/L	1	1/11/2023 9:40:21 AM
Sodium	2400	50		mg/L	50	1/13/2023 10:42:57 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Toluene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Ethylbenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Naphthalene	ND	2.0		µg/L	1	1/9/2023 5:57:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	1/9/2023 5:57:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	1/9/2023 5:57:00 PM
Acetone	ND	10		µg/L	1	1/9/2023 5:57:00 PM
Bromobenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Bromoform	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Bromomethane	ND	3.0		µg/L	1	1/9/2023 5:57:00 PM
2-Butanone	ND	10		µg/L	1	1/9/2023 5:57:00 PM
Carbon disulfide	ND	10		µg/L	1	1/9/2023 5:57:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Chlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Chloroethane	ND	2.0		µg/L	1	1/9/2023 5:57:00 PM
Chloroform	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Chloromethane	ND	3.0		µg/L	1	1/9/2023 5:57:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
cis-1,2-DCE	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-13
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 3:15:00 PM
Lab ID: 2301091-004 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/9/2023 5:57:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Dibromomethane	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	1/9/2023 5:57:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
2-Hexanone	ND	10		µg/L	1	1/9/2023 5:57:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	1/9/2023 5:57:00 PM
Methylene Chloride	ND	3.0		µg/L	1	1/9/2023 5:57:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	1/9/2023 5:57:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Styrene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/9/2023 5:57:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/9/2023 5:57:00 PM
Vinyl chloride	ND	1.0		µg/L	1	1/9/2023 5:57:00 PM
Xylenes, Total	ND	1.5		µg/L	1	1/9/2023 5:57:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-13
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 3:15:00 PM
Lab ID: 2301091-004 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	1/9/2023 5:57:00 PM
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	1	1/9/2023 5:57:00 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	1/9/2023 5:57:00 PM
Surr: Toluene-d8	99.1	70-130		%Rec	1	1/9/2023 5:57:00 PM
SM4500-H+B / 9040C: PH						Analyst: **JTT**
pH	7.71		H	pH units	1	1/6/2023 4:49:04 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	9270	40.0	*D	mg/L	1	1/5/2023 12:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-9
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 2:30:00 PM
Lab ID: 2301091-005 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	1.0		mg/L	10	1/4/2023 7:22:47 PM
Chloride	1300	50	*	mg/L	100	1/4/2023 7:35:16 PM
Bromide	2.0	1.0		mg/L	10	1/4/2023 7:22:47 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	1/4/2023 7:22:47 PM
Sulfate	2400	50	*	mg/L	100	1/4/2023 7:35:16 PM
Nitrate+Nitrite as N	ND	1.0		mg/L	5	1/13/2023 4:36:24 AM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	620	10		mg/L	10	1/12/2023 12:51:12 PM
Magnesium	110	5.0		mg/L	5	1/11/2023 9:44:26 AM
Potassium	12	1.0		mg/L	1	1/11/2023 9:43:00 AM
Sodium	1200	20		mg/L	20	1/12/2023 12:52:40 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Toluene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Ethylbenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Naphthalene	ND	2.0		µg/L	1	1/9/2023 6:20:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	1/9/2023 6:20:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	1/9/2023 6:20:00 PM
Acetone	ND	10		µg/L	1	1/9/2023 6:20:00 PM
Bromobenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Bromoform	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Bromomethane	ND	3.0		µg/L	1	1/9/2023 6:20:00 PM
2-Butanone	ND	10		µg/L	1	1/9/2023 6:20:00 PM
Carbon disulfide	ND	10		µg/L	1	1/9/2023 6:20:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Chlorobenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Chloroethane	ND	2.0		µg/L	1	1/9/2023 6:20:00 PM
Chloroform	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Chloromethane	ND	3.0		µg/L	1	1/9/2023 6:20:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
cis-1,2-DCE	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-9
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 2:30:00 PM
Lab ID: 2301091-005 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/9/2023 6:20:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Dibromomethane	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	1/9/2023 6:20:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
2-Hexanone	ND	10		µg/L	1	1/9/2023 6:20:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	1/9/2023 6:20:00 PM
Methylene Chloride	ND	3.0		µg/L	1	1/9/2023 6:20:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	1/9/2023 6:20:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Styrene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/9/2023 6:20:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/9/2023 6:20:00 PM
Vinyl chloride	ND	1.0		µg/L	1	1/9/2023 6:20:00 PM
Xylenes, Total	ND	1.5		µg/L	1	1/9/2023 6:20:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-9
Project: Salty Dog Pipeline **Collection Date:** 12/31/2022 2:30:00 PM
Lab ID: 2301091-005 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	1/9/2023 6:20:00 PM
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	1/9/2023 6:20:00 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	1/9/2023 6:20:00 PM
Surr: Toluene-d8	99.6	70-130		%Rec	1	1/9/2023 6:20:00 PM
SM4500-H+B / 9040C: PH						Analyst: **JTT**
pH	7.38		H	pH units	1	1/6/2023 4:52:53 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	6110	100	*D	mg/L	1	1/5/2023 12:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-18
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 11:40:00 AM
Lab ID: 2301091-006 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	1.0		mg/L	10	1/4/2023 7:48:08 PM
Chloride	3400	100	*	mg/L	200	1/10/2023 12:50:24 PM
Bromide	4.2	1.0		mg/L	10	1/4/2023 7:48:08 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	1/4/2023 7:48:08 PM
Sulfate	2200	50	*	mg/L	100	1/4/2023 8:01:00 PM
Nitrate+Nitrite as N	3.4	2.0		mg/L	10	1/13/2023 4:49:14 AM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	860	10		mg/L	10	1/12/2023 12:54:23 PM
Magnesium	130	5.0		mg/L	5	1/11/2023 9:47:14 AM
Potassium	14	1.0		mg/L	1	1/11/2023 9:45:51 AM
Sodium	2000	50		mg/L	50	1/13/2023 10:46:15 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Toluene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Ethylbenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Naphthalene	ND	2.0		µg/L	1	1/10/2023 1:53:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	1/10/2023 1:53:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	1/10/2023 1:53:00 PM
Acetone	ND	10		µg/L	1	1/10/2023 1:53:00 PM
Bromobenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Bromoform	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Bromomethane	ND	3.0		µg/L	1	1/10/2023 1:53:00 PM
2-Butanone	ND	10		µg/L	1	1/10/2023 1:53:00 PM
Carbon disulfide	ND	10		µg/L	1	1/10/2023 1:53:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Chlorobenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Chloroethane	ND	2.0		µg/L	1	1/10/2023 1:53:00 PM
Chloroform	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Chloromethane	ND	3.0		µg/L	1	1/10/2023 1:53:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
cis-1,2-DCE	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-18
Project: Salty Dog Pipeline **Collection Date:** 12/31/2022 11:40:00 AM
Lab ID: 2301091-006 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/10/2023 1:53:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Dibromomethane	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	1/10/2023 1:53:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
2-Hexanone	ND	10		µg/L	1	1/10/2023 1:53:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	1/10/2023 1:53:00 PM
Methylene Chloride	ND	3.0		µg/L	1	1/10/2023 1:53:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	1/10/2023 1:53:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Styrene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/10/2023 1:53:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/10/2023 1:53:00 PM
Vinyl chloride	ND	1.0		µg/L	1	1/10/2023 1:53:00 PM
Xylenes, Total	ND	1.5		µg/L	1	1/10/2023 1:53:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2301091**
Date Reported: **1/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-18
Project: Salty Dog Pipeline
Collection Date: 12/31/2022 11:40:00 AM
Lab ID: 2301091-006 **Matrix:** AQUEOUS **Received Date:** 1/4/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	1/10/2023 1:53:00 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	1/10/2023 1:53:00 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	1/10/2023 1:53:00 PM
Surr: Toluene-d8	99.7	70-130		%Rec	1	1/10/2023 1:53:00 PM
SM4500-H+B / 9040C: PH						Analyst: **JTT**
pH	7.57		H	pH units	1	1/6/2023 4:56:57 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	8760	200	*D	mg/L	1	1/5/2023 12:52:00 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301091**

17-Jan-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **MB-72515**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **72515**	RunNo: **93866**
Prep Date: **1/9/2023**	Analysis Date: **1/11/2023**	SeqNo: **3388656** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: **LCSLL-72515**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC**	Batch ID: **72515**	RunNo: **93866**
Prep Date: **1/9/2023**	Analysis Date: **1/11/2023**	SeqNo: **3388657** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	101	50	150			
Magnesium	ND	1.0	0.5000	0	103	50	150			
Potassium	ND	1.0	0.5000	0	107	50	150			
Sodium	ND	1.0	0.5000	0	105	50	150			

Sample ID: **LCS-72515**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW**	Batch ID: **72515**	RunNo: **93866**
Prep Date: **1/9/2023**	Analysis Date: **1/11/2023**	SeqNo: **3388658** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	99.0	85	115			
Magnesium	51	1.0	50.00	0	101	85	115			
Potassium	49	1.0	50.00	0	98.7	85	115			
Sodium	50	1.0	50.00	0	100	85	115			

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#: **2301091**

17-Jan-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R93721**	RunNo: **93721**
Prep Date:	Analysis Date: **1/4/2023**	SeqNo: **3382998** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R93721**	RunNo: **93721**
Prep Date:	Analysis Date: **1/4/2023**	SeqNo: **3382999** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.6	0.50	5.000	0	93.0	90	110			
Bromide	2.3	0.10	2.500	0	92.9	90	110			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	94.0	90	110			
Sulfate	9.6	0.50	10.00	0	96.4	90	110			

Sample ID: **2301091-001BMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **MW-15**	Batch ID: **R93721**	RunNo: **93721**
Prep Date:	Analysis Date: **1/4/2023**	SeqNo: **3383011** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	5.6	1.0	5.000	0.8960	94.8	78.6	114			
Bromide	24	1.0	25.00	0.9890	93.7	89.4	110			

Sample ID: **2301091-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **MW-15**	Batch ID: **R93721**	RunNo: **93721**
Prep Date:	Analysis Date: **1/4/2023**	SeqNo: **3383012** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	5.7	1.0	5.000	0.8960	95.8	78.6	114	0.883	20	
Bromide	24	1.0	25.00	0.9890	93.0	89.4	110	0.727	20	

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R93860**	RunNo: **93860**
Prep Date:	Analysis Date: **1/10/2023**	SeqNo: **3388284** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

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#: **2301091**

17-Jan-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R93860**	RunNo: **93860**							
Prep Date:	Analysis Date: **1/10/2023**	SeqNo: **3388285**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	93.0	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **A93930**	RunNo: **93930**							
Prep Date:	Analysis Date: **1/12/2023**	SeqNo: **3391373**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **A93930**	RunNo: **93930**							
Prep Date:	Analysis Date: **1/12/2023**	SeqNo: **3391374**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.4	90	110			

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#: **2301091**

17-Jan-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **LCSW** Batch ID: **R93805** RunNo: **93805**

Prep Date: Analysis Date: **1/9/2023** SeqNo: **3387585** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	99.1	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **LCSW** Batch ID: **R93856** RunNo: **93856**

Prep Date: Analysis Date: **1/10/2023** SeqNo: **3387933** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	110	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **PBW** Batch ID: **R93856** RunNo: **93856**

Prep Date: Analysis Date: **1/10/2023** SeqNo: **3387934** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								

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#: **2301091**

17-Jan-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R93856**	RunNo: **93856**
Prep Date:	Analysis Date: **1/10/2023**	SeqNo: **3387934** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								

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#: **2301091**
17-Jan-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R93856**	RunNo: **93856**
Prep Date:	Analysis Date: **1/10/2023**	SeqNo: **3387934** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.8	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R93805**	RunNo: **93805**
Prep Date:	Analysis Date: **1/9/2023**	SeqNo: **3388407** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								

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#: **2301091**
17-Jan-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R93805**	RunNo: **93805**
Prep Date:	Analysis Date: **1/9/2023**	SeqNo: **3388407** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								

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#: **2301091**

17-Jan-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R93805**	RunNo: **93805**
Prep Date:	Analysis Date: **1/9/2023**	SeqNo: **3388407** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.9	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		99.9	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R93871**	RunNo: **93871**
Prep Date:	Analysis Date: **1/11/2023**	SeqNo: **3388591** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	105	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.3	70	130			
Surr: Dibromofluoromethane	11		10.00		109	70	130			
Surr: Toluene-d8	9.9		10.00		98.9	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R93871**	RunNo: **93871**
Prep Date:	Analysis Date: **1/11/2023**	SeqNo: **3389960** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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#: **2301091**

17-Jan-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R93871**	RunNo: **93871**
Prep Date:	Analysis Date: **1/11/2023**	SeqNo: **3389960** Units: **µg/L**

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301091**

17-Jan-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R93871**	RunNo: **93871**
Prep Date:	Analysis Date: **1/11/2023**	SeqNo: **3389960** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.7	70	130			
Surr: Dibromofluoromethane	11		10.00		109	70	130			
Surr: Toluene-d8	10		10.00		99.7	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301091**

17-Jan-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **MB-72440**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **72440**	RunNo: **93735**
Prep Date: **1/4/2023**	Analysis Date: **1/5/2023**	SeqNo: **3383496** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-72440**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **72440**	RunNo: **93735**
Prep Date: **1/4/2023**	Analysis Date: **1/5/2023**	SeqNo: **3383497** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Hilcorp Energy | Work Order Number: 2301091 | RcptNo: 1

Received By: Juan Rojas 1/4/2023 7:00:00 AM

Completed By: Tracy Casarrubias 1/4/2023 11:26:43 AM

Reviewed By: CMC 1/4/23

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: 12 (<2 or >12 unless noted)

Adjusted? yes

Checked by: KPC 1.4.23

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:

16. Additional remarks:

H2SO4 (6794)

Poured off 125ml from original volume provided to create samples 001B-006B and added 0.40mL of H2SO4 for pH. Poured off 250mL from original volume provided to create samples 001C-006C and added 0.50mL of HNO3 for pH- KPC 1.4.23

HNO3 (7051)

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.2	Good	Yes			
2	0.1	Good	Yes			

Chain-of-Custody Record

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

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: Salty Dog Pipeline

Project #:

Project Manager: Mitch Killough

Sampler: Brandon Sinclair

On Ice: ☒ Yes ☐ No

# of Coolers: 2 Marty

Cooler Temp (Including CF): 0.4-0.2=0.2°C; 0.3-0.2=0.1

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2301091	Cations/Anions/TDS/pH 500ml, 250ml HNO3, 125ml H2SO4	Volatiles 8260 40ml VOA HCl
12-31	1403	Water	MW-15	Various	Various	001	X	X
	1250	Water	MW-10	Various	Various	002	X	X
	1205	Water	MW-12	Various	Various	003	X	X
	1515	Water	MW-13	Various	Various	004	X	X
	1430	Water	MW-9	Various	Various	005	X	X
	1140	Water	MW-18	Various	Various	006	X	X
		Water		Various	Various		X	X
		Water		Various	Various		X	X
		Water		Various	Various		X	X
		Water		Various	Various		X	X
		Water		Various	Various		X	X

Date	Time	Relinquished by	Received by	Via	Date	Time
1/3/23	1658	[signature]	[signature]		1/3/23	1658
1/3/23	1800	[signature]	[signature]	Courier	1/4/22	7:00

Preserve cation/Anion in lab

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 13, 2023

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

RE: Salty Dog Pipeline OrderNo.: 2303F39

Dear Kate Kaufman:

Hall Environmental Analysis Laboratory received 6 sample(s) on 3/31/2023 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 **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-9
Project: Salty Dog Pipeline **Collection Date:** 3/30/2023 1:25:00 PM
Lab ID: 2303F39-001 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	3/31/2023 1:38:47 PM
Chloride	540	50	*	mg/L	100	4/4/2023 12:39:54 PM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	3/31/2023 1:38:47 PM
Bromide	ND	0.50		mg/L	5	3/31/2023 1:38:47 PM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	3/31/2023 1:38:47 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	3/31/2023 1:38:47 PM
Sulfate	2100	50	*	mg/L	100	4/4/2023 12:39:54 PM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	510	10		mg/L	10	4/5/2023 3:16:05 PM
Magnesium	83	1.0		mg/L	1	4/4/2023 1:03:48 PM
Potassium	8.1	1.0		mg/L	1	4/4/2023 1:03:48 PM
Sodium	890	10		mg/L	10	4/5/2023 3:16:05 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Toluene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Ethylbenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Naphthalene	ND	4.0	D	µg/L	2	4/7/2023 6:49:00 PM
1-Methylnaphthalene	ND	8.0	D	µg/L	2	4/7/2023 6:49:00 PM
2-Methylnaphthalene	ND	8.0	D	µg/L	2	4/7/2023 6:49:00 PM
Acetone	ND	20	D	µg/L	2	4/7/2023 6:49:00 PM
Bromobenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Bromodichloromethane	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Bromoform	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Bromomethane	ND	6.0	D	µg/L	2	4/7/2023 6:49:00 PM
2-Butanone	ND	20	D	µg/L	2	4/7/2023 6:49:00 PM
Carbon disulfide	ND	20	D	µg/L	2	4/7/2023 6:49:00 PM
Carbon Tetrachloride	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Chlorobenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Chloroethane	ND	4.0	D	µg/L	2	4/7/2023 6:49:00 PM
Chloroform	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Chloromethane	ND	6.0	D	µg/L	2	4/7/2023 6:49:00 PM
2-Chlorotoluene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
4-Chlorotoluene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-9
Project: Salty Dog Pipeline **Collection Date:** 3/30/2023 1:25:00 PM
Lab ID: 2303F39-001 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	4/7/2023 6:49:00 PM
Dibromochloromethane	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Dibromomethane	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,1-Dichloroethane	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,1-Dichloroethene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,2-Dichloropropane	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,3-Dichloropropane	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
2,2-Dichloropropane	ND	4.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,1-Dichloropropene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Hexachlorobutadiene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
2-Hexanone	ND	20	D	µg/L	2	4/7/2023 6:49:00 PM
Isopropylbenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
4-Isopropyltoluene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
4-Methyl-2-pentanone	ND	20	D	µg/L	2	4/7/2023 6:49:00 PM
Methylene Chloride	ND	6.0	D	µg/L	2	4/7/2023 6:49:00 PM
n-Butylbenzene	ND	6.0	D	µg/L	2	4/7/2023 6:49:00 PM
n-Propylbenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
sec-Butylbenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Styrene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
tert-Butylbenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	4/7/2023 6:49:00 PM
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
trans-1,2-DCE	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
Trichlorofluoromethane	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	4/7/2023 6:49:00 PM
Vinyl chloride	ND	2.0	D	µg/L	2	4/7/2023 6:49:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-9
Project: Salty Dog Pipeline **Collection Date:** 3/30/2023 1:25:00 PM
Lab ID: 2303F39-001 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	3.0	D	µg/L	2	4/7/2023 6:49:00 PM
Surr: 1,2-Dichloroethane-d4	91.0	70-130	D	%Rec	2	4/7/2023 6:49:00 PM
Surr: 4-Bromofluorobenzene	98.5	70-130	D	%Rec	2	4/7/2023 6:49:00 PM
Surr: Dibromofluoromethane	92.2	70-130	D	%Rec	2	4/7/2023 6:49:00 PM
Surr: Toluene-d8	98.4	70-130	D	%Rec	2	4/7/2023 6:49:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **NAI**
Conductivity	6000	10		µmhos/c	1	4/3/2023 2:44:35 PM
SM4500-H+B / 9040C: PH						Analyst: **NAI**
pH	7.22		H	pH units	1	4/10/2023 11:22:21 PM
SM2320B: ALKALINITY						Analyst: **NAI**
Bicarbonate (As CaCO3)	244.3	20.00		mg/L Ca	1	4/3/2023 2:44:35 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/3/2023 2:44:35 PM
Total Alkalinity (as CaCO3)	244.3	20.00		mg/L Ca	1	4/3/2023 2:44:35 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **RBC**
Total Dissolved Solids	4620	500	*D	mg/L	1	4/5/2023 2:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-10
Project: Salty Dog Pipeline
Collection Date: 3/30/2023 12:10:00 PM
Lab ID: 2303F39-002 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	3/31/2023 2:28:20 PM
Chloride	2700	250	*	mg/L	500	4/4/2023 1:31:21 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	3/31/2023 2:40:43 PM
Bromide	2.5	2.0		mg/L	20	3/31/2023 2:40:43 PM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	3/31/2023 2:28:20 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	3/31/2023 2:28:20 PM
Sulfate	1800	250	*	mg/L	500	4/4/2023 1:31:21 PM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	860	10		mg/L	10	4/5/2023 3:18:40 PM
Magnesium	98	5.0		mg/L	5	4/4/2023 1:17:11 PM
Potassium	9.2	1.0		mg/L	1	4/4/2023 1:07:08 PM
Sodium	1800	20		mg/L	20	4/5/2023 3:25:10 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Toluene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Ethylbenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Naphthalene	ND	2.0		µg/L	1	4/7/2023 7:14:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/7/2023 7:14:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/7/2023 7:14:00 PM
Acetone	ND	10		µg/L	1	4/7/2023 7:14:00 PM
Bromobenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Bromoform	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Bromomethane	ND	3.0		µg/L	1	4/7/2023 7:14:00 PM
2-Butanone	ND	10		µg/L	1	4/7/2023 7:14:00 PM
Carbon disulfide	ND	10		µg/L	1	4/7/2023 7:14:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Chlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Chloroethane	ND	2.0		µg/L	1	4/7/2023 7:14:00 PM
Chloroform	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Chloromethane	ND	3.0		µg/L	1	4/7/2023 7:14:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-10
Project: Salty Dog Pipeline
Collection Date: 3/30/2023 12:10:00 PM
Lab ID: 2303F39-002 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/7/2023 7:14:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Dibromomethane	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/7/2023 7:14:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
2-Hexanone	ND	10		µg/L	1	4/7/2023 7:14:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/7/2023 7:14:00 PM
Methylene Chloride	ND	3.0		µg/L	1	4/7/2023 7:14:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	4/7/2023 7:14:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Styrene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/7/2023 7:14:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/7/2023 7:14:00 PM
Vinyl chloride	ND	1.0		µg/L	1	4/7/2023 7:14:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-10
Project: Salty Dog Pipeline **Collection Date:** 3/30/2023 12:10:00 PM
Lab ID: 2303F39-002 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	4/7/2023 7:14:00 PM
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%Rec	1	4/7/2023 7:14:00 PM
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	4/7/2023 7:14:00 PM
Surr: Dibromofluoromethane	93.8	70-130		%Rec	1	4/7/2023 7:14:00 PM
Surr: Toluene-d8	98.5	70-130		%Rec	1	4/7/2023 7:14:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **DML**
Conductivity	13000	100		µmhos/c	10	4/5/2023 4:13:12 PM
SM4500-H+B / 9040C: PH						Analyst: **NAI**
pH	7.62		H	pH units	1	4/3/2023 3:11:05 PM
SM2320B: ALKALINITY						Analyst: **NAI**
Bicarbonate (As CaCO3)	173.2	20.00		mg/L Ca	1	4/3/2023 3:11:05 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/3/2023 3:11:05 PM
Total Alkalinity (as CaCO3)	173.2	20.00		mg/L Ca	1	4/3/2023 3:11:05 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **RBC**
Total Dissolved Solids	8260	1000	*D	mg/L	1	4/5/2023 2:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-12
Project: Salty Dog Pipeline
Collection Date: 3/30/2023 11:30:00 AM
Lab ID: 2303F39-003 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	3/31/2023 2:53:06 PM
Chloride	2500	100	*	mg/L	200	4/4/2023 1:44:13 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	3/31/2023 3:05:30 PM
Bromide	2.4	2.0		mg/L	20	3/31/2023 3:05:30 PM
Nitrogen, Nitrate (As N)	4.6	0.50		mg/L	5	3/31/2023 2:53:06 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	3/31/2023 2:53:06 PM
Sulfate	2400	100	*	mg/L	200	4/4/2023 1:44:13 PM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	360	5.0		mg/L	5	4/4/2023 1:23:47 PM
Magnesium	55	1.0		mg/L	1	4/4/2023 1:22:05 PM
Potassium	15	1.0		mg/L	1	4/4/2023 1:22:05 PM
Sodium	2600	50		mg/L	50	4/5/2023 3:26:30 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Toluene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Ethylbenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Naphthalene	ND	2.0		µg/L	1	4/7/2023 7:38:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/7/2023 7:38:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/7/2023 7:38:00 PM
Acetone	ND	10		µg/L	1	4/7/2023 7:38:00 PM
Bromobenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Bromoform	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Bromomethane	ND	3.0		µg/L	1	4/7/2023 7:38:00 PM
2-Butanone	ND	10		µg/L	1	4/7/2023 7:38:00 PM
Carbon disulfide	ND	10		µg/L	1	4/7/2023 7:38:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Chlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Chloroethane	ND	2.0		µg/L	1	4/7/2023 7:38:00 PM
Chloroform	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Chloromethane	ND	3.0		µg/L	1	4/7/2023 7:38:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-12
Project: Salty Dog Pipeline
Collection Date: 3/30/2023 11:30:00 AM
Lab ID: 2303F39-003 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/7/2023 7:38:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Dibromomethane	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/7/2023 7:38:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
2-Hexanone	ND	10		µg/L	1	4/7/2023 7:38:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/7/2023 7:38:00 PM
Methylene Chloride	ND	3.0		µg/L	1	4/7/2023 7:38:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	4/7/2023 7:38:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Styrene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/7/2023 7:38:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/7/2023 7:38:00 PM
Vinyl chloride	ND	1.0		µg/L	1	4/7/2023 7:38:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-12
Project: Salty Dog Pipeline **Collection Date:** 3/30/2023 11:30:00 AM
Lab ID: 2303F39-003 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	4/7/2023 7:38:00 PM
Surr: 1,2-Dichloroethane-d4	89.7	70-130		%Rec	1	4/7/2023 7:38:00 PM
Surr: 4-Bromofluorobenzene	98.3	70-130		%Rec	1	4/7/2023 7:38:00 PM
Surr: Dibromofluoromethane	92.4	70-130		%Rec	1	4/7/2023 7:38:00 PM
Surr: Toluene-d8	99.1	70-130		%Rec	1	4/7/2023 7:38:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **DML**
Conductivity	14000	100		µmhos/c	10	4/5/2023 4:15:59 PM
SM4500-H+B / 9040C: PH						Analyst: **NAI**
pH	7.69		H	pH units	1	4/3/2023 3:21:48 PM
SM2320B: ALKALINITY						Analyst: **NAI**
Bicarbonate (As CaCO3)	254.6	20.00		mg/L Ca	1	4/3/2023 3:21:48 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/3/2023 3:21:48 PM
Total Alkalinity (as CaCO3)	254.6	20.00		mg/L Ca	1	4/3/2023 3:21:48 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **RBC**
Total Dissolved Solids	8540	1000	*D	mg/L	1	4/5/2023 2:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-13
Project: Salty Dog Pipeline
Collection Date: 3/30/2023 1:50:00 PM
Lab ID: 2303F39-004 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	3/31/2023 3:17:53 PM
Chloride	3000	250	*	mg/L	500	4/4/2023 1:57:05 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	3/31/2023 3:30:15 PM
Bromide	2.7	2.0		mg/L	20	3/31/2023 3:30:15 PM
Nitrogen, Nitrate (As N)	1.8	0.50		mg/L	5	3/31/2023 3:17:53 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	3/31/2023 3:17:53 PM
Sulfate	2400	250	*	mg/L	500	4/4/2023 1:57:05 PM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	780	10		mg/L	10	4/5/2023 3:21:16 PM
Magnesium	96	5.0		mg/L	5	4/4/2023 1:36:02 PM
Potassium	11	1.0		mg/L	1	4/4/2023 1:25:24 PM
Sodium	2600	50		mg/L	50	4/5/2023 3:27:47 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Toluene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Ethylbenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Naphthalene	ND	2.0		µg/L	1	4/7/2023 8:02:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/7/2023 8:02:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/7/2023 8:02:00 PM
Acetone	ND	10		µg/L	1	4/7/2023 8:02:00 PM
Bromobenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Bromoform	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Bromomethane	ND	3.0		µg/L	1	4/7/2023 8:02:00 PM
2-Butanone	ND	10		µg/L	1	4/7/2023 8:02:00 PM
Carbon disulfide	ND	10		µg/L	1	4/7/2023 8:02:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Chlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Chloroethane	ND	2.0		µg/L	1	4/7/2023 8:02:00 PM
Chloroform	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Chloromethane	ND	3.0		µg/L	1	4/7/2023 8:02:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-13
Project: Salty Dog Pipeline
Collection Date: 3/30/2023 1:50:00 PM
Lab ID: 2303F39-004 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/7/2023 8:02:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Dibromomethane	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/7/2023 8:02:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
2-Hexanone	ND	10		µg/L	1	4/7/2023 8:02:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/7/2023 8:02:00 PM
Methylene Chloride	ND	3.0		µg/L	1	4/7/2023 8:02:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	4/7/2023 8:02:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Styrene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/7/2023 8:02:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/7/2023 8:02:00 PM
Vinyl chloride	ND	1.0		µg/L	1	4/7/2023 8:02:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-13
Project: Salty Dog Pipeline **Collection Date:** 3/30/2023 1:50:00 PM
Lab ID: 2303F39-004 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	4/7/2023 8:02:00 PM
Surr: 1,2-Dichloroethane-d4	92.7	70-130		%Rec	1	4/7/2023 8:02:00 PM
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	4/7/2023 8:02:00 PM
Surr: Dibromofluoromethane	90.7	70-130		%Rec	1	4/7/2023 8:02:00 PM
Surr: Toluene-d8	98.1	70-130		%Rec	1	4/7/2023 8:02:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **DML**
Conductivity	16000	100		µmhos/c	10	4/5/2023 4:18:47 PM
SM4500-H+B / 9040C: PH						Analyst: **NAI**
pH	7.65		H	pH units	1	4/3/2023 3:34:58 PM
SM2320B: ALKALINITY						Analyst: **NAI**
Bicarbonate (As CaCO3)	240.6	20.00		mg/L Ca	1	4/3/2023 3:34:58 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/3/2023 3:34:58 PM
Total Alkalinity (as CaCO3)	240.6	20.00		mg/L Ca	1	4/3/2023 3:34:58 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **RBC**
Total Dissolved Solids	10200	500	*D	mg/L	1	4/5/2023 2:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-15
Project: Salty Dog Pipeline
Collection Date: 3/30/2023 1:00:00 PM
Lab ID: 2303F39-005 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	3/31/2023 3:42:38 PM
Chloride	540	50	*	mg/L	100	4/4/2023 2:09:58 PM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	3/31/2023 3:42:38 PM
Bromide	0.84	0.50		mg/L	5	3/31/2023 3:42:38 PM
Nitrogen, Nitrate (As N)	0.69	0.50		mg/L	5	3/31/2023 3:42:38 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	3/31/2023 3:42:38 PM
Sulfate	2100	50	*	mg/L	100	4/4/2023 2:09:58 PM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	580	10		mg/L	10	4/5/2023 3:22:34 PM
Magnesium	75	1.0		mg/L	1	4/4/2023 1:40:53 PM
Potassium	7.8	1.0		mg/L	1	4/4/2023 1:40:53 PM
Sodium	630	10		mg/L	10	4/5/2023 3:22:34 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Toluene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Ethylbenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Naphthalene	ND	2.0		µg/L	1	4/7/2023 8:26:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/7/2023 8:26:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/7/2023 8:26:00 PM
Acetone	ND	10		µg/L	1	4/7/2023 8:26:00 PM
Bromobenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Bromoform	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Bromomethane	ND	3.0		µg/L	1	4/7/2023 8:26:00 PM
2-Butanone	ND	10		µg/L	1	4/7/2023 8:26:00 PM
Carbon disulfide	ND	10		µg/L	1	4/7/2023 8:26:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Chlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Chloroethane	ND	2.0		µg/L	1	4/7/2023 8:26:00 PM
Chloroform	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Chloromethane	ND	3.0		µg/L	1	4/7/2023 8:26:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-15
Project: Salty Dog Pipeline
Collection Date: 3/30/2023 1:00:00 PM
Lab ID: 2303F39-005 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/7/2023 8:26:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Dibromomethane	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/7/2023 8:26:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
2-Hexanone	ND	10		µg/L	1	4/7/2023 8:26:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/7/2023 8:26:00 PM
Methylene Chloride	ND	3.0		µg/L	1	4/7/2023 8:26:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	4/7/2023 8:26:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Styrene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/7/2023 8:26:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/7/2023 8:26:00 PM
Vinyl chloride	ND	1.0		µg/L	1	4/7/2023 8:26:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-15
Project: Salty Dog Pipeline **Collection Date:** 3/30/2023 1:00:00 PM
Lab ID: 2303F39-005 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	4/7/2023 8:26:00 PM
Surr: 1,2-Dichloroethane-d4	91.1	70-130		%Rec	1	4/7/2023 8:26:00 PM
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	4/7/2023 8:26:00 PM
Surr: Dibromofluoromethane	91.8	70-130		%Rec	1	4/7/2023 8:26:00 PM
Surr: Toluene-d8	97.3	70-130		%Rec	1	4/7/2023 8:26:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **NAI**
Conductivity	5200	10		µmhos/c	1	4/3/2023 3:47:47 PM
SM4500-H+B / 9040C: PH						Analyst: **NAI**
pH	7.50		H	pH units	1	4/3/2023 3:47:47 PM
SM2320B: ALKALINITY						Analyst: **NAI**
Bicarbonate (As CaCO3)	212.7	20.00		mg/L Ca	1	4/3/2023 3:47:47 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/3/2023 3:47:47 PM
Total Alkalinity (as CaCO3)	212.7	20.00		mg/L Ca	1	4/3/2023 3:47:47 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **RBC**
Total Dissolved Solids	3740	1000	*D	mg/L	1	4/5/2023 2:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-18
Project: Salty Dog Pipeline
Collection Date: 3/30/2023 11:10:00 AM
Lab ID: 2303F39-006 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	3/31/2023 4:07:25 PM
Chloride	2900	250	*	mg/L	500	4/4/2023 2:22:50 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	3/31/2023 4:19:48 PM
Bromide	2.9	2.0		mg/L	20	3/31/2023 4:19:48 PM
Nitrogen, Nitrate (As N)	3.3	0.50		mg/L	5	3/31/2023 4:07:25 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	3/31/2023 4:07:25 PM
Sulfate	2100	250	*	mg/L	500	4/4/2023 2:22:50 PM
EPA METHOD 200.7: METALS						Analyst: **VP**
Calcium	820	10		mg/L	10	4/5/2023 3:23:53 PM
Magnesium	120	5.0		mg/L	5	4/4/2023 1:45:45 PM
Potassium	10	1.0		mg/L	1	4/4/2023 1:44:09 PM
Sodium	2000	50		mg/L	50	4/5/2023 3:33:33 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Toluene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Ethylbenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Naphthalene	ND	2.0		µg/L	1	4/7/2023 8:51:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/7/2023 8:51:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/7/2023 8:51:00 PM
Acetone	ND	10		µg/L	1	4/7/2023 8:51:00 PM
Bromobenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Bromoform	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Bromomethane	ND	3.0		µg/L	1	4/7/2023 8:51:00 PM
2-Butanone	ND	10		µg/L	1	4/7/2023 8:51:00 PM
Carbon disulfide	ND	10		µg/L	1	4/7/2023 8:51:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Chlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Chloroethane	ND	2.0		µg/L	1	4/7/2023 8:51:00 PM
Chloroform	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Chloromethane	ND	3.0		µg/L	1	4/7/2023 8:51:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-18
Project: Salty Dog Pipeline
Collection Date: 3/30/2023 11:10:00 AM
Lab ID: 2303F39-006 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/7/2023 8:51:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Dibromomethane	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/7/2023 8:51:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
2-Hexanone	ND	10		µg/L	1	4/7/2023 8:51:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/7/2023 8:51:00 PM
Methylene Chloride	ND	3.0		µg/L	1	4/7/2023 8:51:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	4/7/2023 8:51:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Styrene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/7/2023 8:51:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/7/2023 8:51:00 PM
Vinyl chloride	ND	1.0		µg/L	1	4/7/2023 8:51:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2303F39**
Date Reported: **4/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-18
Project: Salty Dog Pipeline
Collection Date: 3/30/2023 11:10:00 AM
Lab ID: 2303F39-006 **Matrix:** AQUEOUS **Received Date:** 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	4/7/2023 8:51:00 PM
Surr: 1,2-Dichloroethane-d4	90.8	70-130		%Rec	1	4/7/2023 8:51:00 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/7/2023 8:51:00 PM
Surr: Dibromofluoromethane	91.6	70-130		%Rec	1	4/7/2023 8:51:00 PM
Surr: Toluene-d8	99.2	70-130		%Rec	1	4/7/2023 8:51:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **DML**
Conductivity	15000	100		µmhos/c	10	4/5/2023 4:21:35 PM
SM4500-H+B / 9040C: PH						Analyst: **NAI**
pH	7.52		H	pH units	1	4/3/2023 4:08:25 PM
SM2320B: ALKALINITY						Analyst: **NAI**
Bicarbonate (As CaCO3)	221.9	20.00		mg/L Ca	1	4/3/2023 4:08:25 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/3/2023 4:08:25 PM
Total Alkalinity (as CaCO3)	221.9	20.00		mg/L Ca	1	4/3/2023 4:08:25 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **RBC**
Total Dissolved Solids	9060	500	*D	mg/L	1	4/5/2023 2:52:00 PM

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2303F39**
13-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **MB-74087**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **74087**	RunNo: **95780**
Prep Date: **4/3/2023**	Analysis Date: **4/4/2023**	SeqNo: **3466750** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: **LCSLL-74087**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC**	Batch ID: **74087**	RunNo: **95780**
Prep Date: **4/3/2023**	Analysis Date: **4/4/2023**	SeqNo: **3466751** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	101	50	150			
Magnesium	ND	1.0	0.5000	0	105	50	150			
Potassium	ND	1.0	0.5000	0	60.6	50	150			
Sodium	ND	1.0	0.5000	0	93.7	50	150			

Sample ID: **LCS-74087**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW**	Batch ID: **74087**	RunNo: **95780**
Prep Date: **4/3/2023**	Analysis Date: **4/4/2023**	SeqNo: **3466752** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.3	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Potassium	49	1.0	50.00	0	97.9	85	115			
Sodium	49	1.0	50.00	0	98.8	85	115			

Sample ID: **2303F39-002CMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-10**	Batch ID: **74087**	RunNo: **95780**
Prep Date: **4/3/2023**	Analysis Date: **4/4/2023**	SeqNo: **3466811** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	61	1.0	50.00	9.240	104	70	130			

Sample ID: **2303F39-002CMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-10**	Batch ID: **74087**	RunNo: **95780**
Prep Date: **4/3/2023**	Analysis Date: **4/4/2023**	SeqNo: **3466812** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	62	1.0	50.00	9.240	106	70	130	1.90	20	

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#: **2303F39**

13-Apr-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **2303F39-002CMS** SampType: **MS** TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-10** Batch ID: **74087** RunNo: **95780**
Prep Date: **4/3/2023** Analysis Date: **4/4/2023** SeqNo: **3466814** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	150	5.0	50.00	97.84	107	70	130			

Sample ID: **2303F39-002CMSD** SampType: **MSD** TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-10** Batch ID: **74087** RunNo: **95780**
Prep Date: **4/3/2023** Analysis Date: **4/4/2023** SeqNo: **3466815** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	150	5.0	50.00	97.84	113	70	130	1.82	20	

Sample ID: **2303F39-004CMS** SampType: **MS** TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-13** Batch ID: **74087** RunNo: **95780**
Prep Date: **4/3/2023** Analysis Date: **4/4/2023** SeqNo: **3466819** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	64	1.0	50.00	10.74	107	70	130			

Sample ID: **2303F39-004CMSD** SampType: **MSD** TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-13** Batch ID: **74087** RunNo: **95780**
Prep Date: **4/3/2023** Analysis Date: **4/4/2023** SeqNo: **3466820** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	64	1.0	50.00	10.74	106	70	130	0.350	20	

Sample ID: **2303F39-004CMS** SampType: **MS** TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-13** Batch ID: **74087** RunNo: **95780**
Prep Date: **4/3/2023** Analysis Date: **4/4/2023** SeqNo: **3466825** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	150	5.0	50.00	96.35	114	70	130			

Sample ID: **2303F39-004CMSD** SampType: **MSD** TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-13** Batch ID: **74087** RunNo: **95780**
Prep Date: **4/3/2023** Analysis Date: **4/4/2023** SeqNo: **3466827** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	160	5.0	50.00	96.35	126	70	130	3.75	20	

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#: **2303F39**
13-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R95725**	RunNo: **95725**
Prep Date:	Analysis Date: **3/31/2023**	SeqNo: **3464452** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R95725**	RunNo: **95725**
Prep Date:	Analysis Date: **3/31/2023**	SeqNo: **3464453** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	94.9	90	110			
Bromide	2.4	0.10	2.500	0	96.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	95.2	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R95796**	RunNo: **95796**
Prep Date:	Analysis Date: **4/4/2023**	SeqNo: **3467491** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R95796**	RunNo: **95796**
Prep Date:	Analysis Date: **4/4/2023**	SeqNo: **3467492** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.0	90	110			
Sulfate	9.3	0.50	10.00	0	93.2	90	110			

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#: **2303F39**
13-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **R95868** RunNo: **95868**
Prep Date: Analysis Date: **4/7/2023** SeqNo: **3471906** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.2	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	88.6	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	90.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.6	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R95868** RunNo: **95868**
Prep Date: Analysis Date: **4/7/2023** SeqNo: **3471907** Units: **µg/L**

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

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#: **2303F39**
13-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R95868**	RunNo: **95868**
Prep Date:	Analysis Date: **4/7/2023**	SeqNo: **3471907** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

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#: **2303F39**
13-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R95868** RunNo: **95868**
Prep Date: Analysis Date: **4/7/2023** SeqNo: **3471907** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.5	70	130			
Surr: Toluene-d8	9.9		10.00		98.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2303F39**
13-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **lcs-1 99.4uS eC**	SampType: **lcs**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R95754**	RunNo: **95754**
Prep Date:	Analysis Date: **4/3/2023**	SeqNo: **3465838** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	99	10	99.40	0	99.6	101	101			S

Sample ID: **2303F39-001B DUP**	SampType: **dup**	TestCode: **SM2510B: Specific Conductance**
Client ID: **MW-9**	Batch ID: **R95754**	RunNo: **95754**
Prep Date:	Analysis Date: **4/3/2023**	SeqNo: **3465846** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	6000	10						0.0582	20	

Sample ID: **lcs-1 99.4uS eC**	SampType: **LCS**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R95829**	RunNo: **95829**
Prep Date:	Analysis Date: **4/5/2023**	SeqNo: **3469081** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	99.40	0	100	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2303F39**
13-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **2303F39-001BDUP** SampType: **DUP** TestCode: **SM4500-H+B / 9040C: pH**
Client ID: **MW-9** Batch ID: **R95829** RunNo: **95829**
Prep Date: Analysis Date: **4/5/2023** SeqNo: **3469097** Units: **pH units**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.40									H

Sample ID: **2303F39-001B DUP** SampType: **dup** TestCode: **SM4500-H+B / 9040C: pH**
Client ID: **MW-9** Batch ID: **R95912** RunNo: **95912**
Prep Date: Analysis Date: **4/10/2023** SeqNo: **3473362** Units: **pH units**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	8.00									H

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#: **2303F39**
13-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **mb-1 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R95754**	RunNo: **95754**							
Prep Date:	Analysis Date: **4/3/2023**	SeqNo: **3465812**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: **lcs-1 alk**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R95754**	RunNo: **95754**							
Prep Date:	Analysis Date: **4/3/2023**	SeqNo: **3465813**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.28	20.00	80.00	0	99.1	94.8	102			

Sample ID: **2303F39-001B DUP**	SampType: **DUP**	TestCode: **SM2320B: Alkalinity**							
Client ID: **MW-9**	Batch ID: **R95754**	RunNo: **95754**							
Prep Date:	Analysis Date: **4/3/2023**	SeqNo: **3465826**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	239.2	20.00						2.10	20	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2303F39**
13-Apr-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **MB-74104** SampType: **MBLK** TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW** Batch ID: **74104** RunNo: **95805**
Prep Date: **4/4/2023** Analysis Date: **4/5/2023** SeqNo: **3467962** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-74104** SampType: **LCS** TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW** Batch ID: **74104** RunNo: **95805**
Prep Date: **4/4/2023** Analysis Date: **4/5/2023** SeqNo: **3467963** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	980	50.0	1000	0	98.0	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2303F39 RcptNo: 1

Received By: Tracy Casarrubias 3/31/2023 7:10:00 AM

Completed By: Tracy Casarrubias 3/31/2023 9:01:27 AM

Reviewed By: KRC 3.31.23

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☑	No ☐	NA ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
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: 12
(<2 or >12 unless noted)
Adjusted? Yes
Checked by: MB 3/31/23

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:

Poured off 125mL from original volume provided for 001B - 006B to create samples 2 of 2 for 001B-006B. Proceeded to add 04 mL of H2SO4 for pH. (CHEM#6893). Poured off 250mL from original volume provided for 001B - 006B to create samples 001C-006C. Proceeded to add 05 mL of HNO3 for pH. (CHEM#7162). - MB 3/31/23

17. **Cooler Information**

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

Chain-of-Custody Record

Client: Hilcorp Farmington NM

Mailing Address: 382 Road 3100 Aztec, NM 87410

Billing Address: PO Box 61529 Houston, TX 77208

Phone #: 505-486-9543

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

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

X Standard ☐ Rush_____

Project Name:

Salty Dog Pipeline

Project #:

Project Manager:

Kate Kaufman

Sampler: Brandon Sinclair

On Ice: ☒ Yes ☐ No marty

# of Coolers: 1

Cooler Temp(Including CF): 2.1 - 0 = 2.1 °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. 2303F39	Cations/Anions/TDS/pH 500ml, 250ml HNO3, 125ml H2SO4	Volatiles 8260 40ml VOA HCl														
3-30	1325	Water	MW-9	Various	Various	001	X	X														
	1210	Water	MW-10	Various	Various	002	X	X														
	1130	Water	MW-12	Various	Various	003	X	X														
	1350	Water	MW-13	Various	Various	004	X	X														
	1300	Water	MW-15	Various	Various	005	X	X														
	1110	Water	MW-18	Various	Various	006	X	X														
		~~Water~~		~~Various~~	~~Various~~		X	X														
		~~Water~~		~~Various~~	~~Various~~		X	X														
		~~Water~~		~~Various~~	~~Various~~		X	X														
		~~Water~~		~~Various~~	~~Various~~		X	X														
		~~Water~~		~~Various~~	~~Various~~		X	X														

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
3-30	1710				3/30/23	1710
3/30/23	1819			courier	3/31/23	7:10

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 18, 2023

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

RE: Salty Dog Pipeline OrderNo.: 2306C82

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 9 sample(s) on 6/24/2023 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH-28
Project: Salty Dog Pipeline
Collection Date: 6/22/2023 1:00:00 PM
Lab ID: 2306C82-001 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Fluoride	ND	1.0		mg/L	10	6/27/2023 11:55:51 AM
Chloride	2200	100	*	mg/L	200	6/27/2023 11:43:00 AM
Nitrogen, Nitrite (As N)	ND	1.0	H	mg/L	10	6/27/2023 11:55:51 AM
Bromide	2.9	1.0		mg/L	10	6/27/2023 11:55:51 AM
Nitrogen, Nitrate (As N)	1.4	1.0	H	mg/L	10	6/27/2023 11:55:51 AM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	6/27/2023 11:55:51 AM
Sulfate	2500	50	*	mg/L	100	6/26/2023 8:11:41 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	670	20		mg/L	20	6/30/2023 3:40:35 PM
Magnesium	95	5.0		mg/L	5	6/27/2023 4:21:37 PM
Potassium	13	5.0		mg/L	5	6/27/2023 4:21:37 PM
Sodium	1800	20		mg/L	20	6/30/2023 3:40:35 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Toluene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Ethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Naphthalene	ND	4.0	D	µg/L	2	6/29/2023 3:24:00 PM
1-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 3:24:00 PM
2-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 3:24:00 PM
Acetone	ND	20	D	µg/L	2	6/29/2023 3:24:00 PM
Bromobenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Bromodichloromethane	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Bromoform	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Bromomethane	ND	6.0	D	µg/L	2	6/29/2023 3:24:00 PM
2-Butanone	ND	20	D	µg/L	2	6/29/2023 3:24:00 PM
Carbon disulfide	ND	20	D	µg/L	2	6/29/2023 3:24:00 PM
Carbon Tetrachloride	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Chlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Chloroethane	ND	4.0	D	µg/L	2	6/29/2023 3:24:00 PM
Chloroform	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Chloromethane	ND	6.0	D	µg/L	2	6/29/2023 3:24:00 PM
2-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
4-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH-28
Project: Salty Dog Pipeline
Collection Date: 6/22/2023 1:00:00 PM
Lab ID: 2306C82-001 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
cis-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	6/29/2023 3:24:00 PM
Dibromochloromethane	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Dibromomethane	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,1-Dichloroethane	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,1-Dichloroethene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,2-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,3-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
2,2-Dichloropropane	ND	4.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,1-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Hexachlorobutadiene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
2-Hexanone	ND	20	D	µg/L	2	6/29/2023 3:24:00 PM
Isopropylbenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
4-Isopropyltoluene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
4-Methyl-2-pentanone	ND	20	D	µg/L	2	6/29/2023 3:24:00 PM
Methylene Chloride	ND	6.0	D	µg/L	2	6/29/2023 3:24:00 PM
n-Butylbenzene	ND	6.0	D	µg/L	2	6/29/2023 3:24:00 PM
n-Propylbenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
sec-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Styrene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
tert-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	6/29/2023 3:24:00 PM
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
trans-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
Trichlorofluoromethane	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	6/29/2023 3:24:00 PM
Vinyl chloride	ND	2.0	D	µg/L	2	6/29/2023 3:24:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** BH-28
Project: Salty Dog Pipeline **Collection Date:** 6/22/2023 1:00:00 PM
Lab ID: 2306C82-001 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Xylenes, Total	ND	3.0	D	µg/L	2	6/29/2023 3:24:00 PM
Surr: 1,2-Dichloroethane-d4	102	70-130	D	%Rec	2	6/29/2023 3:24:00 PM
Surr: 4-Bromofluorobenzene	92.8	70-130	D	%Rec	2	6/29/2023 3:24:00 PM
Surr: Dibromofluoromethane	112	70-130	D	%Rec	2	6/29/2023 3:24:00 PM
Surr: Toluene-d8	103	70-130	D	%Rec	2	6/29/2023 3:24:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	13000	100		µmhos/c	10	6/26/2023 5:07:07 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.43		H	pH units	1	6/26/2023 1:30:11 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	242.7	20.00		mg/L Ca	1	6/26/2023 1:30:11 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/26/2023 1:30:11 PM
Total Alkalinity (as CaCO3)	242.7	20.00		mg/L Ca	1	6/26/2023 1:30:11 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MRA**
Total Dissolved Solids	7500	500	*D	mg/L	1	7/3/2023 9:50:00 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH-29
Project: Salty Dog Pipeline
Collection Date: 6/22/2023 1:18:00 PM
Lab ID: 2306C82-002 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Fluoride	ND	1.0		mg/L	10	6/27/2023 12:08:42 PM
Chloride	1800	50	*	mg/L	100	6/26/2023 8:24:02 PM
Nitrogen, Nitrite (As N)	ND	1.0	H	mg/L	10	6/27/2023 12:08:42 PM
Bromide	2.6	1.0		mg/L	10	6/27/2023 12:08:42 PM
Nitrogen, Nitrate (As N)	ND	1.0	H	mg/L	10	6/27/2023 12:08:42 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	6/27/2023 12:08:42 PM
Sulfate	2200	50	*	mg/L	100	6/26/2023 8:24:02 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	490	5.0		mg/L	5	6/27/2023 4:38:05 PM
Magnesium	71	5.0		mg/L	5	6/27/2023 4:38:05 PM
Potassium	9.5	1.0		mg/L	1	6/27/2023 4:33:31 PM
Sodium	1700	20		mg/L	20	6/30/2023 3:42:26 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Toluene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Ethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Naphthalene	ND	4.0	D	µg/L	2	6/29/2023 4:58:04 PM
1-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 4:58:04 PM
2-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 4:58:04 PM
Acetone	ND	20	D	µg/L	2	6/29/2023 4:58:04 PM
Bromobenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Bromodichloromethane	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Bromoform	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Bromomethane	ND	6.0	D	µg/L	2	6/29/2023 4:58:04 PM
2-Butanone	ND	20	D	µg/L	2	6/29/2023 4:58:04 PM
Carbon disulfide	ND	20	D	µg/L	2	6/29/2023 4:58:04 PM
Carbon Tetrachloride	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Chlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Chloroethane	ND	4.0	D	µg/L	2	6/29/2023 4:58:04 PM
Chloroform	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Chloromethane	ND	6.0	D	µg/L	2	6/29/2023 4:58:04 PM
2-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
4-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH-29
Project: Salty Dog Pipeline
Collection Date: 6/22/2023 1:18:00 PM
Lab ID: 2306C82-002 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
cis-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	6/29/2023 4:58:04 PM
Dibromochloromethane	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Dibromomethane	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,1-Dichloroethane	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,1-Dichloroethene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,2-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,3-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
2,2-Dichloropropane	ND	4.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,1-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Hexachlorobutadiene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
2-Hexanone	ND	20	D	µg/L	2	6/29/2023 4:58:04 PM
Isopropylbenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
4-Isopropyltoluene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
4-Methyl-2-pentanone	ND	20	D	µg/L	2	6/29/2023 4:58:04 PM
Methylene Chloride	ND	6.0	D	µg/L	2	6/29/2023 4:58:04 PM
n-Butylbenzene	ND	6.0	D	µg/L	2	6/29/2023 4:58:04 PM
n-Propylbenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
sec-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Styrene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
tert-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	6/29/2023 4:58:04 PM
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
trans-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
Trichlorofluoromethane	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 PM
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	6/29/2023 4:58:04 PM
Vinyl chloride	ND	2.0	D	µg/L	2	6/29/2023 4:58:04 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** BH-29
Project: Salty Dog Pipeline **Collection Date:** 6/22/2023 1:18:00 PM
Lab ID: 2306C82-002 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Xylenes, Total	ND	3.0	D	µg/L	2	6/29/2023 4:58:04 PM
Surr: 1,2-Dichloroethane-d4	98.7	70-130	D	%Rec	2	6/29/2023 4:58:04 PM
Surr: 4-Bromofluorobenzene	100	70-130	D	%Rec	2	6/29/2023 4:58:04 PM
Surr: Dibromofluoromethane	111	70-130	D	%Rec	2	6/29/2023 4:58:04 PM
Surr: Toluene-d8	101	70-130	D	%Rec	2	6/29/2023 4:58:04 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	9300	10		µmhos/c	1	6/26/2023 1:43:09 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.25		H	pH units	1	6/26/2023 1:43:09 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	251.1	20.00		mg/L Ca	1	6/26/2023 1:43:09 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/26/2023 1:43:09 PM
Total Alkalinity (as CaCO3)	251.1	20.00		mg/L Ca	1	6/26/2023 1:43:09 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MRA**
Total Dissolved Solids	6470	250	*D	mg/L	1	7/3/2023 9:50:00 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH-30
Project: Salty Dog Pipeline
Collection Date: 6/22/2023 12:05:00 PM
Lab ID: 2306C82-003 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Fluoride	ND	1.0		mg/L	10	6/27/2023 12:21:33 PM
Chloride	480	50	*	mg/L	100	6/26/2023 8:36:22 PM
Nitrogen, Nitrite (As N)	ND	1.0	H	mg/L	10	6/27/2023 12:21:33 PM
Bromide	1.1	1.0		mg/L	10	6/27/2023 12:21:33 PM
Nitrogen, Nitrate (As N)	ND	1.0	H	mg/L	10	6/27/2023 12:21:33 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	6/27/2023 12:21:33 PM
Sulfate	2000	50	*	mg/L	100	6/26/2023 8:36:22 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	540	10		mg/L	10	7/8/2023 9:56:59 AM
Magnesium	74	1.0		mg/L	1	6/27/2023 4:43:21 PM
Potassium	9.3	1.0		mg/L	1	6/27/2023 4:43:21 PM
Sodium	700	10		mg/L	10	6/30/2023 3:44:17 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Toluene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Ethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Naphthalene	ND	4.0	D	µg/L	2	6/29/2023 5:29:16 PM
1-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 5:29:16 PM
2-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 5:29:16 PM
Acetone	ND	20	D	µg/L	2	6/29/2023 5:29:16 PM
Bromobenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Bromodichloromethane	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Bromoform	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Bromomethane	ND	6.0	D	µg/L	2	6/29/2023 5:29:16 PM
2-Butanone	ND	20	D	µg/L	2	6/29/2023 5:29:16 PM
Carbon disulfide	ND	20	D	µg/L	2	6/29/2023 5:29:16 PM
Carbon Tetrachloride	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Chlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Chloroethane	ND	4.0	D	µg/L	2	6/29/2023 5:29:16 PM
Chloroform	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Chloromethane	ND	6.0	D	µg/L	2	6/29/2023 5:29:16 PM
2-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
4-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH-30
Project: Salty Dog Pipeline
Collection Date: 6/22/2023 12:05:00 PM
Lab ID: 2306C82-003 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
cis-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	6/29/2023 5:29:16 PM
Dibromochloromethane	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Dibromomethane	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,1-Dichloroethane	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,1-Dichloroethene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,2-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,3-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
2,2-Dichloropropane	ND	4.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,1-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Hexachlorobutadiene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
2-Hexanone	ND	20	D	µg/L	2	6/29/2023 5:29:16 PM
Isopropylbenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
4-Isopropyltoluene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
4-Methyl-2-pentanone	ND	20	D	µg/L	2	6/29/2023 5:29:16 PM
Methylene Chloride	ND	6.0	D	µg/L	2	6/29/2023 5:29:16 PM
n-Butylbenzene	ND	6.0	D	µg/L	2	6/29/2023 5:29:16 PM
n-Propylbenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
sec-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Styrene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
tert-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	6/29/2023 5:29:16 PM
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
trans-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
Trichlorofluoromethane	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 PM
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	6/29/2023 5:29:16 PM
Vinyl chloride	ND	2.0	D	µg/L	2	6/29/2023 5:29:16 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH-30
Project: Salty Dog Pipeline
Collection Date: 6/22/2023 12:05:00 PM
Lab ID: 2306C82-003 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Xylenes, Total	ND	3.0	D	µg/L	2	6/29/2023 5:29:16 PM
Surr: 1,2-Dichloroethane-d4	101	70-130	D	%Rec	2	6/29/2023 5:29:16 PM
Surr: 4-Bromofluorobenzene	98.5	70-130	D	%Rec	2	6/29/2023 5:29:16 PM
Surr: Dibromofluoromethane	108	70-130	D	%Rec	2	6/29/2023 5:29:16 PM
Surr: Toluene-d8	102	70-130	D	%Rec	2	6/29/2023 5:29:16 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	5400	10		µmhos/c	1	6/26/2023 1:56:23 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.61		H	pH units	1	6/26/2023 1:56:23 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	286.1	20.00		mg/L Ca	1	6/26/2023 1:56:23 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/26/2023 1:56:23 PM
Total Alkalinity (as CaCO3)	286.1	20.00		mg/L Ca	1	6/26/2023 1:56:23 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MRA**
Total Dissolved Solids	4610	500	*D	mg/L	1	7/3/2023 9:50:00 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH-31
Project: Salty Dog Pipeline
Collection Date: 6/22/2023 12:30:00 PM
Lab ID: 2306C82-004 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Fluoride	ND	1.0		mg/L	10	6/27/2023 12:34:25 PM
Chloride	320	50	*	mg/L	100	6/26/2023 8:48:43 PM
Nitrogen, Nitrite (As N)	ND	1.0	H	mg/L	10	6/27/2023 12:34:25 PM
Bromide	ND	1.0		mg/L	10	6/27/2023 12:34:25 PM
Nitrogen, Nitrate (As N)	ND	1.0	H	mg/L	10	6/27/2023 12:34:25 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	6/27/2023 12:34:25 PM
Sulfate	2000	50	*	mg/L	100	6/26/2023 8:48:43 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	530	10		mg/L	10	6/30/2023 3:45:59 PM
Magnesium	74	1.0		mg/L	1	6/27/2023 4:46:50 PM
Potassium	7.9	1.0		mg/L	1	6/27/2023 4:46:50 PM
Sodium	600	10		mg/L	10	6/30/2023 3:45:59 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Toluene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Ethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Naphthalene	ND	4.0	D	µg/L	2	6/29/2023 6:00:21 PM
1-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 6:00:21 PM
2-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 6:00:21 PM
Acetone	ND	20	D	µg/L	2	6/29/2023 6:00:21 PM
Bromobenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Bromodichloromethane	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Bromoform	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Bromomethane	ND	6.0	D	µg/L	2	6/29/2023 6:00:21 PM
2-Butanone	ND	20	D	µg/L	2	6/29/2023 6:00:21 PM
Carbon disulfide	ND	20	D	µg/L	2	6/29/2023 6:00:21 PM
Carbon Tetrachloride	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Chlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Chloroethane	ND	4.0	D	µg/L	2	6/29/2023 6:00:21 PM
Chloroform	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Chloromethane	ND	6.0	D	µg/L	2	6/29/2023 6:00:21 PM
2-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
4-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH-31
Project: Salty Dog Pipeline
Collection Date: 6/22/2023 12:30:00 PM
Lab ID: 2306C82-004 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
cis-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	6/29/2023 6:00:21 PM
Dibromochloromethane	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Dibromomethane	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,1-Dichloroethane	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,1-Dichloroethene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,2-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,3-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
2,2-Dichloropropane	ND	4.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,1-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Hexachlorobutadiene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
2-Hexanone	ND	20	D	µg/L	2	6/29/2023 6:00:21 PM
Isopropylbenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
4-Isopropyltoluene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
4-Methyl-2-pentanone	ND	20	D	µg/L	2	6/29/2023 6:00:21 PM
Methylene Chloride	ND	6.0	D	µg/L	2	6/29/2023 6:00:21 PM
n-Butylbenzene	ND	6.0	D	µg/L	2	6/29/2023 6:00:21 PM
n-Propylbenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
sec-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Styrene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
tert-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	6/29/2023 6:00:21 PM
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
trans-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
Trichlorofluoromethane	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 PM
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	6/29/2023 6:00:21 PM
Vinyl chloride	ND	2.0	D	µg/L	2	6/29/2023 6:00:21 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** BH-31
Project: Salty Dog Pipeline **Collection Date:** 6/22/2023 12:30:00 PM
Lab ID: 2306C82-004 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Xylenes, Total	ND	3.0	D	µg/L	2	6/29/2023 6:00:21 PM
Surr: 1,2-Dichloroethane-d4	98.2	70-130	D	%Rec	2	6/29/2023 6:00:21 PM
Surr: 4-Bromofluorobenzene	90.8	70-130	D	%Rec	2	6/29/2023 6:00:21 PM
Surr: Dibromofluoromethane	113	70-130	D	%Rec	2	6/29/2023 6:00:21 PM
Surr: Toluene-d8	99.0	70-130	D	%Rec	2	6/29/2023 6:00:21 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	4900	10		µmhos/c	1	6/26/2023 2:10:10 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.42		H	pH units	1	6/26/2023 2:10:10 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	216.3	20.00		mg/L Ca	1	6/26/2023 2:10:10 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/26/2023 2:10:10 PM
Total Alkalinity (as CaCO3)	216.3	20.00		mg/L Ca	1	6/26/2023 2:10:10 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MRA**
Total Dissolved Solids	4110	250	*D	mg/L	1	7/3/2023 9:50:00 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-9
Project: Salty Dog Pipeline
Collection Date: 6/21/2023 1:50:00 PM
Lab ID: 2306C82-005 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Fluoride	ND	1.0		mg/L	10	6/26/2023 9:01:04 PM
Chloride	720	50	*	mg/L	100	6/26/2023 9:13:24 PM
Nitrogen, Nitrite (As N)	ND	1.0	H	mg/L	10	6/26/2023 9:01:04 PM
Bromide	1.6	1.0		mg/L	10	6/26/2023 9:01:04 PM
Nitrogen, Nitrate (As N)	ND	1.0	H	mg/L	10	6/26/2023 9:01:04 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	6/26/2023 9:01:04 PM
Sulfate	2800	50	*	mg/L	100	6/26/2023 9:13:24 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	660	20		mg/L	20	6/30/2023 3:47:53 PM
Magnesium	110	5.0		mg/L	5	6/27/2023 4:59:36 PM
Potassium	8.7	1.0		mg/L	1	6/27/2023 4:58:00 PM
Sodium	1000	20		mg/L	20	6/30/2023 3:47:53 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Toluene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Ethylbenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Naphthalene	ND	2.0		µg/L	1	6/29/2023 6:31:33 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	6/29/2023 6:31:33 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	6/29/2023 6:31:33 PM
Acetone	ND	10		µg/L	1	6/29/2023 6:31:33 PM
Bromobenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Bromodichloromethane	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Bromoform	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Bromomethane	ND	3.0		µg/L	1	6/29/2023 6:31:33 PM
2-Butanone	ND	10		µg/L	1	6/29/2023 6:31:33 PM
Carbon disulfide	ND	10		µg/L	1	6/29/2023 6:31:33 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Chlorobenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Chloroethane	ND	2.0		µg/L	1	6/29/2023 6:31:33 PM
Chloroform	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Chloromethane	ND	3.0		µg/L	1	6/29/2023 6:31:33 PM
2-Chlorotoluene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
4-Chlorotoluene	ND	1.0		µg/L	1	6/29/2023 6:31:33 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-9
Project: Salty Dog Pipeline
Collection Date: 6/21/2023 1:50:00 PM
Lab ID: 2306C82-005 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
cis-1,2-DCE	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/29/2023 6:31:33 PM
Dibromochloromethane	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Dibromomethane	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	6/29/2023 6:31:33 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
2-Hexanone	ND	10		µg/L	1	6/29/2023 6:31:33 PM
Isopropylbenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	6/29/2023 6:31:33 PM
Methylene Chloride	ND	3.0		µg/L	1	6/29/2023 6:31:33 PM
n-Butylbenzene	ND	3.0		µg/L	1	6/29/2023 6:31:33 PM
n-Propylbenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
sec-Butylbenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Styrene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
tert-Butylbenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/29/2023 6:31:33 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
trans-1,2-DCE	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	6/29/2023 6:31:33 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/29/2023 6:31:33 PM
Vinyl chloride	ND	1.0		µg/L	1	6/29/2023 6:31:33 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-9
Project: Salty Dog Pipeline **Collection Date:** 6/21/2023 1:50:00 PM
Lab ID: 2306C82-005 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Xylenes, Total	ND	1.5		µg/L	1	6/29/2023 6:31:33 PM
Surr: 1,2-Dichloroethane-d4	98.8	70-130		%Rec	1	6/29/2023 6:31:33 PM
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	6/29/2023 6:31:33 PM
Surr: Dibromofluoromethane	113	70-130		%Rec	1	6/29/2023 6:31:33 PM
Surr: Toluene-d8	102	70-130		%Rec	1	6/29/2023 6:31:33 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	7200	10		µmhos/c	1	6/26/2023 2:22:00 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.42		H	pH units	1	6/26/2023 2:22:00 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	305.0	20.00		mg/L Ca	1	6/26/2023 2:22:00 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/26/2023 2:22:00 PM
Total Alkalinity (as CaCO3)	305.0	20.00		mg/L Ca	1	6/26/2023 2:22:00 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JAG**
Total Dissolved Solids	5660	100	*D	mg/L	1	6/29/2023 3:10:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-18
Project: Salty Dog Pipeline
Collection Date: 6/21/2023 12:08:00 PM
Lab ID: 2306C82-006 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Fluoride	ND	10		mg/L	100	6/26/2023 9:25:45 PM
Chloride	2400	500	*	mg/L	1000	6/26/2023 9:38:05 PM
Nitrogen, Nitrite (As N)	ND	10	H	mg/L	100	6/26/2023 9:25:45 PM
Bromide	ND	10		mg/L	100	6/26/2023 9:25:45 PM
Nitrogen, Nitrate (As N)	ND	10	H	mg/L	100	6/26/2023 9:25:45 PM
Phosphorus, Orthophosphate (As P)	ND	50	H	mg/L	100	6/26/2023 9:25:45 PM
Sulfate	2800	50	*	mg/L	100	6/26/2023 9:25:45 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	680	50		mg/L	50	6/30/2023 3:56:40 PM
Magnesium	88	1.0		mg/L	1	6/27/2023 5:01:21 PM
Potassium	12	1.0		mg/L	1	6/27/2023 5:01:21 PM
Sodium	2400	50		mg/L	50	6/30/2023 3:56:40 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Toluene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Ethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Naphthalene	ND	4.0	D	µg/L	2	6/29/2023 7:02:32 PM
1-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 7:02:32 PM
2-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 7:02:32 PM
Acetone	ND	20	D	µg/L	2	6/29/2023 7:02:32 PM
Bromobenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Bromodichloromethane	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Bromoform	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Bromomethane	ND	6.0	D	µg/L	2	6/29/2023 7:02:32 PM
2-Butanone	ND	20	D	µg/L	2	6/29/2023 7:02:32 PM
Carbon disulfide	ND	20	D	µg/L	2	6/29/2023 7:02:32 PM
Carbon Tetrachloride	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Chlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Chloroethane	ND	4.0	D	µg/L	2	6/29/2023 7:02:32 PM
Chloroform	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Chloromethane	ND	6.0	D	µg/L	2	6/29/2023 7:02:32 PM
2-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
4-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-18
Project: Salty Dog Pipeline
Collection Date: 6/21/2023 12:08:00 PM
Lab ID: 2306C82-006 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
cis-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	6/29/2023 7:02:32 PM
Dibromochloromethane	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Dibromomethane	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,1-Dichloroethane	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,1-Dichloroethene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,2-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,3-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
2,2-Dichloropropane	ND	4.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,1-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Hexachlorobutadiene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
2-Hexanone	ND	20	D	µg/L	2	6/29/2023 7:02:32 PM
Isopropylbenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
4-Isopropyltoluene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
4-Methyl-2-pentanone	ND	20	D	µg/L	2	6/29/2023 7:02:32 PM
Methylene Chloride	ND	6.0	D	µg/L	2	6/29/2023 7:02:32 PM
n-Butylbenzene	ND	6.0	D	µg/L	2	6/29/2023 7:02:32 PM
n-Propylbenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
sec-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Styrene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
tert-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	6/29/2023 7:02:32 PM
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
trans-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
Trichlorofluoromethane	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	6/29/2023 7:02:32 PM
Vinyl chloride	ND	2.0	D	µg/L	2	6/29/2023 7:02:32 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-18
Project: Salty Dog Pipeline **Collection Date:** 6/21/2023 12:08:00 PM
Lab ID: 2306C82-006 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Xylenes, Total	ND	3.0	D	µg/L	2	6/29/2023 7:02:32 PM
Surr: 1,2-Dichloroethane-d4	100	70-130	D	%Rec	2	6/29/2023 7:02:32 PM
Surr: 4-Bromofluorobenzene	98.7	70-130	D	%Rec	2	6/29/2023 7:02:32 PM
Surr: Dibromofluoromethane	112	70-130	D	%Rec	2	6/29/2023 7:02:32 PM
Surr: Toluene-d8	104	70-130	D	%Rec	2	6/29/2023 7:02:32 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	16000	100		µmhos/c	10	6/26/2023 5:10:05 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.47		H	pH units	1	6/26/2023 2:36:37 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	255.3	20.00		mg/L Ca	1	6/26/2023 2:36:37 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/26/2023 2:36:37 PM
Total Alkalinity (as CaCO3)	255.3	20.00		mg/L Ca	1	6/26/2023 2:36:37 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JAG**
Total Dissolved Solids	8050	500	*D	mg/L	1	6/29/2023 3:10:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-15
Project: Salty Dog Pipeline **Collection Date:** 6/21/2023 2:00:00 PM
Lab ID: 2306C82-007 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Fluoride	ND	1.0		mg/L	10	6/26/2023 10:15:09 PM
Chloride	530	50	*	mg/L	100	6/26/2023 10:27:29 PM
Nitrogen, Nitrite (As N)	ND	1.0	H	mg/L	10	6/26/2023 10:15:09 PM
Bromide	1.2	1.0		mg/L	10	6/26/2023 10:15:09 PM
Nitrogen, Nitrate (As N)	ND	1.0	H	mg/L	10	6/26/2023 10:15:09 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	6/26/2023 10:15:09 PM
Sulfate	2000	50	*	mg/L	100	6/26/2023 10:27:29 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	610	20		mg/L	20	6/30/2023 3:58:35 PM
Magnesium	77	1.0		mg/L	1	6/27/2023 5:04:18 PM
Potassium	8.2	1.0		mg/L	1	6/27/2023 5:04:18 PM
Sodium	640	20		mg/L	20	6/30/2023 3:58:35 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Toluene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Ethylbenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Naphthalene	ND	2.0		µg/L	1	6/29/2023 7:33:32 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	6/29/2023 7:33:32 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	6/29/2023 7:33:32 PM
Acetone	ND	10		µg/L	1	6/29/2023 7:33:32 PM
Bromobenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Bromodichloromethane	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Bromoform	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Bromomethane	ND	3.0		µg/L	1	6/29/2023 7:33:32 PM
2-Butanone	ND	10		µg/L	1	6/29/2023 7:33:32 PM
Carbon disulfide	ND	10		µg/L	1	6/29/2023 7:33:32 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Chlorobenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Chloroethane	ND	2.0		µg/L	1	6/29/2023 7:33:32 PM
Chloroform	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Chloromethane	ND	3.0		µg/L	1	6/29/2023 7:33:32 PM
2-Chlorotoluene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
4-Chlorotoluene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-15
Project: Salty Dog Pipeline
Collection Date: 6/21/2023 2:00:00 PM
Lab ID: 2306C82-007 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
cis-1,2-DCE	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/29/2023 7:33:32 PM
Dibromochloromethane	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Dibromomethane	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	6/29/2023 7:33:32 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
2-Hexanone	ND	10		µg/L	1	6/29/2023 7:33:32 PM
Isopropylbenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	6/29/2023 7:33:32 PM
Methylene Chloride	ND	3.0		µg/L	1	6/29/2023 7:33:32 PM
n-Butylbenzene	ND	3.0		µg/L	1	6/29/2023 7:33:32 PM
n-Propylbenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
sec-Butylbenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Styrene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
tert-Butylbenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/29/2023 7:33:32 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
trans-1,2-DCE	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/29/2023 7:33:32 PM
Vinyl chloride	ND	1.0		µg/L	1	6/29/2023 7:33:32 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-15
Project: Salty Dog Pipeline **Collection Date:** 6/21/2023 2:00:00 PM
Lab ID: 2306C82-007 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Xylenes, Total	ND	1.5		µg/L	1	6/29/2023 7:33:32 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	6/29/2023 7:33:32 PM
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	6/29/2023 7:33:32 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	6/29/2023 7:33:32 PM
Surr: Toluene-d8	102	70-130		%Rec	1	6/29/2023 7:33:32 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	5400	10		µmhos/c	1	6/26/2023 2:49:50 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.28		H	pH units	1	6/26/2023 2:49:50 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	220.8	20.00		mg/L Ca	1	6/26/2023 2:49:50 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/26/2023 2:49:50 PM
Total Alkalinity (as CaCO3)	220.8	20.00		mg/L Ca	1	6/26/2023 2:49:50 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JAG**
Total Dissolved Solids	4150	500	*D	mg/L	1	6/29/2023 3:10:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-12
Project: Salty Dog Pipeline
Collection Date: 6/21/2023 1:15:00 PM
Lab ID: 2306C82-008 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Fluoride	ND	2.0		mg/L	20	6/26/2023 10:39:51 PM
Chloride	2300	100	*	mg/L	200	6/26/2023 10:52:11 PM
Nitrogen, Nitrite (As N)	ND	2.0	H	mg/L	20	6/26/2023 10:39:51 PM
Bromide	3.3	2.0		mg/L	20	6/26/2023 10:39:51 PM
Nitrogen, Nitrate (As N)	ND	2.0	H	mg/L	20	6/26/2023 10:39:51 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	6/26/2023 10:39:51 PM
Sulfate	1900	100	*	mg/L	200	6/26/2023 10:52:11 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	260	5.0		mg/L	5	6/27/2023 5:09:01 PM
Magnesium	42	1.0		mg/L	1	6/27/2023 5:07:31 PM
Potassium	14	1.0		mg/L	1	6/27/2023 5:07:31 PM
Sodium	2000	50		mg/L	50	6/30/2023 4:00:26 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Toluene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Ethylbenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Naphthalene	ND	2.0		µg/L	1	6/29/2023 8:04:29 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	6/29/2023 8:04:29 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	6/29/2023 8:04:29 PM
Acetone	ND	10		µg/L	1	6/29/2023 8:04:29 PM
Bromobenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Bromodichloromethane	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Bromoform	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Bromomethane	ND	3.0		µg/L	1	6/29/2023 8:04:29 PM
2-Butanone	ND	10		µg/L	1	6/29/2023 8:04:29 PM
Carbon disulfide	ND	10		µg/L	1	6/29/2023 8:04:29 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Chlorobenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Chloroethane	ND	2.0		µg/L	1	6/29/2023 8:04:29 PM
Chloroform	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Chloromethane	ND	3.0		µg/L	1	6/29/2023 8:04:29 PM
2-Chlorotoluene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
4-Chlorotoluene	ND	1.0		µg/L	1	6/29/2023 8:04:29 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-12
Project: Salty Dog Pipeline
Collection Date: 6/21/2023 1:15:00 PM
Lab ID: 2306C82-008 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
cis-1,2-DCE	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/29/2023 8:04:29 PM
Dibromochloromethane	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Dibromomethane	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	6/29/2023 8:04:29 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
2-Hexanone	ND	10		µg/L	1	6/29/2023 8:04:29 PM
Isopropylbenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	6/29/2023 8:04:29 PM
Methylene Chloride	ND	3.0		µg/L	1	6/29/2023 8:04:29 PM
n-Butylbenzene	ND	3.0		µg/L	1	6/29/2023 8:04:29 PM
n-Propylbenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
sec-Butylbenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Styrene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
tert-Butylbenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/29/2023 8:04:29 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
trans-1,2-DCE	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	6/29/2023 8:04:29 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/29/2023 8:04:29 PM
Vinyl chloride	ND	1.0		µg/L	1	6/29/2023 8:04:29 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-12
Project: Salty Dog Pipeline **Collection Date:** 6/21/2023 1:15:00 PM
Lab ID: 2306C82-008 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Xylenes, Total	ND	1.5		µg/L	1	6/29/2023 8:04:29 PM
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%Rec	1	6/29/2023 8:04:29 PM
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	1	6/29/2023 8:04:29 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	1	6/29/2023 8:04:29 PM
Surr: Toluene-d8	97.9	70-130		%Rec	1	6/29/2023 8:04:29 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	13000	100		µmhos/c	10	6/26/2023 5:13:02 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.58		H	pH units	1	6/26/2023 3:06:07 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	252.0	20.00		mg/L Ca	1	6/26/2023 3:06:07 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/26/2023 3:06:07 PM
Total Alkalinity (as CaCO3)	252.0	20.00		mg/L Ca	1	6/26/2023 3:06:07 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JAG**
Total Dissolved Solids	6690	500	*D	mg/L	1	6/29/2023 3:10:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-10
Project: Salty Dog Pipeline
Collection Date: 6/21/2023 12:45:00 PM
Lab ID: 2306C82-009 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Fluoride	ND	10		mg/L	100	6/26/2023 11:04:32 PM
Chloride	2700	500	*	mg/L	1000	6/26/2023 11:16:52 PM
Nitrogen, Nitrite (As N)	ND	10	H	mg/L	100	6/26/2023 11:04:32 PM
Bromide	ND	10		mg/L	100	6/26/2023 11:04:32 PM
Nitrogen, Nitrate (As N)	ND	10	H	mg/L	100	6/26/2023 11:04:32 PM
Phosphorus, Orthophosphate (As P)	ND	50	H	mg/L	100	6/26/2023 11:04:32 PM
Sulfate	1900	50	*	mg/L	100	6/26/2023 11:04:32 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	880	10		mg/L	10	7/8/2023 9:58:45 AM
Magnesium	98	5.0		mg/L	5	6/27/2023 5:12:18 PM
Potassium	11	5.0		mg/L	5	6/27/2023 5:12:18 PM
Sodium	1800	50		mg/L	50	6/30/2023 4:02:17 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Toluene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Ethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Naphthalene	ND	4.0	D	µg/L	2	6/29/2023 8:35:05 PM
1-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 8:35:05 PM
2-Methylnaphthalene	ND	8.0	D	µg/L	2	6/29/2023 8:35:05 PM
Acetone	ND	20	D	µg/L	2	6/29/2023 8:35:05 PM
Bromobenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Bromodichloromethane	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Bromoform	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Bromomethane	ND	6.0	D	µg/L	2	6/29/2023 8:35:05 PM
2-Butanone	ND	20	D	µg/L	2	6/29/2023 8:35:05 PM
Carbon disulfide	ND	20	D	µg/L	2	6/29/2023 8:35:05 PM
Carbon Tetrachloride	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Chlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Chloroethane	ND	4.0	D	µg/L	2	6/29/2023 8:35:05 PM
Chloroform	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Chloromethane	ND	6.0	D	µg/L	2	6/29/2023 8:35:05 PM
2-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
4-Chlorotoluene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-10
Project: Salty Dog Pipeline
Collection Date: 6/21/2023 12:45:00 PM
Lab ID: 2306C82-009 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
cis-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	6/29/2023 8:35:05 PM
Dibromochloromethane	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Dibromomethane	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,1-Dichloroethane	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,1-Dichloroethene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,2-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,3-Dichloropropane	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
2,2-Dichloropropane	ND	4.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,1-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Hexachlorobutadiene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
2-Hexanone	ND	20	D	µg/L	2	6/29/2023 8:35:05 PM
Isopropylbenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
4-Isopropyltoluene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
4-Methyl-2-pentanone	ND	20	D	µg/L	2	6/29/2023 8:35:05 PM
Methylene Chloride	ND	6.0	D	µg/L	2	6/29/2023 8:35:05 PM
n-Butylbenzene	ND	6.0	D	µg/L	2	6/29/2023 8:35:05 PM
n-Propylbenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
sec-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Styrene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
tert-Butylbenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	6/29/2023 8:35:05 PM
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
trans-1,2-DCE	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
Trichlorofluoromethane	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 PM
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	6/29/2023 8:35:05 PM
Vinyl chloride	ND	2.0	D	µg/L	2	6/29/2023 8:35:05 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 **2306C82**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-10
Project: Salty Dog Pipeline
Collection Date: 6/21/2023 12:45:00 PM
Lab ID: 2306C82-009 **Matrix:** AQUEOUS **Received Date:** 6/24/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Xylenes, Total	ND	3.0	D	µg/L	2	6/29/2023 8:35:05 PM
Surr: 1,2-Dichloroethane-d4	99.2	70-130	D	%Rec	2	6/29/2023 8:35:05 PM
Surr: 4-Bromofluorobenzene	95.6	70-130	D	%Rec	2	6/29/2023 8:35:05 PM
Surr: Dibromofluoromethane	112	70-130	D	%Rec	2	6/29/2023 8:35:05 PM
Surr: Toluene-d8	98.7	70-130	D	%Rec	2	6/29/2023 8:35:05 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	15000	100		µmhos/c	10	6/26/2023 5:15:57 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.51		H	pH units	1	6/26/2023 3:19:08 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	194.2	20.00		mg/L Ca	1	6/26/2023 3:19:08 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/26/2023 3:19:08 PM
Total Alkalinity (as CaCO3)	194.2	20.00		mg/L Ca	1	6/26/2023 3:19:08 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JAG**
Total Dissolved Solids	7980	500	*D	mg/L	1	6/29/2023 3:10:00 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306C82**

18-Jul-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **MB-75851**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **75851**	RunNo: **97775**
Prep Date: **6/27/2023**	Analysis Date: **6/27/2023**	SeqNo: **3556213** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: **LCSLL-75851**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC**	Batch ID: **75851**	RunNo: **97775**
Prep Date: **6/27/2023**	Analysis Date: **6/27/2023**	SeqNo: **3556214** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	102	50	150			
Magnesium	ND	1.0	0.5000	0	103	50	150			
Potassium	ND	1.0	0.5000	0	109	50	150			
Sodium	ND	1.0	0.5000	0	109	50	150			

Sample ID: **LCS-75851**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW**	Batch ID: **75851**	RunNo: **97775**
Prep Date: **6/27/2023**	Analysis Date: **6/27/2023**	SeqNo: **3556215** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.3	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Potassium	49	1.0	50.00	0	97.7	85	115			
Sodium	50	1.0	50.00	0	99.6	85	115			

Sample ID: **2306C82-001CMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BH-28**	Batch ID: **75851**	RunNo: **97775**
Prep Date: **6/27/2023**	Analysis Date: **6/27/2023**	SeqNo: **3556297** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	140	5.0	50.00	94.92	94.4	70	130			
Potassium	63	5.0	50.00	13.13	98.8	70	130			

Sample ID: **2306C82-001CMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BH-28**	Batch ID: **75851**	RunNo: **97775**
Prep Date: **6/27/2023**	Analysis Date: **6/27/2023**	SeqNo: **3556298** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	150	5.0	50.00	94.92	102	70	130	2.60	20	
Potassium	65	5.0	50.00	13.13	103	70	130	3.29	20	

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#: **2306C82**

18-Jul-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **2306C82-002CMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BH-29**	Batch ID: **75851**	RunNo: **97775**
Prep Date: **6/27/2023**	Analysis Date: **6/27/2023**	SeqNo: **3556305** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	62	1.0	50.00	9.512	106	70	130			

Sample ID: **2306C82-002CMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BH-29**	Batch ID: **75851**	RunNo: **97775**
Prep Date: **6/27/2023**	Analysis Date: **6/27/2023**	SeqNo: **3556306** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	63	1.0	50.00	9.512	107	70	130	0.875	20	

Sample ID: **2306C82-002CMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BH-29**	Batch ID: **75851**	RunNo: **97775**
Prep Date: **6/27/2023**	Analysis Date: **6/27/2023**	SeqNo: **3556308** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	120	5.0	50.00	71.35	101	70	130			

Sample ID: **2306C82-002CMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BH-29**	Batch ID: **75851**	RunNo: **97775**
Prep Date: **6/27/2023**	Analysis Date: **6/27/2023**	SeqNo: **3556309** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	120	5.0	50.00	71.35	95.8	70	130	2.21	20	

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#: **2306C82**

18-Jul-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R97730**	RunNo: **97730**
Prep Date:	Analysis Date: **6/26/2023**	SeqNo: **3554267** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R97730**	RunNo: **97730**
Prep Date:	Analysis Date: **6/26/2023**	SeqNo: **3554268** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	105	90	110			
Chloride	4.7	0.50	5.000	0	93.8	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	95.5	90	110			
Bromide	2.4	0.10	2.500	0	96.0	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.9	90	110			
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	91.2	90	110			
Sulfate	9.5	0.50	10.00	0	94.9	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R97744**	RunNo: **97744**
Prep Date:	Analysis Date: **6/27/2023**	SeqNo: **3555497** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R97744**	RunNo: **97744**
Prep Date:	Analysis Date: **6/27/2023**	SeqNo: **3555498** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.5	90	110			
Chloride	4.7	0.50	5.000	0	93.8	90	110			

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#: **2306C82**

18-Jul-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R97744**	RunNo: **97744**
Prep Date:	Analysis Date: **6/27/2023**	SeqNo: **3555498** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	93.6	90	110			
Bromide	2.4	0.10	2.500	0	95.2	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P)	4.5	0.50	5.000	0	90.8	90	110			

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#: **2306C82**

18-Jul-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **LCSW** Batch ID: **R97836** RunNo: **97836**

Prep Date: Analysis Date: **6/29/2023** SeqNo: **3558478** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	97.9	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.4	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.7		10.00		96.5	70	130			

Sample ID: **2306c82-001ams** SampType: **MS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **BH-28** Batch ID: **R97836** RunNo: **97836**

Prep Date: Analysis Date: **6/29/2023** SeqNo: **3558482** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	45	2.0	40.00	0	112	70	130			D
Toluene	41	2.0	40.00	0	102	70	130			D
Chlorobenzene	45	2.0	40.00	0	113	70	130			D
1,1-Dichloroethene	41	2.0	40.00	0.5036	101	70	130			D
Trichloroethene (TCE)	42	2.0	40.00	0	105	70	130			D
Surr: 1,2-Dichloroethane-d4	21		20.00		104	70	130			D
Surr: 4-Bromofluorobenzene	19		20.00		96.6	70	130			D
Surr: Dibromofluoromethane	23		20.00		114	70	130			D
Surr: Toluene-d8	20		20.00		101	70	130			D

Sample ID: **2306c82-001amsd** SampType: **MSD** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **BH-28** Batch ID: **R97836** RunNo: **97836**

Prep Date: Analysis Date: **6/29/2023** SeqNo: **3558483** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	44	2.0	40.00	0	110	70	130	1.50	20	D
Toluene	40	2.0	40.00	0	99.7	70	130	2.65	20	D
Chlorobenzene	44	2.0	40.00	0	109	70	130	3.27	20	D
1,1-Dichloroethene	41	2.0	40.00	0.5036	100	70	130	0.837	20	D
Trichloroethene (TCE)	40	2.0	40.00	0	99.1	70	130	5.55	20	D
Surr: 1,2-Dichloroethane-d4	20		20.00		101	70	130	0	0	D
Surr: 4-Bromofluorobenzene	20		20.00		98.6	70	130	0	0	D
Surr: Dibromofluoromethane	22		20.00		112	70	130	0	0	D
Surr: Toluene-d8	20		20.00		99.8	70	130	0	0	D

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#: **2306C82**

18-Jul-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R97836**	RunNo: **97836**
Prep Date:	Analysis Date: **6/29/2023**	SeqNo: **3558503** Units: **µg/L**

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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#: **2306C82**

18-Jul-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R97836**	RunNo: **97836**
Prep Date:	Analysis Date: **6/29/2023**	SeqNo: **3558503** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.6	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.4		10.00		93.9	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306C82**

18-Jul-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID:	**lcs-1 99.3uS eC**	SampType:	**LCS**	TestCode:	**SM2510B: Specific Conductance**					
Client ID:	**LCSW**	Batch ID:	**R97724**	RunNo:	**97724**					
Prep Date:		Analysis Date:	**6/26/2023**	SeqNo:	**3553990**	Units:	**µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	99.30	0	103	85	115			

Sample ID:	**lcs-2 99.3uS eC**	SampType:	**LCS**	TestCode:	**SM2510B: Specific Conductance**					
Client ID:	**LCSW**	Batch ID:	**R97724**	RunNo:	**97724**					
Prep Date:		Analysis Date:	**6/26/2023**	SeqNo:	**3554014**	Units:	**µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	99.30	0	105	85	115			

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#: **2306C82**

18-Jul-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **mb-1 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R97724**	RunNo: **97724**							
Prep Date:	Analysis Date: **6/26/2023**	SeqNo: **3553968**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: **lcs-1 alk**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R97724**	RunNo: **97724**							
Prep Date:	Analysis Date: **6/26/2023**	SeqNo: **3553969**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.80	20.00	80.00	0	98.5	90	110			

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#: **2306C82**

18-Jul-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **MB-75880**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **75880**	RunNo: **97827**
Prep Date: **6/28/2023**	Analysis Date: **6/29/2023**	SeqNo: **3558237** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-75880**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **75880**	RunNo: **97827**
Prep Date: **6/28/2023**	Analysis Date: **6/29/2023**	SeqNo: **3558238** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	50.0	1000	0	101	80	120			

Sample ID: **MB-75912**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **75912**	RunNo: **97883**
Prep Date: **6/29/2023**	Analysis Date: **7/3/2023**	SeqNo: **3560684** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-75912**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **75912**	RunNo: **97883**
Prep Date: **6/29/2023**	Analysis Date: **7/3/2023**	SeqNo: **3560685** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	50.0	1000	0	102	80	120			

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: 2306C82 RcptNo: 1

Received By: Tracy Casarrubias 6/24/2023 7:45:00 AM

Completed By: Tracy Casarrubias 6/24/2023 10:13:31 AM

Reviewed By: MB 6/26/23

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 ☐	JM 6/26/23
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: 9 (<2 or >12 unless noted)
Adjusted? yes
Checked by: JM 6/26/23

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:

~~Poured off 125mL from original volume provided for 001B - 009B to create samples 2 of 2 for 001B-009B. Proceeded to add ____ mL of H2SO4 for pH. (CHEM#____).~~ Poured off 250mL from original volume provided for 001B - 009B to create samples 001C-009C. Proceeded to add 0.5 mL of HNO3 for pH. (CHEM# 7162). - JM 6/26/23

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	Good	Yes	Morty		

Chain-of-Custody Record

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

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: Salty Dog Pipeline

Project #:

Project Manager: Mitch Killough

Sampler: Brandon Sinclair

On Ice: X Yes ☐ No yes.

# of Coolers: 1

Cooler Temp(including CF): 3.0 + 0.1 = 3.1 ~

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2306C92	Cations/Anions/TDS/pH (1) Liter Plastic	Volatiles 8260 40ml VOA HCl
6-22	1300	Water	BH-28	Various	Various	001	X	X
6-22	1318	Water	BH-29	Various	Various	002	X	X
6-22	1205	Water	BH-30	Various	Various	003	X	X
6-22	1230	Water	BH-31	Various	Various	004	X	X
6-21	1350	Water	MW-9	Various	Various	005	X	X
6-21	1208	Water	MW-18	Various	Various	006	X	X
6-21	1400	Water	MW-15	Various	Various	007	X	X
6-21	1315	Water	MW-12	Various	Various	008	X	X
6-21	1245	Water	MW-10	Various	Various	009	X	X
		Water		Various	Various	~~010~~	X	X

Analysis Request

Preserve the Cation/Anions in the lab

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6-23				Courier	6/24/23	7:45
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 07, 2023

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

RE: Salty Dog Pipeline OrderNo.: 2308A74

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 10 sample(s) on 8/18/2023 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 **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-9
Project: Salty Dog Pipeline
Collection Date: 8/16/2023 1:30:00 PM
Lab ID: 2308A74-001 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	0.94	0.50		mg/L	5	8/18/2023 4:43:52 PM
Chloride	1100	50	*	mg/L	100	8/22/2023 10:24:08 PM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	8/18/2023 4:43:52 PM
Bromide	2.3	0.50		mg/L	5	8/18/2023 4:43:52 PM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	8/18/2023 4:43:52 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/18/2023 4:56:13 PM
Sulfate	3600	50	*	mg/L	100	8/22/2023 10:24:08 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	740	50		mg/L	50	8/28/2023 10:44:41 AM
Magnesium	160	5.0		mg/L	5	8/25/2023 1:13:24 PM
Potassium	6.4	1.0		mg/L	1	8/25/2023 1:03:46 PM
Sodium	1600	50		mg/L	50	8/28/2023 10:44:41 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Toluene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Naphthalene	ND	2.0		µg/L	1	8/28/2023 6:27:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 6:27:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 6:27:00 PM
Acetone	ND	10		µg/L	1	8/28/2023 6:27:00 PM
Bromobenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Bromoform	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Bromomethane	ND	3.0		µg/L	1	8/28/2023 6:27:00 PM
2-Butanone	ND	10		µg/L	1	8/28/2023 6:27:00 PM
Carbon disulfide	ND	10		µg/L	1	8/28/2023 6:27:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Chlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Chloroethane	ND	2.0		µg/L	1	8/28/2023 6:27:00 PM
Chloroform	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Chloromethane	ND	3.0		µg/L	1	8/28/2023 6:27:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-9
Project: Salty Dog Pipeline
Collection Date: 8/16/2023 1:30:00 PM
Lab ID: 2308A74-001 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/28/2023 6:27:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Dibromomethane	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/28/2023 6:27:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
2-Hexanone	ND	10		µg/L	1	8/28/2023 6:27:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/28/2023 6:27:00 PM
Methylene Chloride	ND	3.0		µg/L	1	8/28/2023 6:27:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/28/2023 6:27:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Styrene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/28/2023 6:27:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/28/2023 6:27:00 PM
Vinyl chloride	ND	1.0		µg/L	1	8/28/2023 6:27:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-9
Project: Salty Dog Pipeline **Collection Date:** 8/16/2023 1:30:00 PM
Lab ID: 2308A74-001 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	8/28/2023 6:27:00 PM
Surr: 1,2-Dichloroethane-d4	115	70-130		%Rec	1	8/28/2023 6:27:00 PM
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	8/28/2023 6:27:00 PM
Surr: Dibromofluoromethane	121	70-130		%Rec	1	8/28/2023 6:27:00 PM
Surr: Toluene-d8	101	70-130		%Rec	1	8/28/2023 6:27:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	9600	10		µmhos/c	1	8/22/2023 6:29:58 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.72		H	pH units	1	8/22/2023 6:29:58 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	462.7	20.00		mg/L Ca	1	8/22/2023 6:29:58 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/22/2023 6:29:58 PM
Total Alkalinity (as CaCO3)	462.7	20.00		mg/L Ca	1	8/22/2023 6:29:58 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**
Total Dissolved Solids	6600	5000	*D	mg/L	1	8/23/2023 4:15:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-10
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 10:35:00 AM
Lab ID: 2308A74-002 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	8/18/2023 5:08:34 PM
Chloride	2600	100	*	mg/L	200	8/22/2023 10:36:59 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	8/18/2023 5:20:55 PM
Bromide	3.3	0.50		mg/L	5	8/18/2023 5:08:34 PM
Nitrogen, Nitrate (As N)	0.52	0.50		mg/L	5	8/18/2023 5:08:34 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/18/2023 5:20:55 PM
Sulfate	2000	100	*	mg/L	200	8/22/2023 10:36:59 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	830	50		mg/L	50	8/28/2023 10:46:21 AM
Magnesium	87	1.0		mg/L	1	8/29/2023 12:29:46 PM
Potassium	10	1.0		mg/L	1	8/29/2023 12:29:46 PM
Sodium	1700	50		mg/L	50	8/28/2023 10:46:21 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Toluene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Naphthalene	ND	2.0		µg/L	1	8/28/2023 6:52:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 6:52:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 6:52:00 PM
Acetone	ND	10		µg/L	1	8/28/2023 6:52:00 PM
Bromobenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Bromoform	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Bromomethane	ND	3.0		µg/L	1	8/28/2023 6:52:00 PM
2-Butanone	ND	10		µg/L	1	8/28/2023 6:52:00 PM
Carbon disulfide	ND	10		µg/L	1	8/28/2023 6:52:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Chlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Chloroethane	ND	2.0		µg/L	1	8/28/2023 6:52:00 PM
Chloroform	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Chloromethane	ND	3.0		µg/L	1	8/28/2023 6:52:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-10
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 10:35:00 AM
Lab ID: 2308A74-002 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/28/2023 6:52:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Dibromomethane	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/28/2023 6:52:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
2-Hexanone	ND	10		µg/L	1	8/28/2023 6:52:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/28/2023 6:52:00 PM
Methylene Chloride	ND	3.0		µg/L	1	8/28/2023 6:52:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/28/2023 6:52:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Styrene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/28/2023 6:52:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/28/2023 6:52:00 PM
Vinyl chloride	ND	1.0		µg/L	1	8/28/2023 6:52:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-10
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 10:35:00 AM
Lab ID: 2308A74-002 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	8/28/2023 6:52:00 PM
Surr: 1,2-Dichloroethane-d4	117	70-130		%Rec	1	8/28/2023 6:52:00 PM
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	8/28/2023 6:52:00 PM
Surr: Dibromofluoromethane	122	70-130		%Rec	1	8/28/2023 6:52:00 PM
Surr: Toluene-d8	102	70-130		%Rec	1	8/28/2023 6:52:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	13000	100		µmhos/c	10	8/24/2023 3:09:17 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.73		H	pH units	1	8/22/2023 7:08:55 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	207.9	20.00		mg/L Ca	1	8/22/2023 7:08:55 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/22/2023 7:08:55 PM
Total Alkalinity (as CaCO3)	207.9	20.00		mg/L Ca	1	8/22/2023 7:08:55 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**
Total Dissolved Solids	85500	25000	*D	mg/L	1	8/23/2023 4:15:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-12
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 12:00:00 PM
Lab ID: 2308A74-003 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	0.60	0.50		mg/L	5	8/18/2023 5:33:15 PM
Chloride	910	25	*	mg/L	50	8/22/2023 10:49:51 PM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	8/18/2023 5:33:15 PM
Bromide	1.3	0.50		mg/L	5	8/18/2023 5:33:15 PM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	8/18/2023 5:33:15 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	8/18/2023 5:33:15 PM
Sulfate	760	10	*	mg/L	20	8/18/2023 5:45:36 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	120	10		mg/L	10	8/28/2023 10:47:57 AM
Magnesium	23	1.0		mg/L	1	8/29/2023 12:31:13 PM
Potassium	17	1.0		mg/L	1	8/29/2023 12:31:13 PM
Sodium	780	10		mg/L	10	8/28/2023 10:47:57 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Toluene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Naphthalene	ND	2.0		µg/L	1	8/28/2023 7:16:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 7:16:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 7:16:00 PM
Acetone	ND	10		µg/L	1	8/28/2023 7:16:00 PM
Bromobenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Bromoform	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Bromomethane	ND	3.0		µg/L	1	8/28/2023 7:16:00 PM
2-Butanone	ND	10		µg/L	1	8/28/2023 7:16:00 PM
Carbon disulfide	ND	10		µg/L	1	8/28/2023 7:16:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Chlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Chloroethane	ND	2.0		µg/L	1	8/28/2023 7:16:00 PM
Chloroform	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Chloromethane	ND	3.0		µg/L	1	8/28/2023 7:16:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-12
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 12:00:00 PM
Lab ID: 2308A74-003 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/28/2023 7:16:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Dibromomethane	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/28/2023 7:16:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
2-Hexanone	ND	10		µg/L	1	8/28/2023 7:16:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/28/2023 7:16:00 PM
Methylene Chloride	ND	3.0		µg/L	1	8/28/2023 7:16:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/28/2023 7:16:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Styrene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/28/2023 7:16:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/28/2023 7:16:00 PM
Vinyl chloride	ND	1.0		µg/L	1	8/28/2023 7:16:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-12
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 12:00:00 PM
Lab ID: 2308A74-003 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	8/28/2023 7:16:00 PM
Surr: 1,2-Dichloroethane-d4	114	70-130		%Rec	1	8/28/2023 7:16:00 PM
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	8/28/2023 7:16:00 PM
Surr: Dibromofluoromethane	122	70-130		%Rec	1	8/28/2023 7:16:00 PM
Surr: Toluene-d8	102	70-130		%Rec	1	8/28/2023 7:16:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	4500	10		µmhos/c	1	8/22/2023 7:20:25 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.65		H	pH units	1	8/22/2023 7:20:25 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	171.5	20.00		mg/L Ca	1	8/22/2023 7:20:25 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/22/2023 7:20:25 PM
Total Alkalinity (as CaCO3)	171.5	20.00		mg/L Ca	1	8/22/2023 7:20:25 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**
Total Dissolved Solids	28500	25000	*D	mg/L	1	8/23/2023 4:15:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-13
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 11:15:00 AM
Lab ID: 2308A74-004 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	8/18/2023 6:22:39 PM
Chloride	3000	100	*	mg/L	200	8/22/2023 11:02:43 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	8/18/2023 6:35:00 PM
Bromide	3.7	0.50		mg/L	5	8/18/2023 6:22:39 PM
Nitrogen, Nitrate (As N)	2.1	0.50		mg/L	5	8/18/2023 6:22:39 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/18/2023 6:35:00 PM
Sulfate	2600	100	*	mg/L	200	8/22/2023 11:02:43 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	730	50		mg/L	50	8/28/2023 10:49:41 AM
Magnesium	87	1.0		mg/L	1	8/29/2023 12:32:41 PM
Potassium	12	1.0		mg/L	1	8/29/2023 12:32:41 PM
Sodium	2400	50		mg/L	50	8/28/2023 10:49:41 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Toluene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Naphthalene	ND	2.0		µg/L	1	8/28/2023 7:41:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 7:41:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 7:41:00 PM
Acetone	ND	10		µg/L	1	8/28/2023 7:41:00 PM
Bromobenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Bromoform	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Bromomethane	ND	3.0		µg/L	1	8/28/2023 7:41:00 PM
2-Butanone	ND	10		µg/L	1	8/28/2023 7:41:00 PM
Carbon disulfide	ND	10		µg/L	1	8/28/2023 7:41:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Chlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Chloroethane	ND	2.0		µg/L	1	8/28/2023 7:41:00 PM
Chloroform	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Chloromethane	ND	3.0		µg/L	1	8/28/2023 7:41:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-13
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 11:15:00 AM
Lab ID: 2308A74-004 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/28/2023 7:41:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Dibromomethane	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/28/2023 7:41:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
2-Hexanone	ND	10		µg/L	1	8/28/2023 7:41:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/28/2023 7:41:00 PM
Methylene Chloride	ND	3.0		µg/L	1	8/28/2023 7:41:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/28/2023 7:41:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Styrene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/28/2023 7:41:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/28/2023 7:41:00 PM
Vinyl chloride	ND	1.0		µg/L	1	8/28/2023 7:41:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-13
Project: Salty Dog Pipeline **Collection Date:** 8/17/2023 11:15:00 AM
Lab ID: 2308A74-004 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	8/28/2023 7:41:00 PM
Surr: 1,2-Dichloroethane-d4	116	70-130		%Rec	1	8/28/2023 7:41:00 PM
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	8/28/2023 7:41:00 PM
Surr: Dibromofluoromethane	123	70-130		%Rec	1	8/28/2023 7:41:00 PM
Surr: Toluene-d8	101	70-130		%Rec	1	8/28/2023 7:41:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	16000	100		µmhos/c	10	8/24/2023 3:12:11 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.72		H	pH units	1	8/22/2023 7:30:39 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	258.2	20.00		mg/L Ca	1	8/22/2023 7:30:39 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/22/2023 7:30:39 PM
Total Alkalinity (as CaCO3)	258.2	20.00		mg/L Ca	1	8/22/2023 7:30:39 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**
Total Dissolved Solids	8950	250	*D	mg/L	1	8/23/2023 4:15:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-15
Project: Salty Dog Pipeline
Collection Date: 8/16/2023 2:00:00 PM
Lab ID: 2308A74-005 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	8/18/2023 6:47:20 PM
Chloride	570	50	*	mg/L	100	8/22/2023 11:15:34 PM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	8/18/2023 6:47:20 PM
Bromide	1.1	0.50		mg/L	5	8/18/2023 6:47:20 PM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	8/18/2023 6:47:20 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/18/2023 6:59:41 PM
Sulfate	2000	50	*	mg/L	100	8/22/2023 11:15:34 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	600	10		mg/L	10	8/28/2023 10:56:38 AM
Magnesium	77	1.0		mg/L	1	8/29/2023 12:34:02 PM
Potassium	7.7	1.0		mg/L	1	8/29/2023 12:34:02 PM
Sodium	650	10		mg/L	10	8/28/2023 10:56:38 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Toluene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Naphthalene	ND	2.0		µg/L	1	8/28/2023 8:05:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 8:05:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 8:05:00 PM
Acetone	ND	10		µg/L	1	8/28/2023 8:05:00 PM
Bromobenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Bromoform	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Bromomethane	ND	3.0		µg/L	1	8/28/2023 8:05:00 PM
2-Butanone	ND	10		µg/L	1	8/28/2023 8:05:00 PM
Carbon disulfide	ND	10		µg/L	1	8/28/2023 8:05:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Chlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Chloroethane	ND	2.0		µg/L	1	8/28/2023 8:05:00 PM
Chloroform	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Chloromethane	ND	3.0		µg/L	1	8/28/2023 8:05:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-15
Project: Salty Dog Pipeline
Collection Date: 8/16/2023 2:00:00 PM
Lab ID: 2308A74-005 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/28/2023 8:05:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Dibromomethane	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/28/2023 8:05:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
2-Hexanone	ND	10		µg/L	1	8/28/2023 8:05:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/28/2023 8:05:00 PM
Methylene Chloride	ND	3.0		µg/L	1	8/28/2023 8:05:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/28/2023 8:05:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Styrene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/28/2023 8:05:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/28/2023 8:05:00 PM
Vinyl chloride	ND	1.0		µg/L	1	8/28/2023 8:05:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-15
Project: Salty Dog Pipeline **Collection Date:** 8/16/2023 2:00:00 PM
Lab ID: 2308A74-005 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	8/28/2023 8:05:00 PM
Surr: 1,2-Dichloroethane-d4	115	70-130		%Rec	1	8/28/2023 8:05:00 PM
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	8/28/2023 8:05:00 PM
Surr: Dibromofluoromethane	121	70-130		%Rec	1	8/28/2023 8:05:00 PM
Surr: Toluene-d8	101	70-130		%Rec	1	8/28/2023 8:05:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	5500	10		µmhos/c	1	8/22/2023 7:43:47 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.56		H	pH units	1	8/22/2023 7:43:47 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	222.4	20.00		mg/L Ca	1	8/22/2023 7:43:47 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/22/2023 7:43:47 PM
Total Alkalinity (as CaCO3)	222.4	20.00		mg/L Ca	1	8/22/2023 7:43:47 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**
Total Dissolved Solids	4440	250	*D	mg/L	1	8/23/2023 4:15:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-18
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 12:45:00 PM
Lab ID: 2308A74-006 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	8/18/2023 7:12:01 PM
Chloride	2800	100	*	mg/L	200	8/22/2023 11:28:27 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	8/18/2023 7:24:22 PM
Bromide	3.6	0.50		mg/L	5	8/18/2023 7:12:01 PM
Nitrogen, Nitrate (As N)	4.0	0.50		mg/L	5	8/18/2023 7:12:01 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/18/2023 7:24:22 PM
Sulfate	2600	100	*	mg/L	200	8/22/2023 11:28:27 PM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	630	50		mg/L	50	8/28/2023 10:58:27 AM
Magnesium	85	1.0		mg/L	1	8/29/2023 12:41:38 PM
Potassium	11	1.0		mg/L	1	8/29/2023 12:41:38 PM
Sodium	2400	50		mg/L	50	8/28/2023 10:58:27 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Toluene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Naphthalene	ND	2.0		µg/L	1	8/28/2023 8:30:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 8:30:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 8:30:00 PM
Acetone	ND	10		µg/L	1	8/28/2023 8:30:00 PM
Bromobenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Bromoform	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Bromomethane	ND	3.0		µg/L	1	8/28/2023 8:30:00 PM
2-Butanone	ND	10		µg/L	1	8/28/2023 8:30:00 PM
Carbon disulfide	ND	10		µg/L	1	8/28/2023 8:30:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Chlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Chloroethane	ND	2.0		µg/L	1	8/28/2023 8:30:00 PM
Chloroform	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Chloromethane	ND	3.0		µg/L	1	8/28/2023 8:30:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-18
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 12:45:00 PM
Lab ID: 2308A74-006 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/28/2023 8:30:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Dibromomethane	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/28/2023 8:30:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
2-Hexanone	ND	10		µg/L	1	8/28/2023 8:30:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/28/2023 8:30:00 PM
Methylene Chloride	ND	3.0		µg/L	1	8/28/2023 8:30:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/28/2023 8:30:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Styrene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/28/2023 8:30:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/28/2023 8:30:00 PM
Vinyl chloride	ND	1.0		µg/L	1	8/28/2023 8:30:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-18
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 12:45:00 PM
Lab ID: 2308A74-006 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	8/28/2023 8:30:00 PM
Surr: 1,2-Dichloroethane-d4	119	70-130		%Rec	1	8/28/2023 8:30:00 PM
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	8/28/2023 8:30:00 PM
Surr: Dibromofluoromethane	123	70-130		%Rec	1	8/28/2023 8:30:00 PM
Surr: Toluene-d8	100	70-130		%Rec	1	8/28/2023 8:30:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	16000	100		µmhos/c	10	8/24/2023 3:15:05 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.67		H	pH units	1	8/22/2023 7:55:43 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	249.7	20.00		mg/L Ca	1	8/22/2023 7:55:43 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/22/2023 7:55:43 PM
Total Alkalinity (as CaCO3)	249.7	20.00		mg/L Ca	1	8/22/2023 7:55:43 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**
Total Dissolved Solids	8900	2500	*D	mg/L	1	8/24/2023 3:17:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-28
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 1:15:00 PM
Lab ID: 2308A74-007 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	8/18/2023 7:36:43 PM
Chloride	2100	100	*	mg/L	200	8/23/2023 12:07:41 AM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	8/18/2023 7:49:03 PM
Bromide	3.0	0.50		mg/L	5	8/18/2023 7:36:43 PM
Nitrogen, Nitrate (As N)	1.5	0.50		mg/L	5	8/18/2023 7:36:43 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/18/2023 7:49:03 PM
Sulfate	2300	100	*	mg/L	200	8/23/2023 12:07:41 AM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	620	50		mg/L	50	8/28/2023 11:00:09 AM
Magnesium	87	1.0		mg/L	1	8/29/2023 12:43:11 PM
Potassium	13	1.0		mg/L	1	8/29/2023 12:43:11 PM
Sodium	1900	50		mg/L	50	8/28/2023 11:00:09 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Toluene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Naphthalene	ND	2.0		µg/L	1	8/28/2023 8:54:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 8:54:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 8:54:00 PM
Acetone	ND	10		µg/L	1	8/28/2023 8:54:00 PM
Bromobenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Bromoform	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Bromomethane	ND	3.0		µg/L	1	8/28/2023 8:54:00 PM
2-Butanone	ND	10		µg/L	1	8/28/2023 8:54:00 PM
Carbon disulfide	ND	10		µg/L	1	8/28/2023 8:54:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Chlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Chloroethane	ND	2.0		µg/L	1	8/28/2023 8:54:00 PM
Chloroform	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Chloromethane	ND	3.0		µg/L	1	8/28/2023 8:54:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-28
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 1:15:00 PM
Lab ID: 2308A74-007 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/28/2023 8:54:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Dibromomethane	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/28/2023 8:54:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
2-Hexanone	ND	10		µg/L	1	8/28/2023 8:54:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/28/2023 8:54:00 PM
Methylene Chloride	ND	3.0		µg/L	1	8/28/2023 8:54:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/28/2023 8:54:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Styrene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/28/2023 8:54:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/28/2023 8:54:00 PM
Vinyl chloride	ND	1.0		µg/L	1	8/28/2023 8:54:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-28
Project: Salty Dog Pipeline **Collection Date:** 8/17/2023 1:15:00 PM
Lab ID: 2308A74-007 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	8/28/2023 8:54:00 PM
Surr: 1,2-Dichloroethane-d4	118	70-130		%Rec	1	8/28/2023 8:54:00 PM
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	8/28/2023 8:54:00 PM
Surr: Dibromofluoromethane	124	70-130		%Rec	1	8/28/2023 8:54:00 PM
Surr: Toluene-d8	101	70-130		%Rec	1	8/28/2023 8:54:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	13000	100		µmhos/c	10	8/24/2023 3:17:57 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.69		H	pH units	1	8/22/2023 8:08:38 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	251.5	20.00		mg/L Ca	1	8/22/2023 8:08:38 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/22/2023 8:08:38 PM
Total Alkalinity (as CaCO3)	251.5	20.00		mg/L Ca	1	8/22/2023 8:08:38 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**
Total Dissolved Solids	7850	2500	*D	mg/L	1	8/24/2023 3:17:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-29
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 1:40:00 PM
Lab ID: 2308A74-008 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	0.55	0.50		mg/L	5	8/18/2023 8:01:24 PM
Chloride	1900	100	*	mg/L	200	8/23/2023 12:20:01 AM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	8/18/2023 8:13:45 PM
Bromide	2.8	0.50		mg/L	5	8/18/2023 8:01:24 PM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	8/18/2023 8:01:24 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/18/2023 8:13:45 PM
Sulfate	2200	100	*	mg/L	200	8/23/2023 12:20:01 AM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	530	10		mg/L	10	8/28/2023 11:03:23 AM
Magnesium	69	1.0		mg/L	1	8/28/2023 11:01:55 AM
Potassium	11	1.0		mg/L	1	8/28/2023 11:01:55 AM
Sodium	1800	50		mg/L	50	8/28/2023 11:05:08 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Toluene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Naphthalene	ND	2.0		µg/L	1	8/28/2023 9:19:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 9:19:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 9:19:00 PM
Acetone	ND	10		µg/L	1	8/28/2023 9:19:00 PM
Bromobenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Bromoform	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Bromomethane	ND	3.0		µg/L	1	8/28/2023 9:19:00 PM
2-Butanone	ND	10		µg/L	1	8/28/2023 9:19:00 PM
Carbon disulfide	ND	10		µg/L	1	8/28/2023 9:19:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Chlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Chloroethane	ND	2.0		µg/L	1	8/28/2023 9:19:00 PM
Chloroform	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Chloromethane	ND	3.0		µg/L	1	8/28/2023 9:19:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-29
Project: Salty Dog Pipeline
Collection Date: 8/17/2023 1:40:00 PM
Lab ID: 2308A74-008 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/28/2023 9:19:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Dibromomethane	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/28/2023 9:19:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
2-Hexanone	ND	10		µg/L	1	8/28/2023 9:19:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/28/2023 9:19:00 PM
Methylene Chloride	ND	3.0		µg/L	1	8/28/2023 9:19:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/28/2023 9:19:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Styrene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/28/2023 9:19:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/28/2023 9:19:00 PM
Vinyl chloride	ND	1.0		µg/L	1	8/28/2023 9:19:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-29
Project: Salty Dog Pipeline **Collection Date:** 8/17/2023 1:40:00 PM
Lab ID: 2308A74-008 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	8/28/2023 9:19:00 PM
Surr: 1,2-Dichloroethane-d4	118	70-130		%Rec	1	8/28/2023 9:19:00 PM
Surr: 4-Bromofluorobenzene	110	70-130		%Rec	1	8/28/2023 9:19:00 PM
Surr: Dibromofluoromethane	124	70-130		%Rec	1	8/28/2023 9:19:00 PM
Surr: Toluene-d8	100	70-130		%Rec	1	8/28/2023 9:19:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	12000	100		µmhos/c	10	8/24/2023 3:20:49 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.70		H	pH units	1	8/22/2023 8:21:31 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	254.0	20.00		mg/L Ca	1	8/22/2023 8:21:31 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/22/2023 8:21:31 PM
Total Alkalinity (as CaCO3)	254.0	20.00		mg/L Ca	1	8/22/2023 8:21:31 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**
Total Dissolved Solids	6350	2500	*D	mg/L	1	8/24/2023 3:17:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-30
Project: Salty Dog Pipeline
Collection Date: 8/16/2023 12:55:00 PM
Lab ID: 2308A74-009 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	ND	0.50		mg/L	5	8/18/2023 8:50:47 PM
Chloride	360	50	*	mg/L	100	8/23/2023 12:32:53 AM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	8/18/2023 8:50:47 PM
Bromide	1.0	0.50		mg/L	5	8/18/2023 8:50:47 PM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	8/18/2023 8:50:47 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/18/2023 9:03:08 PM
Sulfate	2100	50	*	mg/L	100	8/23/2023 12:32:53 AM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	600	10		mg/L	10	8/28/2023 11:08:09 AM
Magnesium	84	1.0		mg/L	1	8/28/2023 11:06:51 AM
Potassium	10	1.0		mg/L	1	8/28/2023 11:06:51 AM
Sodium	720	10		mg/L	10	8/28/2023 11:08:09 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Toluene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Naphthalene	ND	2.0		µg/L	1	8/28/2023 9:43:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 9:43:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 9:43:00 PM
Acetone	ND	10		µg/L	1	8/28/2023 9:43:00 PM
Bromobenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Bromoform	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Bromomethane	ND	3.0		µg/L	1	8/28/2023 9:43:00 PM
2-Butanone	ND	10		µg/L	1	8/28/2023 9:43:00 PM
Carbon disulfide	ND	10		µg/L	1	8/28/2023 9:43:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Chlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Chloroethane	ND	2.0		µg/L	1	8/28/2023 9:43:00 PM
Chloroform	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Chloromethane	ND	3.0		µg/L	1	8/28/2023 9:43:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-30
Project: Salty Dog Pipeline
Collection Date: 8/16/2023 12:55:00 PM
Lab ID: 2308A74-009 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/28/2023 9:43:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Dibromomethane	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/28/2023 9:43:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
2-Hexanone	ND	10		µg/L	1	8/28/2023 9:43:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/28/2023 9:43:00 PM
Methylene Chloride	ND	3.0		µg/L	1	8/28/2023 9:43:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/28/2023 9:43:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Styrene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/28/2023 9:43:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/28/2023 9:43:00 PM
Vinyl chloride	ND	1.0		µg/L	1	8/28/2023 9:43:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-30
Project: Salty Dog Pipeline **Collection Date:** 8/16/2023 12:55:00 PM
Lab ID: 2308A74-009 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	8/28/2023 9:43:00 PM
Surr: 1,2-Dichloroethane-d4	120	70-130		%Rec	1	8/28/2023 9:43:00 PM
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	8/28/2023 9:43:00 PM
Surr: Dibromofluoromethane	125	70-130		%Rec	1	8/28/2023 9:43:00 PM
Surr: Toluene-d8	98.2	70-130		%Rec	1	8/28/2023 9:43:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	5200	10		µmhos/c	1	8/22/2023 8:34:30 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.81		H	pH units	1	8/22/2023 8:34:30 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	277.5	20.00		mg/L Ca	1	8/22/2023 8:34:30 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/22/2023 8:34:30 PM
Total Alkalinity (as CaCO3)	277.5	20.00		mg/L Ca	1	8/22/2023 8:34:30 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**
Total Dissolved Solids	42500	25000	*D	mg/L	1	8/23/2023 4:15:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-31
Project: Salty Dog Pipeline
Collection Date: 8/16/2023 12:30:00 PM
Lab ID: 2308A74-010 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Fluoride	0.69	0.50		mg/L	5	8/18/2023 9:52:32 PM
Chloride	370	10	*	mg/L	20	8/18/2023 10:29:34 PM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	8/18/2023 9:52:32 PM
Bromide	0.99	0.50		mg/L	5	8/18/2023 9:52:32 PM
Nitrogen, Nitrate (As N)	0.91	0.50		mg/L	5	8/18/2023 9:52:32 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/18/2023 10:29:34 PM
Sulfate	2100	50	*	mg/L	100	8/23/2023 12:45:44 AM
EPA METHOD 200.7: METALS						Analyst: **JRR**
Calcium	570	10		mg/L	10	8/28/2023 11:11:04 AM
Magnesium	82	1.0		mg/L	1	8/28/2023 11:09:38 AM
Potassium	8.5	1.0		mg/L	1	8/28/2023 11:09:38 AM
Sodium	670	10		mg/L	10	8/28/2023 11:11:04 AM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Toluene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Naphthalene	ND	2.0		µg/L	1	8/28/2023 10:07:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 10:07:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	8/28/2023 10:07:00 PM
Acetone	ND	10		µg/L	1	8/28/2023 10:07:00 PM
Bromobenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Bromoform	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Bromomethane	ND	3.0		µg/L	1	8/28/2023 10:07:00 PM
2-Butanone	ND	10		µg/L	1	8/28/2023 10:07:00 PM
Carbon disulfide	ND	10		µg/L	1	8/28/2023 10:07:00 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Chlorobenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Chloroethane	ND	2.0		µg/L	1	8/28/2023 10:07:00 PM
Chloroform	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Chloromethane	ND	3.0		µg/L	1	8/28/2023 10:07:00 PM
2-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
4-Chlorotoluene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW-31
Project: Salty Dog Pipeline
Collection Date: 8/16/2023 12:30:00 PM
Lab ID: 2308A74-010 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
cis-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/28/2023 10:07:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Dibromomethane	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	8/28/2023 10:07:00 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
2-Hexanone	ND	10		µg/L	1	8/28/2023 10:07:00 PM
Isopropylbenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	8/28/2023 10:07:00 PM
Methylene Chloride	ND	3.0		µg/L	1	8/28/2023 10:07:00 PM
n-Butylbenzene	ND	3.0		µg/L	1	8/28/2023 10:07:00 PM
n-Propylbenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
sec-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Styrene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/28/2023 10:07:00 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/28/2023 10:07:00 PM
Vinyl chloride	ND	1.0		µg/L	1	8/28/2023 10:07:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A74**
Date Reported: **9/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-31
Project: Salty Dog Pipeline **Collection Date:** 8/16/2023 12:30:00 PM
Lab ID: 2308A74-010 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Xylenes, Total	ND	1.5		µg/L	1	8/28/2023 10:07:00 PM
Surr: 1,2-Dichloroethane-d4	118	70-130		%Rec	1	8/28/2023 10:07:00 PM
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	8/28/2023 10:07:00 PM
Surr: Dibromofluoromethane	123	70-130		%Rec	1	8/28/2023 10:07:00 PM
Surr: Toluene-d8	101	70-130		%Rec	1	8/28/2023 10:07:00 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**
Conductivity	5000	10		µmhos/c	1	8/22/2023 8:47:55 PM
SM4500-H+B / 9040C: PH						Analyst: **RBC**
pH	7.79		H	pH units	1	8/22/2023 8:47:55 PM
SM2320B: ALKALINITY						Analyst: **RBC**
Bicarbonate (As CaCO3)	217.6	20.00		mg/L Ca	1	8/22/2023 8:47:55 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/22/2023 8:47:55 PM
Total Alkalinity (as CaCO3)	217.6	20.00		mg/L Ca	1	8/22/2023 8:47:55 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**
Total Dissolved Solids	39500	25000	*D	mg/L	1	8/23/2023 4:15:00 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A74**

07-Sep-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **MB-77014**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **77014**	RunNo: **99256**
Prep Date: **8/22/2023**	Analysis Date: **8/25/2023**	SeqNo: **3620029** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: **LCS-77014**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW**	Batch ID: **77014**	RunNo: **99256**
Prep Date: **8/22/2023**	Analysis Date: **8/25/2023**	SeqNo: **3620033** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	98.6	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Potassium	51	1.0	50.00	0	101	85	115			
Sodium	50	1.0	50.00	0	101	85	115			

Sample ID: **LCSLL-77014**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC**	Batch ID: **77014**	RunNo: **99256**
Prep Date: **8/22/2023**	Analysis Date: **8/25/2023**	SeqNo: **3620045** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	106	50	150			
Magnesium	ND	1.0	0.5000	0	105	50	150			
Potassium	ND	1.0	0.5000	0	89.5	50	150			
Sodium	ND	1.0	0.5000	0	103	50	150			

Sample ID: **2308A74-001CMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-9**	Batch ID: **77014**	RunNo: **99256**
Prep Date: **8/22/2023**	Analysis Date: **8/25/2023**	SeqNo: **3620141** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	61	1.0	50.00	6.438	109	70	130			

Sample ID: **2308A74-001CMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-9**	Batch ID: **77014**	RunNo: **99256**
Prep Date: **8/22/2023**	Analysis Date: **8/25/2023**	SeqNo: **3620142** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	62	1.0	50.00	6.438	112	70	130	2.24	20	

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#: **2308A74**

07-Sep-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **2308A74-001CMS** SampType: **MS** TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-9** Batch ID: **77014** RunNo: **99256**
Prep Date: **8/22/2023** Analysis Date: **8/25/2023** SeqNo: **3620144** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	220	5.0	50.00	163.6	111	70	130			

Sample ID: **2308A74-001CMSD** SampType: **MSD** TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-9** Batch ID: **77014** RunNo: **99256**
Prep Date: **8/22/2023** Analysis Date: **8/25/2023** SeqNo: **3620145** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	210	5.0	50.00	163.6	102	70	130	2.12	20	

Sample ID: **2308A74-002CMS** SampType: **MS** TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-10** Batch ID: **77014** RunNo: **99325**
Prep Date: **8/22/2023** Analysis Date: **8/29/2023** SeqNo: **3624056** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	130	1.0	50.00	87.50	81.6	70	130			E
Potassium	63	1.0	50.00	10.32	104	70	130			

Sample ID: **2308A74-002CMSD** SampType: **MSD** TestCode: **EPA Method 200.7: Metals**
Client ID: **MW-10** Batch ID: **77014** RunNo: **99325**
Prep Date: **8/22/2023** Analysis Date: **8/29/2023** SeqNo: **3624057** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	140	1.0	50.00	87.50	97.0	70	130	5.82	20	E
Potassium	65	1.0	50.00	10.32	110	70	130	4.64	20	

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#: **2308A74**

07-Sep-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R99081**	RunNo: **99081**
Prep Date:	Analysis Date: **8/18/2023**	SeqNo: **3611508** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	103	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.2	90	110			
Bromide	2.4	0.10	2.500	0	94.6	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.6	90	110			
Phosphorus, Orthophosphate (As P)	4.5	0.50	5.000	0	90.6	90	110			
Sulfate	9.4	0.50	10.00	0	94.0	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R99081**	RunNo: **99081**
Prep Date:	Analysis Date: **8/18/2023**	SeqNo: **3611515** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A99081**	RunNo: **99081**
Prep Date:	Analysis Date: **8/18/2023**	SeqNo: **3611568** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A99081**	RunNo: **99081**
Prep Date:	Analysis Date: **8/18/2023**	SeqNo: **3611569** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	105	90	110			
Chloride	4.6	0.50	5.000	0	92.2	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.5	90	110			
Bromide	2.4	0.10	2.500	0	94.5	90	110			

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#: **2308A74**

07-Sep-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **A99081**	RunNo: **99081**							
Prep Date:	Analysis Date: **8/18/2023**	SeqNo: **3611569**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.7	90	110			
Phosphorus, Orthophosphate (As P)	4.9	0.50	5.000	0	97.9	90	110			

Sample ID: **2308A74-010BMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **MW-31**	Batch ID: **A99081**	RunNo: **99081**							
Prep Date:	Analysis Date: **8/18/2023**	SeqNo: **3611571**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.5	0.50	2.500	0.6870	72.4	70	130			
Nitrogen, Nitrite (As N)	4.5	0.50	5.000	0	90.6	80	120			
Bromide	13	0.50	12.50	0.9865	94.4	80	120			
Nitrogen, Nitrate (As N)	13	0.50	12.50	0.9095	99.6	80	120			

Sample ID: **2308A74-010BMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **MW-31**	Batch ID: **A99081**	RunNo: **99081**							
Prep Date:	Analysis Date: **8/18/2023**	SeqNo: **3611572**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.6	0.50	2.500	0.6870	78.0	70	130	5.41	20	
Nitrogen, Nitrite (As N)	4.5	0.50	5.000	0	90.9	80	120	0.276	20	
Bromide	13	0.50	12.50	0.9865	94.8	80	120	0.386	20	
Nitrogen, Nitrate (As N)	13	0.50	12.50	0.9095	99.5	80	120	0.0487	20	

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **A99147**	RunNo: **99147**							
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614073**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **A99147**	RunNo: **99147**							
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614074**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.4	90	110			
Sulfate	9.5	0.50	10.00	0	95.3	90	110			

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#: **2308A74**

07-Sep-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R99312**	RunNo: **99312**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3623131** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	115	70	130			
Toluene	20	1.0	20.00	0	99.6	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	112	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		113	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	11		10.00		114	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R99312**	RunNo: **99312**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3623132** Units: **µg/L**

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

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#: **2308A74**
07-Sep-23

Client: HILCORP ENERGY
Project: Salty Dog Pipeline

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R99312**	RunNo: **99312**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3623132** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

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#: **2308A74**

07-Sep-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R99312**	RunNo: **99312**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3623132** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	12		10.00		116	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	12		10.00		118	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID: **2308A74-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-9**	Batch ID: **R99312**	RunNo: **99312**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3623148** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	25	1.0	20.00	0	124	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	24	1.0	20.00	0	121	70	130			
Trichloroethene (TCE)	23	1.0	20.00	0	114	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		116	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130			
Surr: Dibromofluoromethane	12		10.00		122	70	130			
Surr: Toluene-d8	10		10.00		99.7	70	130			

Sample ID: **2308A74-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-9**	Batch ID: **R99312**	RunNo: **99312**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3623149** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	121	70	130	2.73	20	
Toluene	20	1.0	20.00	0	98.7	70	130	2.70	20	
Chlorobenzene	20	1.0	20.00	0	100	70	130	2.74	20	
1,1-Dichloroethene	23	1.0	20.00	0	115	70	130	4.76	20	
Trichloroethene (TCE)	22	1.0	20.00	0	111	70	130	3.29	20	
Surr: 1,2-Dichloroethane-d4	12		10.00		119	70	130	0	0	
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130	0	0	
Surr: Dibromofluoromethane	12		10.00		125	70	130	0	0	
Surr: Toluene-d8	10		10.00		100	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A74**

07-Sep-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **LCS-1 98.7uS eC**	SampType: **LCS**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R99149**	RunNo: **99149**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614379** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	98.70	0	103	85	115			

Sample ID: **LCS-1 98.7uS eC**	SampType: **LCS**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R99239**	RunNo: **99239**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3619253** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	98.70	0	101	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2308A74**

07-Sep-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **MB-2 Alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **A99149**	RunNo: **99149**							
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614364**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: **LCS-2 Alk**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **A99149**	RunNo: **99149**							
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614365**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80.72	20.00	80.00	0	101	90	110			

Sample ID: **2308A74-001B DUP**	SampType: **DUP**	TestCode: **SM2320B: Alkalinity**							
Client ID: **MW-9**	Batch ID: **A99149**	RunNo: **99149**							
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614367**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	465.0	20.00						0.509	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A74**

07-Sep-23

Client: HILCORP ENERGY

Project: Salty Dog Pipeline

Sample ID: **MB-76996**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **76996**	RunNo: **99181**
Prep Date: **8/22/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616618** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-76996**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **76996**	RunNo: **99181**
Prep Date: **8/22/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616619** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	991	50.0	1000	0	99.1	80	120			

Sample ID: **MB-77018**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **77018**	RunNo: **99214**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617678** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-77018**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **77018**	RunNo: **99214**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617679** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	989	50.0	1000	0	98.9	80	120			

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: 2308A74 RcptNo: 1

Received By: Tracy Casarrubias 8/18/2023 6:25:00 AM

Completed By: Cheyenne Cason 8/18/2023 12:30:16 PM

Reviewed By: mb 8/18/23

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 ☐	mb 8/18/23
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: 10 (2 or >12 unless noted)

Adjusted? YES

Checked by: mb 8/18/23

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:

Poured off 250mL from original volume provided for 001B - ~~009B~~ 010B to create samples 001C-009C. Proceeded to add ~0.5mls HNO3 (Chem # 7115) to 001C-009C for metals analysis - mb 8/18/23.

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.9	Good	Yes	Morty		

Chain-of-Custody Record

Client: Hilcorp Farmington NM

Mailing Address: 382 Road 3100 Aztec, NM 87410

Billing Address: PO Box 61529 Houston, TX 77208

Phone #: 505-486-9543

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

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name: Salty Dog Pipeline

Project #:

Project Manager: Mitch Killough

Sampler: Brandon Sinclair

On Ice: ☐ Yes ☐ No morty

# of Coolers: 1

Cooler Temp(including CF): 5.9 - 0 = 5.9 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. 2308A74	Cations/Anions/TDS/pH (1) Liter Plastic	Volatiles 8260 40ml VOA HCl
8-16	1330	Water	MW-9	Various	Various	001	X	X
8-17	1035	Water	MW-10	Various	Various	002	X	X
8-17	1200	Water	MW-12	Various	Various	003	X	X
8-17	1115	Water	MW-13	Various	Various	004	X	X
8-16	1400	Water	MW-15	Various	Various	005	X	X
8-17	1245	Water	MW-18	Various	Various	006	X	X
8-17	1315	Water	MW-28	Various	Various	007	X	X
8-17	1340	Water	MW-29	Various	Various	008	X	X
8-16	1255	Water	MW-30	Various	Various	009	X	X
8-16	1230	Water	MW-31	Various	Various	010	X	X
		Water	~~Trip Blank~~ 1u 8/18/23	Various	Various	~~011~~	X	X
		Water		Various	Various		X	X
		Water		Various	Various		X	X

Preserve the Cation/Anions in the lab

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8-17	1505		Chantez Walker		8/17/23	1505
8/17/23	1804	Chantez Walker		courier	8/18/23	6:25

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 281659

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 281659
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the Additional Delineation Summary Report for Salty Dog Water Gathering System Report: Contents Satisfactory 1. Continue to sample for all COCs or submit a formal request to the director of NMOCD for a lesser, alternate number of samples per 19.15.39.9 paragraph D 2. Continue to assess groundwater downgradient of edge of plume. 3. Continue to conduct quarterly groundwater sampling events. 4. Submit the 2023 Groundwater Annual Report by April 1, 2024.	1/5/2024