



November 20, 2022

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

Re: Executive Summary – November 2022 Standard #1 San Juan County, New Mexico Hilcorp Energy Company NMOCD Incident Number: NCS1735235018 Ensolum Project No. 07A1988017

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Executive Summary* – *November 2022* report detailing quarterly groundwater sampling and other activities performed at the Standard #1 natural gas production well (Site), located in Unit J, Section 4, Township 29 North, and Range 12 West in San Juan County, New Mexico (Figure 1). The activities summarized in this report date from November 2017 to October 2022 and include groundwater data collected during quarterly sampling events. Details regarding investigation, monitoring, and remediation activities were submitted to the New Mexico Oil Conservation Division (NMOCD) in previous reports.

### INITIAL DISCOVERY AND DELINEATION EVENTS

During construction activities at the Site, historically contaminated soil was encountered while replacing a dump line on an aboveground storage tank on November 28, 2017. Hilcorp initiated excavation of impacted soil, and a Form C-141 was submitted to the NMOCD on December 6, 2017. Hilcorp continued to excavate impacted material and conducted initial subsurface assessments until May 2018 when groundwater was observed at the base of the excavation. A revised Form C-141 was submitted and approved by the NMOCD on May 31, 2018.

Due to impacts observed in groundwater, the NMOCD requested a Stage 1 Abatement Plan with a deadline of October 1, 2018. Hilcorp proceeded with delineation activities beginning on August 16, 2018. Due to the difficult lithology at the Site and extent of identified impacts, additional time was required to utilize sonic drilling on October 4, 2018. Following this drilling event, impacts to soil were defined laterally and vertically, but additional delineation was required to determine the lateral extent of impacts to groundwater. The *Stage 1 Abatement Plan* and the *Proposed Public Notice* were submitted on November 30, 2018, and officially acknowledged by the NMOCD on December 5, 2018. The plan was considered "Administratively Complete" by the NMOCD on January 22, 2019.

Subsequent sonic drilling activities occurred in March and June 2019. In total, there were 26 monitoring wells installed at the Site (Figure 2). Following installation, all groundwater monitoring

wells were surveyed and developed accordingly. Groundwater sampling events were conducted on a quarterly basis. Delineation results were submitted in the *April 2019 Update and Supplemental Report* and the *July 2019 Update and Supplemental Report*.

### **STAGE 2 ABATEMENT PLAN PREPARATION AND SUBMITTAL**

In the July 2019 Update and Supplemental Report, Hilcorp proposed in-situ remediation pilot testing. On August 30, 2019, a soil vapor extraction (SVE) pilot test was conducted. A fluid baildown and transmissivity test was conducted on September 11, 2019. The pilot test results were favorable for in-situ remediation using SVE and/or multiphase extraction (MPE). A Stage 2 Abatement Plan was submitted to the NMCOD on September 30, 2019, which summarized the pilot test results and proposed MPE as an effective remediation technique. A detailed MPE system design and installation schedule was proposed in the Stage 2 Abatement Plan.

Following the submission of the *Stage 2 Abatement Plan*, Hilcorp continued groundwater monitoring and phase separated hydrocarbon (PSH) recovery activities at the Site through the remainder of 2019 and throughout 2020, 2021, and 2022. Summaries and update reports of these quarterly sampling events were not submitted to the NMOCD, as Hilcorp was awaiting approval of the *Stage 2 Abatement Plan*. On October 21, 2022, the NMOCD determined the *Stage 2 Abatement Plan* to be "Administratively Complete" and requested the preparation of this summary report.

#### **RECENT SITE ACTIVITIES AND RESULTS**

Groundwater monitoring and sampling was conducted at the Site between 2019 and 2022. Groundwater elevations collected between 2018 and 2022 are summarized in Table 1. In general, the presence of groundwater at the Site is highly variable and no apparent continuous groundwater aquifer has been observed during drilling and/or groundwater monitoring activities. Seven monitoring wells are dry and have never contained groundwater or do not have a sufficient volume of groundwater to collect a sample for laboratory analysis. Five additional wells have historically contained highly variable volumes of water and do not always produce sufficient water volumes to be sampled for laboratory analysis. Furthermore, no saturated soils were observed during the advancement of soil borings in 2018 and 2019. Groundwater flow direction and gradient is generally difficult to interpret, as dry wells often exist around the perimeter of the Site, as well as between wells containing groundwater. Based on historical measurements, groundwater flow direction is variable across the Site, but is generally to the northwest.

The most recent groundwater monitoring event occurred on September 29, 2022. During this event, all 26 groundwater monitoring wells were gauged with an oil/water interface probe for depth to groundwater and the presence or absence of PSH. In wells with no observable PSH, groundwater samples were collected and submitted for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency Method 8021 (wells MW02, MW03, MW04, MW08, MW11, MW12, MW14, MW15, MW18, MW19, MW22, MW23, and MW26). Trace amounts of PSH were observed in five monitoring wells (MW01, MW05, MW06, MW10, and MW16). Although a depth to groundwater was measured, monitoring well MW07 has been damaged and is inaccessible for groundwater sampling. Additionally, six monitoring wells were dry or had insufficient volumes of water to collect samples (MW09, MW13, MW17, MW20, MW21, MW24, and MW25).

Laboratory analytical results from the September 2022 sampling event indicate a total of eight out of the 13 monitoring wells sampled exhibit one or more BTEX constituent concentration exceeding the New Mexico Water Quality Control Commission (NMWQCC) standards for groundwater. Benzene concentrations exceeded the NMWQCC standard in monitoring wells MW02, MW03,



MW04, MW12, MW14, MW15, MW18, and MW19, with concentrations ranging from 0.046 milligrams per liter (mg/L) in MW12 to 24 mg/L in MW15. Toluene concentrations exceeded the NMWQCC standard in monitoring wells MW02, MW03, MW14, MW15, and MW19, with concentrations ranging from 1.0 mg/L in MW03 to 12 mg/L in MW19. Ethylbenzene concentrations exceeded the NMWQCC standard in monitoring wells MW02, MW02, MW14, and MW19, with concentrations ranging from 1.1 mg/L in MW14 and MW19 to 1.6 mg/L in MW02. Total xylene concentrations exceeded NMWQCC standard in monitoring wells MW02, MW03, MW14, MW 15, and MW19, with concentrations ranging from 4.6 mg/L in MW15 to 16 mg/L in MW02.

Groundwater analytical results collected between 2018 and 2022 are summarized in Table 2, with the 2022 quarterly sampling results presented on Figure 3. Complete laboratory analytical reports are attached in Appendix A.

### UPCOMING REMEDIATION EVENTS AND SCHEDULE

As proposed in the approved *Stage 2 Abatement Plan*, Hilcorp intends to follow the remediation MPE system implementation schedule below, pending availability of system components:

- Complete final design, specifications, and equipment selection within 3 months of Stage 2 Plan approval;
- Obtain equipment within 6 months of Stage 2 Abatement Plan Approval;
- Complete remediation system installation and startup within 9 months of Stage 2 Abatement Plan Approval;
- Complete quarterly groundwater monitoring events during implementation;
- Operate SVE/MPE system for approximately 1 year and evaluate modifications based on performance monitoring results;
- Continue system operations and adjustments, continue quarterly groundwater monitoring and quarterly reporting for an initial estimate of two years;
- Complete post system operation monitoring including soil boring installation when SVE decline of emissions indicates potential to meet soil standards has been achieved; and
- Implement a second phase of remediation to address dissolved phase impacts.

We appreciate the opportunity to provide this Executive Summary to the NMOCD. If you should have any questions or comments regarding this document, please contact the undersigned.

Sincerely, Ensolum, LLC

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#### Attachments:

Standard #1

Figure 1:	Site Location Map
Figure 2:	Site Features
Figure 3:	2022 Groundwater Analytical Results
Table 1:	Groundwater Elevations
Table 2:	Groundwater Analytical Results
Appendix A:	Laboratory Analytical Reports



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## FIGURES

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### **ENSOLUM** 2022 Groundwater Analytical Results Standard #1

Hilcorp Energy Company

36.75285, -108.099744 San Juan County, New Mexico

### FIGURE

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Environmental, Engineering and Hydrogeologic Consultants



## TABLES

		GROUN	TABLE 1 IDWATER ELEV Standard #1	ATIONS		
		Hilc	orp Energy Comp	bany		
		San Ju	ian County, New	Mexico		
Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
		10/22/2018	20.80	20.97	0.17	5,768.25
		3/29/2019	20.69	21.35	0.66	5,768.26
		6/28/2019	20.70	21.44	0.74	5,768.23
		9/17/2019	20.64	20.83	0.19	5,768.40
		12/17/2019	20.50	20.89	0.39	5,768.50
		3/12/2020	20.49	20.76	0.27	5,768.54
		6/25/2020	20.39	20.65	0.26	5,768.64
MW01	5,789.08	9/23/2020	20.19	20.46	0.27	5,768.84
		3/21/2021	20.11	20.20	0.09	5,768.95
		6/14/2021	Trace	20.18	Trace	5,768.90
		9/20/2021		19.62		5,769.46
		12/2/2021	Trace	19.50	Trace	5,769.58
		3/1/2022	Trace	19.62	Trace	5,769.46
		6/7/2022	Trace	19.39	Trace	5,769.69
		9/29/2022	19.08	19.10	0.02	5,770.00
		10/22/2018		21.12		5,768.24
		3/29/2019	20.85	21.11	0.26	5,768.46
		6/28/2019	20.95	21.30	0.35	5,768.34
		9/17/2019	20.80	20.85	0.05	5,768.55
		12/17/2019		20.74		5,768.62
		3/12/2020		20.65		5,768.71
		6/25/2020		20.58		5,768.78
MW02	5,789.36	9/23/2020		20.43		5,768.93
		3/31/2021		20.29		5,769.07
		6/14/2021	Trace	20.21	Trace	5,769.15
		9/20/2021		19.77		5,769.59
		12/3/2021		19.68		5,769.68
		3/1/2022		19.83		5,769.53
		6/7/2022	Irace	19.56	Irace	5,769.80
		9/29/2022		19.26		5,770.10
		10/22/2018				
		3/29/2019		30.90		5,761.16
		6/28/2019		32.14		5,759.92
		9/17/2019		27.32		5,704.74
		3/12/2019		23.13		5,700.31
		6/25/2020		23.40		5,700.00
M\M/03	5 702 06	0/23/2020		23.23		5,700.01
1111405	0,192.00	3/21/2020		23.00 22 R1		5,760.90
		6/11/2021		22.01		5,769.25
		9/2//2021	 22.24	22.01	0.01	5,769,40
		12/3/2021		22.23		5 769 89
		3/1/2022	 	22.17		5 769 76
		6/7/2022		22.00		5,770.02
		9/29/2022		21 71		5,770.35
		0,20,2022		<u> </u>		0,110.00

		GROUN	TABLE 1	ATIONS		
			Standard #1			
		HIIC	orp Energy Comp	bany		
		San Ju	ian County, New I			
Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
		10/22/2018		31.80		5,760.55
		3/29/2019		DRY		DRY
		6/28/2019		DRY		DRY
		9/17/2019		31.88		5,760.47
		12/17/2019		31.87		5,760.48
		3/12/2020		DRY		DRY
		6/25/2020		31.89		5,760.46
MW04	5,792.35	9/23/2020		30.99		5,761.36
		3/31/2021		28.31		5,764.04
		6/14/2021		26.98		5,765.37
		9/24/2021		24.85		5,767.50
		12/3/2021		22.12		5,770.23
		3/1/2022		22.52		5,769.83
		6/7/2022		21.38		5,770.97
		9/29/2022		21.13		5,771.22
		10/22/2018		28.39		5,764.21
		3/29/2019		24.65		5,767.95
		6/28/2019		24.53		5,768.07
		9/17/2019		21.41		5,771.19
		12/17/2019		21.25		5,771.35
		3/12/2020		21.10		5,771.50
		6/25/2020		21.13		5,771.47
MW05	5,792.60	9/23/2020		20.93		5,771.67
		3/31/2021		20.76		5,771.84
		6/14/2021		20.61		5,771.99
		9/24/2021		20.37		5,772.23
		12/3/2021		20.41		5,772.19
		3/1/2022		20.58		5,772.02
		6/7/2022	Trace	20.24	Trace	5,772.36
		9/29/2022	Trace	20.02	Trace	5,772.58
		10/22/2018	24.08	24.48	0.40	5,768.15
		3/29/2019	23.55	24.00	0.45	5,768.67
		6/28/2019	23.72	23.95	0.23	5,768.54
		9/17/2019	20.67	20.75	0.08	5,771.62
		12/17/2019	20.61	20.62	0.01	5,771.70
		3/12/2020		20.43		5,771.88
		6/25/2020		20.36		5,771.95
MW06	5,792.31	9/23/2020		20.16		5,772.15
		3/31/2021		19.89		5,772.42
		6/14/2021	Trace	19.63	Trace	5,772.68
		9/24/2021		19.27		5,773.04
		12/3/2021		19.27		5,773.04
		3/1/2022		19.43		5,772.88
		6/7/2022		19.11		5,773.20
		9/29/2022	Trace	18.80	Trace	5,773.51

		GROUN Hilc	TABLE 1 IDWATER ELEV Standard #1 orp Energy Comp	ATIONS		
Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
		10/22/2018		DRY		DRY
		3/29/2019		DRY		DRY
		6/28/2019		DRY		DRY
		9/17/2019		DRY		DRY
		12/17/2019		DRY		DRY
		3/12/2020		DRY		DRY
		6/25/2020		DRY		DRY
MW07	5,791.15	9/23/2020		DRY		DRY
		3/31/2021		DRY		DRY
		6/14/2021		DRY		DRY
		9/24/2021		DRY		DRY
		12/2/2021		DRY		DRY
		3/1/2022		DRY		DRY
		6/7/2022		DRY		DRY
		9/29/2022		21.80		5,769.35
		10/22/2018		DRY		DRY
		3/29/2019		DRY		DRY
		6/28/2019		24.07		5,768.35
		9/17/2019		23.81		5,768.61
		12/17/2019		23.42		5,769.00
		3/12/2020		23.37		5,769.05
		6/25/2020		23.28		5,769.14
MW08	5,792.42	9/23/2021		22.88		5,769.54
		3/31/2021		22.14		5,770.28
		6/14/2021		21.67		5,770.75
		9/24/2021		21.52		5,770.90
		12/2/2021		21.76		5,770.66
		3/1/2022		21.81		5,770.61
		6/7/2022		21.17		5,771.25
		9/29/2022		21.02		5,771.40
		10/22/2018		DRY		DRY
		3/29/2019		DRY		DRY
		6/28/2019		DRY		DRY
		9/17/2019		DRY		DRY
		12/17/2019		DRY		DRY
		3/12/2020		DRY		DRY
		6/25/2020		DRY		DRY
MW09	5,786.16	9/23/2020		DRY		DRY
	,	3/31/2021		DRY		DRY
		6/14/2021		DRY		DRY
		9/24/2021		DRY		DRY
		12/2/2021				
		3/1/2022				
		6/7/2022		DRY		DRY
		9/29/2022		DRY		DRY
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		GROUN	TABLE 1 IDWATER ELEV Standard #1	ATIONS		
		Hilc	orp Energy Comp	bany		
		San Ju	an County, New	Mexico		
Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
		10/22/2018		32.26		5,757.04
		3/29/2019	21.73	22.04	0.31	5,767.51
		6/28/2019	21.55	21.94	0.39	5,767.67
		9/17/2019	21.23	21.55	0.32	5,768.01
		12/17/2019	20.88	21.71	0.83	5,768.25
		3/12/2020	20.81	21.68	0.87	5,768.32
		6/25/2020	20.75	21.43	0.68	5,768.41
MW10	5,789.30	9/23/2020	20.51	21.03	0.52	5,768.69
		3/31/2021	20.42	20.63	0.21	5,768.84
		6/14/2021	Trace	20.71	Trace	5,768.59
		9/24/2021		19.92		5,769.38
		12/3/2021		19.80		5,769.50
		3/1/2022		19.95		5,769.35
		6/7/2022	Trace	19.70	Trace	5,769.60
		9/29/2022	Trace	19.43	Trace	5,769.87
		10/22/2018		19.89		5,768.10
		3/29/2019		19.63		5,768.36
		6/28/2019		19.37		5,768.62
		9/17/2019		19.31		5,768.68
		12/17/2019		19.17		5,768.82
		3/12/2020		18.91		5,769.08
	F 797 00	6/25/2020		18.85		5,769.14
1010011	5,787.99	9/23/2020		18.71		5,769.28
		3/31/2021		18.40		5,769.59
		6/14/2021		18.06		5,769.93
		9/24/2021		17.72		5,770.27
		2/1/2022		17.79		5,770.20
		6/7/2022		17.90		5,770.09
		0/1/2022		17.55		5,770.44
		9/29/2022		21.77		5,770.72
		3/29/2010		21.77		5,767.69
		6/28/2019		21.00		5,767.09
		9/17/2019		21.07		5 768 08
		12/17/2019		21.10		5 768 03
		3/12/2020		21.34		5,768,26
		6/25/2020		21.21		5.768.36
MW12	5,789.57	9/23/2020		21.02		5.768.55
	-,	3/31/2021		20.93		5.768.64
		6/14/2021		20.61		5,768.96
		9/24/2021		20.17		5,769.40
		12/2/2021		20.17		5,769.40
		3/1/2022		20.30		5,769.27
		6/7/2022		20.02		5,769.55
		9/29/2022		19.68		5,769.89

		GROUN	TABLE 1			
			Standard #1			
		Hilc	orp Energy Comp	bany		
		San Ju	ian County, New	Mexico		
Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
		10/22/2018		DRY		DRY
		3/29/2019		DRY		DRY
		6/28/2019		DRY		DRY
		9/17/2019		DRY		DRY
		12/17/2019		DRY		DRY
		3/12/2020		DRY		DRY
		6/25/2020		DRY		DRY
MW13	5,785.16	9/23/2020		DRY		DRY
		3/31/2021		DRY		DRY
		6/14/2021		DRY		DRY
		9/24/2021		DRY		DRY
		12/2/2021		DRY		DRY
		3/1/2022		DRY		DRY
		6/7/2022		DRY		DRY
		9/29/2022		DRY		DRY
		10/22/2018		22.87		5,762.59
		3/29/2019	20.26	20.47	0.21	5,765.16
		6/28/2019	19.15	19.16	0.01	5,766.31
		9/17/2019	18.65	18.69	0.04	5,766.80
		12/17/2019	18.61	18.74	0.13	5,766.82
		3/12/2020		18.81		5,766.65
		6/25/2020		18.18		5,767.28
MW14	5,785.46	9/23/2020		17.92		5,767.54
		3/31/2021		17.92		5,767.54
		6/14/2021	Trace	17.78	Trace	5,767.68
		9/24/2021		17.52		5,767.94
		12/3/2021		17.79		5,767.67
		3/1/2022		17.08		5,768.38
		6/7/2022		16.84		5,768.62
		9/29/2022		16.37		5,769.09
		3/29/2019		DRY		DRY
		6/28/2019		35.95		5,756.24
		9/17/2019		33.22		5,758.97
		12/17/2019		31.61		5,760.58
		3/12/2020		31.42		5,760.77
		6/25/2020		30.41		5,761.78
	5 702 10	9/23/2020		27.42		5,764.77
C I AAIAI	5,132.13	3/31/2021		27.8		5,764.39
		6/14/2021		29.18		5,763.01
		9/24/2021		26.69		5,765.50
		12/3/2021		26.82		5,765.37
		3/1/2022		26.57		5,765.62
		6/7/2022		26.49		5,765.70
		9/29/2022		25.95		5,766.24

		GROUN	TABLE 1 DWATER ELEV Standard #1 orp Energy Comr	ATIONS		
		San Ju	an County, New	Mexico		
Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
		3/29/2019		28.59		5,757.95
		6/28/2019		21.00		5,765.54
		9/17/2019		20.91		5,765.63
		12/17/2019		21.11		5,765.43
		3/12/2020		20.89		5,765.65
		6/25/2020		20.51		5,766.03
MW16	5 786 54	9/23/2020		20.37		5,766.17
	0,700.04	3/31/2021	19.99	20.04	0.05	5,766.54
		6/14/2021	Trace	19.51	Trace	5,767.03
		9/24/2021		18.81		5,767.73
		12/2/2021	Trace	18.46	Trace	5,768.08
		3/1/2022		18.39		5,768.15
		6/7/2022		18.00		5,768.54
		9/29/2022	17.53	17.54	0.01	5,769.01
		3/29/2019		DRY		DRY
		6/28/2019		DRY		DRY
		9/17/2019		30.24		5,755.01
		12/17/2019		DRY		DRY
		3/12/2020		DRY		DRY
		6/25/2020		DRY		DRY
MW17	5,785.25	9/23/2020		DRY		DRY
		3/31/2021		DRY		DRY
		6/14/2021		DRY		DRY
		9/24/2021		DRY		DRY
		12/2/2021		30.24		5,755.01
		3/1/2022		DRY		DRY
		6/7/2022		30.21		5,755.04
		9/29/2022		30.22		5,755.03
		3/29/2019				
		0/28/2019		20.39		5,768.95
		3/17/2019		19.00		5,770.28
		2/12/2020		19.98		5,769.36
		6/25/2020		19.90		5,769.50
		0/23/2020		10.55		5,769.00
MW18	5,789.34	3/21/2020		10 /2		5,769,01
		6/14/2021		18.43		5,709.91
		9/24/2021		18.52		5 770 82
		12/2/2021		18.64		5 770 70
		3/1/2022		18 90		5 770 44
		6/7/2022		18.25		5,771,09
		9/29/2022		18.01		5,771.33

		GROUN	TABLE 1 IDWATER ELEV Standard #1 orn Energy Com			
		San Ju	ian County, New	Mexico		
Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
		3/29/2019		19.60		5,766.88
		6/28/2019		19.55		5,766.93
		9/17/2019		19.35		5,767.13
		12/17/2019		19.37		5,767.11
		3/12/2020		19.45		5,767.03
		6/25/2020		19.30		5,767.18
MW19	5,786,48	9/23/2020		19.08		5,767.40
	-,	3/31/2021		19.21		5,767.27
		6/14/2021		19.10		5,767.38
		9/24/2021		18.70		5,767.78
		12/2/2021		DRY		DRY
		3/1/2022		18.49		5,767.99
		6/7/2022		18.35		5,768.13
		9/29/2022		17.15		5,769.33
		3/29/2019		29.61		5,753.73
		6/28/2019		30.00		5,753.34
		9/17/2019		30.21		5,753.13
		12/17/2019		30.15		5,753.19
		3/12/2020		30.30		5,753.04
		6/25/2020		DRY		DRY
MW20	5,783.34	9/23/2020		DRY		
		3/31/2021		DRY		DRY
		6/14/2021		DRY		
		9/24/2021				DR 1
		12/2/2021		30.24		5,753.10
		6/7/2022				
		0/1/2022				
		3/20/2010				
		6/28/2019				
		9/17/2019				
		12/17/2019				
		3/12/2020		DRY		DRY
		6/25/2020		DRY		DRY
		9/23/2020		DRY		DRY
MW21	5,800.30	3/31/2021		DRY		DRY
		6/14/2021		DRY		DRY
		9/24/2021		DRY		DRY
		12/2/2021		DRY		DRY
		3/1/2022		DRY		DRY
		6/7/2022		DRY		DRY
		9/29/2022		DRY		DRY

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		GROUN Hilc	TABLE 1 DWATER ELEV Standard #1 orp Energy Comp	ATIONS Dany		
Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
		3/29/2019		22.56		5,763.69
		6/28/2019		17.62		5,768.63
		9/17/2019		17.54		5,768.71
		12/17/2019		17.35		5,768.90
		3/12/2020		17.10		5,769.15
		6/25/2020		17.04		5,769.21
M\\A/22	5 796 25	9/23/2020		16.85		5,769.40
101 00 22	5,780.25	3/31/2021		16.43		5,769.82
		6/14/2021		16.10		5,770.15
		9/24/2021		15.74		5,770.51
		12/2/2021		15.84		5,770.41
		3/1/2022		15.95		5,770.30
		6/7/2022		15.53		5,770.72
		9/29/2022		15.25		5,771.00
		6/28/2019		45.99		5,758.81
		9/17/2019		40.23		5,764.57
		12/17/2019		39.16		5,765.64
		3/12/2020		38.71		5,766.09
		6/25/2020		38.92		5,765.88
		9/23/2020		38.83		5,765.97
MW23	5,804.80	3/31/2021		37.97		5,766.83
		6/14/2021		37.90		5,766.90
		9/24/2021		37.44		5,767.36
		12/3/2021		37.32		5,767.48
		3/1/2022		37.38		5,767.42
		6/7/2022		36.99		5,767.81
		9/29/2022		36.61		5,768.19
		6/28/2019		DRY		DRY
		9/17/2019		DRY		DRY
		12/17/2019		DRY		DRY
		3/12/2020		DRY		DRY
		6/25/2020		DRY		DRY
		9/23/2020		DRY		DRY
MW24	5,782.50	3/31/2021		DRY		DRY
		6/14/2021		DRY		DRY
		9/24/2021		DRY		DRY
		12/2/2021		33.08		5,749.42
		3/1/2022		DRY		DRY
		6/7/2022		DRY		DRY
		9/29/2022		33.09		5,749.41

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## **E N S O L U M**

		GROUN	TABLE 1 IDWATER ELEV Standard #1	ATIONS		
		Hilc San Ju	orp Energy Com	pany Mexico		
Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
		6/28/2019		32.98		5,742.67
		9/17/2019		32.91		5,742.74
		12/17/2019		32.92		5,742.73
		3/12/2020		32.92		5,742.73
		6/25/2020		32.93		5,742.72
		9/23/2020		DRY		DRY
MW25	5,775.65	3/31/2021		DRY		DRY
		6/14/2021		DRY		DRY
		9/24/2021		DRY		DRY
		12/1/2021		33.06		5,742.59
		3/1/2022		DRY		DRY
		6/7/2022		33.04		5,742.61
		9/29/2022		33.05		5,742.60
		6/28/2019		19.71		5,770.25
		9/17/2019		19.64		5,770.32
		12/17/2019		19.41		5,770.55
		3/12/2020		19.29		5,770.67
		6/25/2020		19.29		5,770.67
		9/23/2020		19.28		5,770.68
MW26	5,789.96	3/31/2021		18.64		5,771.32
		6/14/2021		18.30		5,771.66
		9/24/2021		18.32		5,771.64
		12/3/2021		18.55		5,771.41
		3/1/2022		18.50		5,771.46
		6/7/2022		17.86		5,772.10
		9/29/2022		17.81		5,772.15

Notes:

AMSL: above mean sea level

BTOC: below top of casing

Trace: trace amounts of free product in well

-- - not assessed

A product density factor if 0.8 was used to account for the presence of free product

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		TABLE	2		
	GROUND	WATER ANALY	TICAL RESUL	ſS	
		Standard a	#1		
		Hilcorp Energy C	Company		
	Sa	n Juan County, N	lew Mexico		
Monitoring Well	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
NMWQCC St	andard	0.005	1.0	0.7	0.62
	10/22/2018	N	o sample collected d	lue to presence of PS	6H
	3/29/2019	N	o sample collected d	lue to presence of PS	SH
	6/28/2019	N	o sample collected d	lue to presence of PS	SH
	9/17/2019	N	o sample collected d	lue to presence of PS	SH
	12/17/2019	N	o sample collected d	lue to presence of PS	SH
	3/12/2020	N	o sample collected d	lue to presence of PS	SH
	6/25/2020	N	o sample collected d	lue to presence of PS	SH
100/04	9/23/2020	N	o sample collected d	lue to presence of PS	SH
MVV01	12/15/2020	N	o sample collected d	lue to presence of PS	SH
	3/21/2021	N	o sample collected d	lue to presence of PS	SH
	6/14/2021	N	o sample collected d	lue to presence of PS	6H
	9/20/2021	27	39	1.3	15
	12/2/2021	N	o sample collected d	ue to presence of PS	6H
	3/1/2022	N	o sample collected d	lue to presence of PS	6H
	6/7/2022	N	o sample collected d	lue to presence of PS	SH
	9/29/2022	N	o sample collected d	lue to presence of PS	SH
	10/22/2018	14	7.1	1.2	12
	3/29/2019	N	o sample collected d	lue to presence of PS	SH
	6/28/2019	N	o sample collected d	ue to presence of PS	SH SH
	9/17/2019	N	o sample collected d	lue to presence of PS	SH
	12/17/2019	N	o sample collected d	lue to presence of PS	SH
	3/12/2020	17	8.2	1.8	15
	6/25/2020	19	18	2.3	21
	9/23/2020	17	16	2.8	25
MW02	12/15/2020	17	12	1.9	19
	3/31/2021	16	12	2.0	20
	6/14/2021	N	o sample collected d	ue to presence of PS	SH
	9/20/2021	15	7.3	1.6	20
	12/3/2021	16	6.9	1.8	20
	3/1/2022	14	4.4	13	15
	6/7/2022	N	o sample collected d	ue to presence of PS	SH
	9/29/2022	16	26	16	16
<u></u>	10/22/2018		nsufficient Water Volu	imes to Collect Sampl	.▼
	3/29/2019	21			11
	6/28/2019		nsufficient Water Volu	I Sizi	•
	9/17/2019	12			69
	12/17/2019	12	nsufficient Water Vel	I V.22	0.0
	3/12/2013	15			63
	6/25/2020	14	0.20	0.47	1.5
	0/23/2020	14	0.57	0.01	3.5
MW03	12/15/2020	14	0.07	0.40	1.6
	2/21/2021	14	1 2	0.39	1.0
	S/31/2021	10	1.3	0.40	1.7
	0/14/2021	12	1.8	0.37	4.9
	9/23/2021	13	4.2	0.34	ō.2
	12/3/2021	10	2.3	0.54	5.5
	3/1/2022	16	2.2	0.59	6.0
	0/1/2022	10	2.0	0.70	0.0
	9/29/2022	17	1.0	0.66	6.4

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GROUNDWATER ANALYTICAL RESULTS Standard #1 Hilcorp Energy Company San Juan County, New Mexico     Monitoring Well   Date   Benzene (mg/L)   Toluene (mg/L)   Ethylbenzene (mg/L)   Total Xylenes (mg/L)     NMWQCC Standard   0.005   1.0   0.7   0.62     10/22/2018   Insufficient Water Volumes to Collect Sample   3/29/2019   Insufficient Water Volumes to Collect Sample     6/28/2019   Insufficient Water Volumes to Collect Sample   9/17/2019   Insufficient Water Volumes to Collect Sample     12/17/2019   Insufficient Water Volumes to Collect Sample   3/12/2020   Insufficient Water Volumes to Collect Sample
Standard #1     Hilcorp Energy Company     San Juan County, New Mexico     Monitoring Well   Date   Benzene (mg/L)   Toluene (mg/L)   Ethylbenzene (mg/L)   Total Xylenes (mg/L)     NMWQCC Standard   0.005   1.0   0.7   0.62     10/22/2018   Insufficient Water Volumes to Collect Sample   3/29/2019   Insufficient Water Volumes to Collect Sample     6/28/2019   Insufficient Water Volumes to Collect Sample   9/17/2019   Insufficient Water Volumes to Collect Sample     12/17/2019   Insufficient Water Volumes to Collect Sample   3/12/2020   Insufficient Water Volumes to Collect Sample
Hilcorp Energy Company San Juan County, New MexicoMonitoring WellDateBenzene (mg/L)Toluene (mg/L)Ethylbenzene (mg/L)Total Xylenes (mg/L)NMWQCC Standard0.0051.00.70.6210/22/2018Insufficient Water Volumes to Collect Sample3/29/2019Insufficient Water Volumes to Collect Sample6/28/2019Insufficient Water Volumes to Collect Sample9/17/2019Insufficient Water Volumes to Collect Sample12/17/2019Insufficient Water Volumes to Collect Sample3/12/2020Insufficient Water Volumes to Collect Sample
Monitoring WellDateBenzene (mg/L)Toluene (mg/L)Ethylbenzene (mg/L)Total Xylenes (mg/L)NMWQCC Standard0.0051.00.70.6210/22/2018Insufficient Water Volumes to Collect Sample3/29/2019Insufficient Water Volumes to Collect Sample6/28/2019Insufficient Water Volumes to Collect Sample9/17/2019Insufficient Water Volumes to Collect Sample12/17/2019Insufficient Water Volumes to Collect Sample3/12/2020Insufficient Water Volumes to Collect Sample
Monitoring WellDateBenzene (mg/L)Ioluene (mg/L)Ethylbenzene (mg/L)Iotal Xylenes (mg/L)NMWQCC Standard0.0051.00.70.6210/22/2018Insufficient Water Volumes to Collect Sample3/29/2019Insufficient Water Volumes to Collect Sample6/28/2019Insufficient Water Volumes to Collect Sample9/17/2019Insufficient Water Volumes to Collect Sample12/17/2019Insufficient Water Volumes to Collect Sample3/12/2020Insufficient Water Volumes to Collect Sample
NMWQCC Standard0.0051.00.70.6210/22/2018Insufficient Water Volumes to Collect Sample3/29/2019Insufficient Water Volumes to Collect Sample6/28/2019Insufficient Water Volumes to Collect Sample9/17/2019Insufficient Water Volumes to Collect Sample12/17/2019Insufficient Water Volumes to Collect Sample3/12/2020Insufficient Water Volumes to Collect Sample
10/22/2018Insufficient Water Volumes to Collect Sample3/29/2019Insufficient Water Volumes to Collect Sample6/28/2019Insufficient Water Volumes to Collect Sample9/17/2019Insufficient Water Volumes to Collect Sample12/17/2019Insufficient Water Volumes to Collect Sample3/12/2020Insufficient Water Volumes to Collect Sample
3/29/2019Insufficient Water Volumes to Collect Sample6/28/2019Insufficient Water Volumes to Collect Sample9/17/2019Insufficient Water Volumes to Collect Sample12/17/2019Insufficient Water Volumes to Collect Sample3/12/2020Insufficient Water Volumes to Collect Sample
6/28/2019Insufficient Water Volumes to Collect Sample9/17/2019Insufficient Water Volumes to Collect Sample12/17/2019Insufficient Water Volumes to Collect Sample3/12/2020Insufficient Water Volumes to Collect Sample
9/17/2019Insufficient Water Volumes to Collect Sample12/17/2019Insufficient Water Volumes to Collect Sample3/12/2020Insufficient Water Volumes to Collect Sample
12/17/2019Insufficient Water Volumes to Collect Sample3/12/2020Insufficient Water Volumes to Collect Sample
3/12/2020 Insufficient Water Volumes to Collect Sample
6/25/2020 Insufficient Water Volumes to Collect Sample
9/23/2020 Insufficient Water Volumes to Collect Sample
MW04 12/15/2020 <b>0.69</b> 0.035 0.052 0.19
3/31/2021 <b>1.1</b> <0.002 0.095 0.018
6/14/2021 <b>1.7</b> 0.0035 0.11 0.020
9/20/2021 <b>0.83</b> 0.045 0.051 0.14
12/3/2021 <b>1.3</b> <0.010 <b>0.099</b> <0.020
<b>3/1/2022 0.91</b> <0.020 <b>0.066</b> <0.040
6/7/2022 0.24 <0.0010 <0.0010 <0.0020
9/29/2022 <b>1.5</b> <0.020 <b>0.033</b> <0.030
10/22/2018 Insufficient Water Volumes to Collect Sample
3/29/2019 <b>10</b> 0.88 0.45 <b>2.9</b>
6/28/2019 <b>5.9</b> 0.16 0.20 <b>1.4</b>
9/17/2019 <b>5.0</b> 0.77 0.11 <b>3.1</b>
12/17/2019 <b>5.4</b> 0.14 0.15 <b>2.6</b>
3/12/2020 <b>4.4</b> 0.13 0.18 <b>1.0</b>
6/25/2020 <b>5.0</b> 0.17 0.087 <b>0.70</b>
9/23/2020 <b>3.9 1.1</b> 0.26 <b>4.2</b>
MW05 12/15/2020 <b>3.3 2.8</b> 0.37 <b>9.5</b>
3/31/2021 <b>2.5 6.0 0.73 15</b>
6/14/2021 <b>4.4 1.8</b> 0.55 <b>18</b>
9/20/2021 <b>3.5 4.0 0.80 20</b>
12/3/2021 <b>3.6 3.5 0.72 19</b>
3/1/2022 <b>2.9 0.81</b> 0.62 <b>13</b>
6/7/2022 No sample collected due to presence of PSH
9/29/2022 No sample collected due to presence of PSH
10/22/2018 No sample collected due to presence of PSH
3/29/2019 No sample collected due to presence of PSH
6/28/2019 No sample collected due to presence of PSH
9/17/2019 No sample collected due to presence of PSH
12/17/2019 No sample collected due to presence of PSH
3/12/2020 <b>19 25 1.3 14</b>
6/25/2020 <b>20 31 1.5 17</b>
9/23/2020 16 24 1.5 18
MW06 12/15/2020 15 21 1.7 21
3/31/2021 <b>16 21 1.7 21</b>
9/24/2021 No sample collected due to presence of PSH
9/20/2021 14 19 1.3 16
12/3/2021 <b>13 19 1.3 17</b>
3/1/2022 13 20 1.3 18
6/7/2022     11     15     1.1     16
9/29/2022 No sample collected due to presence of PSH

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		TABLE	2							
	GROUND	WATER ANALY	TICAL RESUL	тѕ						
		Standard #	<b>#1</b>							
		Hilcorp Energy C	ompany							
	Sa	n Juan County, N	lew Mexico							
Monitoring Well	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)					
NMWQCC Sta	 Indard	0.005	1.0	0.7	0.62					
	10/22/2018			lo Sample Collected						
	3/29/2019		Well Damaged, N	lo Sample Collected						
	6/28/2019		Well Damaged, N	lo Sample Collected						
	9/17/2019		Well Damaged, N	lo Sample Collected						
	12/17/2019		Well Damaged, N	lo Sample Collected						
	3/12/2020		Well Damaged, N	lo Sample Collected						
	6/25/2020	Well Damaged, No Sample Collected Well Damaged, No Sample Collected								
	9/23/2020									
MW07	12/15/2020		Well Damaged, N	lo Sample Collected						
	3/31/2021		Well Damaged. N	lo Sample Collected						
	6/14/2021		Well Damaged, N	lo Sample Collected						
	9/20/2021		Well Damaged, N	lo Sample Collected						
	12/3/2021	Well Damaged, No Sample Collected								
	3/1/2022	Well Damaged, N	lo Sample Collected							
	6/7/2022		Well Damaged, N	lo Sample Collected						
	9/29/2022	Well Damaged, No Sample Collected								
	10/22/2018	lı	nsufficient Water Vol	umes to Collect Samp	le					
	3/29/2019	lı	nsufficient Water Vol	umes to Collect Samp	le					
	6/28/2019	<0.0010	<0.0010	<0.0010	<0.0020					
	9/17/2019	<0.0010	<0.0010	<0.0010	<0.0020					
	3/12/2020	<0.0010	<0.0010	<0.0010	0.0017					
	6/25/2020	<0.0010	<0.0010	<0.0010	<0.0015					
	9/23/2020	<0.0010	<0.0010	<0.0010	<0.0015					
MW08	3/31/2021	<0.0010	<0.0010	<0.0010	<0.0015					
	12/15/2020	<0.0010	<0.0010	<0.0010	<0.0020					
	6/14/2021	<0.0010	<0.0010	<0.0010	<0.0015					
	9/23/2021	<0.0010	<0.0010	<0.0010	<0.0020					
	12/2/2021	<0.0010	<0.0010	<0.0010	<0.0020					
	3/1/2022	<0.0010	<0.0010	<0.0010	<0.0020					
	6/7/2022	<0.0010	<0.0010	<0.0010	<0.0020					
	9/29/2022	<0.0010	<0.0010	<0.0010	<0.0015					
	10/22/2018	II	nsufficient Water Vol	umes to Collect Samp	le					
	3/29/2019	lı	nsufficient Water Vol	umes to Collect Samp	le					
	6/28/2019	 	nsufficient Water Vol	umes to Collect Samp	le					
	9/17/2019	li	nsufficient Water Vol	umes to Collect Samp	le					
	12/17/2019	II	nsufficient Water Vol	umes to Collect Samp	le					
	3/12/2020	!!		umes to Collect Samp	le					
	6/25/2020			umes to Collect Samp						
MW09	9/23/2020									
	12/15/2020		sufficient water Vol	umes to Collect Samp						
	3/31/2021	 	sumcient water Vol	umes to Collect Samp						
	0/14/2021									
	9/20/2021	I		umes to Collect Samp						
	2/1/2022	I	summer water vol	umes to Collect Samp						
	6/7/2022	I 	Sumplerit Water Vol	umes to Collect Samp						
	0/1/2022	1	nsufficient Water Vol	umes to Collect Samp						
	312312022			amos to collect damp						

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		TABLE	2							
	GROUND	WATER ANALY	TICAL RESUL	T <b>S</b>						
		Standard	#1							
		Hilcorp Energy C	Company							
	Sa	in Juan County, N	lew Mexico							
Monitoring Well	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)					
NMWQCC St	andard	0.005	1.0	0.7	0.62					
	10/22/2018	22	21	1.6	13					
	3/29/2019	N	o sample collected d	ue to presence of P	SH					
	6/28/2019	N	o sample collected d	lue to presence of P	SH					
	9/17/2019	No sample collected due to presence of PSH								
	12/17/2019	No sample collected due to presence of PSH								
	3/12/2020	N	o sample collected d	lue to presence of PS	SH					
	6/25/2020	N	o sample collected d	lue to presence of PS	SH					
M\\/10	9/23/2020	No sample collected due to presence of PSH No sample collected due to presence of PSH								
	12/15/2020									
	3/31/2021	No sample collected due to presence of PSH								
	6/14/2021	N	o sample collected d	lue to presence of P	SH					
	9/23/2021	19	4.8	1.4	15					
	12/3/2021	21	5.8	1.4	14					
	3/1/2022	20	5.6	1.4	13					
	6/7/2022	N	o sample collected d	lue to presence of PS	SH					
	9/29/2022	N	No sample collected due to presence of PSH							
	10/22/2018	<0.0010	<0.0010	<0.0010	<0.0015					
	3/29/2019	0.0036	<0.0010	<0.0010	<0.0015					
	6/28/2019	<0.0010	<0.0010	<0.0010	<0.0015					
	9/17/2019	<0.0010	<0.0010	<0.0010	<0.002					
	12/17/2019	NS	NS NS NS		NS					
	3/12/2020	0.001	0.001 0.0011 <0.001		0.0051					
	6/25/2020	<0.0010	<0.0010	<0.0010	<0.0015					
MW11	9/23/2020	<0.0010	<0.0010	<0.0010	<0.0015					
	12/15/2020	0.0055	<0.0010	<0.0010	<0.002					
	3/31/2021	<0.0010	<0.0010	<0.0010	<0.0015					
	6/14/2021	<0.0010	<0.0010	<0.0010	<0.0015					
	9/23/2021	<0.0010	<0.0010	<0.0010	<0.002					
	12/2/2021	<0.0010	<0.0010	<0.0010	<0.002					
	3/1/2022	<0.0010	<0.0010	<0.0010	<0.002					
	6/7/2022	<0.0010	<0.0010	<0.0010	<0.002					
	9/29/2022	<0.0010	<0.0010	<0.0010	<0.0015					
	10/22/2018	2.4	3.8	1.1	5.0					
	3/29/2019	0.87	0.018	1.2	1.5					
	6/28/2019	0.81	0.055	1.0	0.50					
	9/17/2019	0.92	0.12	1.1	0.41					
	12/17/2019	0.94	0.034 0.46		0.24					
	3/12/2020	1.6	0.360	0.48	0.55					
	6/25/2020	0.71	0.220	<0.02	0.34					
MW12	9/23/2020	0.89	0.087	0.22	0.12					
	12/15/2020	0.72	0.037	0.14	0.05					
	3/31/2021	0.69	0.051	0.14	0.054					
	6/14/2021	0.37	0.0052	0.072	0.012					
	12/2/2021	NS	NS	NS	NS					
	12/2/2021	0.37	<0.0050	0.110	<0.010					
	3/1/2022	0.24	<0.0020	0.031	<0.0040					
	6/7/2022	0.11	<0.0010	0.016	0.0030					
	9/29/2022	0.046	<0.0050	0.014	<0.0075					

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TABLE 2								
GROUNDWATER ANALYTICAL RESULTS								
Standard #1								
		Hilcorp Energy C	Company					
	Sa	n Juan County, N	lew Mexico					
Monitoring Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes			
	Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)			
NMWQCC Star	ndard	0.005	1.0	0.7	0.62			
	10/22/2018	13	26	1.1	10			
	3/29/2019	N	o sample collected d	ue to presence of PS	SH			
	6/28/2019	N	o sample collected d	ue to presence of PS	SH			
	9/17/2019	N	o sample collected d	ue to presence of PS	SH			
	12/17/2019	NS	NS	NS	NS			
	3/12/2020	13	13	1.3	14			
	6/25/2020	11	17	1.0	15			
	9/23/2020	8.2	14	0.80	16			
1010014	12/15/2020	9.1	13	1.4	19			
	3/31/2021	9.4	17	1.5	18			
	6/14/2021	N	o sample collected d	ue to presence of PS	SH			
	9/24/2021	7.1	9.2	0.80	14			
	12/3/2021	6.5	7.6	1.2	15			
	3/1/2022	5.3	5.7	1.2	14			
	6/7/2022	N	o sample collected d	ue to presence of PS	SH			
	9/29/2022	4.3	1.3	1.1	6.3			
	3/29/2019	Ins	sufficient Water Volu	mes to Collect Sam	ole			
	6/28/2019	24	28	1.1	10			
	9/17/2019	24	28	0.87	9.4			
	12/17/2019	23	29	0.64	10			
	3/12/2020	23	4.5	0.66	9.4			
	6/25/2020	28	1.0	0.47	8.6			
	9/23/2020	21	1.2	0.61	8.6			
MW15	12/15/2020	22	0.9	0.62	8.3			
	3/31/2021	25	0.6	0.69	8.5			
	6/14/2021	26	0.42	0.60	8.9			
	9/23/2021	22	0.82	0.57	6.6			
	12/3/2021	24	1.0	0.56	4.1			
	3/1/2022	23	3.4	0.65	4.4			
	6/7/2022	22	3.9	0.50	2.9			
	9/29/2022	24	7.5	0.64	4.6			
	3/29/2019	7.7	14	0.94	8.6			
	6/28/2019	3.4	0.62	0.080	2.1			
	9/17/2019	3.3	1.6	0.037	4.4			
	12/17/2019	2.3	0.23 0.039		1.8			
	3/12/2020	2.3	0.83	<0.050	3.8			
	6/25/2020	2.1	0.34	0.051	3.3			
	9/23/2020	1.4	0.23	0.075	3.6			
MW16	12/15/2020	1.0	0.074	0.046	2.1			
	3/31/2021	N	o sample collected d	ue to presence of PS	SH			
	6/14/2021	N	o sample collected d	ue to presence of PS	SH			
	9/23/2021	0.32	0.62	0.71	17			
	12/3/2021	N	o sample collected d	ue to presence of PS	SH			
	3/1/2022	0.56	<0.020	0.43	6.4			
	6/7/2022	0.29	<0.010	0.54	6.5			
	9/29/2022	022 No sample collected due to presence of PSH						

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TABLE 2									
GROUNDWATER ANALYTICAL RESULTS Standard #1									
	Sa	n Juan County, N		Ethylhennene	Total Vulance				
Monitoring Well	Date	(mg/L)	(mg/L)	Ethylbenzene (mg/L)	(mg/L)				
NMWQCC Star	ndard	0.005	1.0	0.7	0.62				
	3/29/2019	l	nsufficient Water Volu	mes to Collect Sample	e				
	6/28/2019	I	nsufficient Water Volu	mes to Collect Sample	e				
	9/17/2019	I	nsufficient Water Volu	mes to Collect Sample	e				
	12/17/2019	I	nsufficient Water Volu	mes to Collect Sample	Э				
	3/12/2020		nsufficient Water Volu	mes to Collect Sample	e				
	6/25/2020		nsufficient Water Volu	mes to Collect Sample	e				
	9/23/2020	Insufficient Water Volumes to Collect Sample							
MW17	12/15/2020		nsufficient Water Volu	mes to Collect Sample	e				
	3/31/2021		nsufficient Water Volu	mes to Collect Sample	e				
	6/14/2021		nsufficient Water Volu	mes to Collect Sample	e				
	9/23/2021		nsufficient Water Volu	mes to Collect Sample	e				
	12/3/2021		nsufficient Water Volu	mes to Collect Sample	e				
	3/1/2022	2 Insufficient Water Volumes to Collect Sample							
	6/7/2022	2022 Insufficient Water Volumes to Collect Sample							
	9/29/2022	Insufficient Water Volumes to Collect Sample							
	3/29/2019	N	o sample collected d	ue to presence of PS	SH				
	6/28/2019	15	18	0.77	9.4				
	9/17/2019	16	23	0.87	9.8				
	12/17/2019	17	19	0.78	10				
	3/12/2020	1.2	0.36	0.059	0.72				
	6/25/2020	13	<0.2	0.56	6.0				
	9/23/2020	8.4	<0.05	0.32	4.20				
MW18	12/15/2020	11	<0.050	0.43	6.3				
	3/31/2021	11.0	0.011	0.31	1.70				
	6/14/2021	8.5	<.01	0.28	0.62				
	9/24/2021	5.3	<0.050	0.37	<0.100				
	12/2/2021	9.9	<0.0020	0.61	<0.0040				
	3/1/2022	8.0	<0.008	0.45	<0.16				
	6/7/2022	6.6	<0.010	0.38	<0.020				
	9/29/2022	6.4	<0.020	0.35	<0.020				
	3/29/2019	14	10	0.93	6.2				
	6/28/2019	13	0.230	0.90	4.9				
	9/17/2019	17	0.44	1.1	5.8				
	12/17/2019	11	0.88	0.76	3.4				
	3/12/2020	10	1.60	0.76	2.4				
	6/25/2020	16	5.40	0.95	3.4				
	9/23/2020	12	4.10	0.73	2.8				
MW19	12/15/2020	13	5.20	0.91	3.0				
	3/31/2021	16	8.5	1.1	4.7				
	6/14/2021	15	10	1.0	5.1				
	9/23/2021	14	9.9	1.1	4.8				
	12/2/2021	15	10	1.1	5.2				
	3/1/2022	13	9.6	1.1	5.2				
	6/7/2022	12	10	1.1	5.4				
	9/29/2022	13	12	1.1	6.2				

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TABLE 2											
GROUNDWATER ANALYTICAL RESULTS Standard #1											
											Hilcorp Energy
	Sa	n Juan County,	New Mexico								
Monitoring Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes						
		(mg/L)	(mg/L)	(mg/L)	(mg/L)						
NMWQCC Star	ndard	0.005 1.0 0.7 0.6									
	3/29/2019		Insufficient Water Volu	mes to Collect Sample	9						
	6/28/2019		Insufficient Water Volu	imes to Collect Sample	9						
	9/17/2019		Insufficient Water Volu	imes to Collect Sample	9						
	12/17/2019		Insufficient Water Volu	imes to Collect Sample	9						
	3/12/2020		Insufficient Water Volu	imes to Collect Sample	9						
	6/25/2020		Insufficient Water Volu	imes to Collect Sample	9						
NUM CO	9/23/2020	Insufficient Water Volumes to Collect Sample									
MW20	12/15/2020		Insufficient Water Volu	imes to Collect Sample	9						
	3/31/2021	Insufficient Water Volumes to Collect Sample									
	6/14/2021	Insufficient Water Volumes to Collect Sample Insufficient Water Volumes to Collect Sample Insufficient Water Volumes to Collect Sample Insufficient Water Volumes to Collect Sample									
	9/23/2021										
	12/3/2021										
	3/1/2022		Insufficient Water Volu	imes to Collect Sample	9						
	6/7/2022		Insufficient Water Volu	imes to Collect Sample	9						
	9/29/2022		Insufficient water volu	imes to Collect Sample	9						
	3/29/2019	Insufficient Water Volumes to Collect Sample									
	6/28/2019	Insumicient Water Volumes to Collect Sample									
	9/17/2019	Insufficient Water Volumes to Collect Sample									
	12/17/2019		Insufficient Water Volu	imes to Collect Sample	9						
	3/12/2020	Insufficient Water Volumes to Collect Sample									
	6/25/2020	Insufficient Water Volumes to Collect Sample									
N#4/04	9/23/2020		Insufficient Water Volumes to Collect Sample								
	12/15/2020	Insufficient Water Volumes to Collect Sample									
	3/31/2021			imes to Collect Sample	ə 						
	6/14/2021		Insufficient Water Volu	imes to Collect Sample							
	9/23/2021			imes to Collect Sample	Ð						
	12/3/2021		Insufficient Water Volu	imes to Collect Sample							
	3/1/2022			imes to Collect Sample	ə 						
	6/7/2022		Insufficient Water Volu	imes to Collect Sample							
	3/20/2010	0.001			0.002						
	6/28/2019	-0.001	-0.001	<0.001	0.002						
	0/20/2019	<0.001	<0.001	<0.001	<0.002						
	3/17/2019	<0.001	<0.001	<0.001	<0.002						
	3/12/2020	0.0014	0.0012	NO ~0.001	0.0067						
	5/12/2020	-0.0011	0.0012	<0.001	0.0007						
	0/20/2020	<0.001	<0.001	<0.001	0.0032						
MI/MOD	3/20/2020	<0.001	<0.001	<0.001	<0.000						
₩₩₩	2/21/2024	<0.001	<0.001	<0.001	<0.002						
	3/31/2021 6/14/2024	<0.001	<0.001	<0.001	<0.0015						
	0/14/2021	<0.001	<0.001	<0.001	<0.0015						
	5/23/2021	<0.001	<0.001	<0.001	<0.002						
	3/1/2022	<0.001	<0.001	<0.001	<0.002						
	3/1/2022	<0.001	<0.001	<0.001	<0.002						
	0/1/2022	<0.001	<0.001	<0.001	<0.0045						
	9/29/2022	<0.001	<0.001	<0.001	<0.0015						



TABLE 2							
	GROUND	WATER ANAL	YTICAL RESUL	TS			
Standard #1							
		Hilcorp Energy	Company				
	San	n Juan County,	New Mexico				
Monitoring Well	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)		
NMWQCC St	andard	0.005	1.0	0.7	0.62		
	6/18/2019	<0.001	<0.001	<0.001	<0.002		
	9/17/2019	<0.001	<0.001	<0.001	<0.002		
	12/17/2019	NS	NS	NS	NS		
	3/12/2020	<0.001	<0.001	<0.001	<0.0015		
	6/25/2020	<0.001	<0.001	<0.001	<0.0015		
	9/23/2020	<0.001	<0.001	<0.001	<0.0015		
N/N/22	12/15/2020	<0.001	<0.001	<0.001	<0.002		
1010020	3/31/2021	<0.001	<0.001	<0.001	<0.0015		
	6/14/2021	<0.001	<0.001	<0.001	<0.0015		
	9/23/2021		Insufficient Water Vo	lumes to Collect Sampl	le		
	12/3/2021	<0.001	<0.001	<0.001	<0.002		
	3/1/2022	<0.001	<0.001	<0.001	<0.002		
	6/7/2022	<0.001	<0.001	<0.001	<0.002		
	9/29/2022	<0.001	<0.001	<0.001	<0.0015		
	6/28/2019	Insufficient Water Volumes to Collect Sample					
	9/17/2019	Insufficient Water Volumes to Collect Sample					
	12/17/2019	Insufficient Water Volumes to Collect Sample					
-	3/12/2020	Insufficient Water Volumes to Collect Sample					
	6/25/2020	Insufficient Water Volumes to Collect Sample					
	9/23/2020	Insufficient Water Volumes to Collect Sample					
NAMO A	12/15/2020	Insufficient Water Volumes to Collect Sample					
IVIVV Z4	3/31/2021	Insufficient Water Volumes to Collect Sample					
	6/14/2021	Insufficient Water Volumes to Collect Sample					
	9/23/2021	Insufficient Water Volumes to Collect Sample					
	12/3/2021	Insufficient Water Volumes to Collect Sample					
	3/1/2022	Insufficient Water Volumes to Collect Sample					
	6/7/2022	Insufficient Water Volumes to Collect Sample					
	9/29/2022	Insufficient Water Volumes to Collect Sample					
	6/28/2019		Insufficient Water Vo	lumes to Collect Sampl	le		
	9/17/2019		Insufficient Water Vo	lumes to Collect Sampl	le		
	12/17/2019		Insufficient Water Vo	lumes to Collect Sampl	le		
	3/12/2020		Insufficient Water Vo	lumes to Collect Sampl	le		
	6/25/2020		Insufficient Water Vo	lumes to Collect Sampl	le		
	9/23/2020		Insufficient Water Vo	lumes to Collect Sampl	le		
	12/15/2020		Insufficient Water Vo	lumes to Collect Sampl	le		
MW25	3/31/2021		Insufficient Water Vo	lumes to Collect Sampl	le		
	6/14/2021		Insufficient Water Vo	lumes to Collect Sampl	le		
	9/23/2021		Insufficient Water Vo	lumes to Collect Sampl	le		
	12/3/2021		Insufficient Water Vo	lumes to Collect Sampl	le		
	3/1/2022		Insufficient Water Vo	lumes to Collect Sampl	le		
	6/7/2022		Insufficient Water Vo	lumes to Collect Samp	 le		
1	0,112022				<u> </u>		





TABLE 2								
GROUNDWATER ANALYTICAL RESULTS								
	Standard #1							
	Hilcorp Energy Company							
San Juan County, New Mexico								
Monitoring Well	Date	Benzene (mg/L)	l oluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)			
NMWQCC Star	ndard	0.005	1.0	0.7	0.62			
	6/18/2019	0.0052	<0.001	<0.001	<0.002			
	9/17/2019	<0.001	<0.001	<0.001	<0.002			
	12/17/2019	<0.001	<0.001	<0.001	<0.002			
	3/12/2020	<0.001	<0.001	<0.001	<0.0015			
MMOO	6/25/2020	<0.001	<0.001	<0.001	<0.0015			
	9/23/2020	<0.001	<0.001	<0.001	<0.0015			
	12/15/2020	<0.001	<0.001	<0.001	<0.002			
IVIVV20	3/31/2021	<0.001	<0.001	<0.001	<0.0015			
	6/14/2021	<0.001	<0.001	<0.001	<0.0015			
	9/24/2021	<0.001	<0.001 <0.001		<0.002			
	12/3/2021	<0.001	<0.001	<0.001	<0.002			
	3/1/2022	<0.001	<0.001	<0.001	<0.002			
	6/7/2022	<0.001	<0.001	<0.001	<0.002			
	9/29/2022	<0.001	<0.001	<0.001	<0.0015			

Notes:

mg/L: milligrams per liter

NMWQCC: New Mexico Water Quality Control Commission

NS: not sampled

PSH: phase separated hydrocarbon

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

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

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## APPENDIX A

Laboratory Analytical Reports



October 29, 2018 Jennifer Deal HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

OrderNo.: 1810B75

RE: Standard 1

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/23/2018 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 <u>www.hallenvironmental.com</u> 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1810B75

Hall Environmental Analysis Laboratory, Inc	2.
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Lab Order **1810B75** Date Reported: **10/29/2018** 

CLIENT: HILCORP ENERGY	Client Sample ID: MW-02
Project: Standard 1	Collection Date: 10/22/2018 1:32:00 PM
Lab ID: 1810B75-001	Matrix: GROUNDWA Received Date: 10/23/2018 6:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst:	AG
Benzene	14000	500	µg/L	500	10/24/2018 3:52:51 PM	A55139
Toluene	7100	500	µg/L	500	10/24/2018 3:52:51 PM	A55139
Ethylbenzene	1200	50	µg/L	50	10/24/2018 4:21:34 PM	A55139
Xylenes, Total	12000	75	µg/L	50	10/24/2018 4:21:34 PM	A55139
Surr: 1,2-Dichloroethane-d4	89.1	70-130	%Rec	50	10/24/2018 4:21:34 PM	A55139
Surr: 4-Bromofluorobenzene	99.1	70-130	%Rec	50	10/24/2018 4:21:34 PM	A55139
Surr: Dibromofluoromethane	92.3	70-130	%Rec	50	10/24/2018 4:21:34 PM	A55139
Surr: Toluene-d8	94.5	70-130	%Rec	50	10/24/2018 4:21:34 PM	A55139

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1810B75

Hall Environmental Analysis Laboratory, Inc.	
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Lab Order **1810B75** Date Reported: **10/29/2018** 

<b>CLIENT:</b> HILCORP ENERGY	Client Sample ID: MW-10			
Project: Standard 1	Collection Date: 10/22/2018 1:48:00 PM			
Lab ID: 1810B75-002	Matrix: GROUNDWA Received Date: 10/23/2018 6:45:00 AM			
Anglyses	Result POI Augl Units DF Date Anglyzed Batch			

Analyses	Result	TQL Qu	ai Units	DF	Date Analyzeu	Datti
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst	AG
Benzene	22000	2000	µg/L	2E	10/24/2018 4:50:15 PM	A55139
Toluene	21000	2000	µg/L	2E	10/24/2018 4:50:15 PM	A55139
Ethylbenzene	1600	200	µg/L	200	10/24/2018 5:18:51 PM	A55139
Xylenes, Total	13000	300	µg/L	200	10/24/2018 5:18:51 PM	A55139
Surr: 1,2-Dichloroethane-d4	89.4	70-130	%Rec	200	10/24/2018 5:18:51 PM	A55139
Surr: 4-Bromofluorobenzene	97.0	70-130	%Rec	200	10/24/2018 5:18:51 PM	A55139
Surr: Dibromofluoromethane	87.7	70-130	%Rec	200	10/24/2018 5:18:51 PM	A55139
Surr: Toluene-d8	97.3	70-130	%Rec	200	10/24/2018 5:18:51 PM	A55139

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

**Analytical Report** Lab Order 1810B75

Hall Environmental Analysis Labora	atory, Inc.
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Date Reported: 10/29/2018

Project:     Standard 1     Collection Date: 10/22/2018 1:05:00 PM       Lab ID:     1810B75-003     Matrix: GROUNDWA     Received Date: 10/23/2018 6:45:00 AM	
Project: Standard I Collection Date: 10/22/2018 1:05:00 PM	
<b>D</b> $= 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 $	
CLIENT: HILCORP ENERGY Client Sample ID: MW-11	

EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: AG
Benzene	ND	1.0	µg/L	1	10/25/2018 11:38:49 AM C55173
Toluene	ND	1.0	µg/L	1	10/25/2018 11:38:49 AM C55173
Ethylbenzene	ND	1.0	µg/L	1	10/25/2018 11:38:49 AM C55173
Xylenes, Total	ND	1.5	µg/L	1	10/25/2018 11:38:49 AM C55173
Surr: 1,2-Dichloroethane-d4	88.3	70-130	%Rec	1	10/25/2018 11:38:49 AM C55173
Surr: 4-Bromofluorobenzene	103	70-130	%Rec	1	10/25/2018 11:38:49 AM C55173
Surr: Dibromofluoromethane	89.4	70-130	%Rec	1	10/25/2018 11:38:49 AM C55173
Surr: Toluene-d8	99.8	70-130	%Rec	1	10/25/2018 11:38:49 AM C55173

- \* Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 7 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1810B75

Hall Environmental	Analysis	Laboratory, Inc.
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Date Reported: 10/29/2018

CLIENT: HILCORP ENERGY	Client Sample ID: MW-12			
Project: Standard 1	Collection Date: 10/22/2018 12:55:00 PM			
Lab ID: 1810B75-004	Matrix: GROUNDWA Received Date: 10/23/2018 6:45:00 AM			
Analysas	Result POI Quel Units DE Date Analyzed Batch			

Analyses	Kesuit	I QL QU		Dr	Date Analyzeu	Daten
EPA METHOD 8260: VOLATILES SHOR					Analyst:	AG
Benzene	2400	50	µg/L	50	10/24/2018 5:47:32 PM	A55139
Toluene	3800	50	µg/L	50	10/24/2018 5:47:32 PM	A55139
Ethylbenzene	1100	50	µg/L	50	10/24/2018 5:47:32 PM	A55139
Xylenes, Total	5000	75	µg/L	50	10/24/2018 5:47:32 PM	A55139
Surr: 1,2-Dichloroethane-d4	89.0	70-130	%Rec	50	10/24/2018 5:47:32 PM	A55139
Surr: 4-Bromofluorobenzene	102	70-130	%Rec	50	10/24/2018 5:47:32 PM	A55139
Surr: Dibromofluoromethane	88.6	70-130	%Rec	50	10/24/2018 5:47:32 PM	A55139
Surr: Toluene-d8	96.2	70-130	%Rec	50	10/24/2018 5:47:32 PM	A55139

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1810B75

Hall Environmental Analysis La	boratory, Inc.
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Lab Order **1810B75** Date Reported: **10/29/2018** 

Analyses		Re	sult	PQL	Qual Units	DF Date Analyzed	Batch
Lab ID:	1810B75-005	Matrix:	GROUNDW	VA	<b>Received Dat</b>	e: 10/23/2018 6:45:00 AM	
<b>Project:</b>	Standard 1			(	Collection Dat	e: 10/22/2018 12:40:00 PM	
CLIENT:	HILCORP ENERGY			C	lient Sample II	<b>D:</b> MW-14	

				1		
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst	AG
Benzene	13000	500	µg/L	500	10/24/2018 6:16:13 PM	A55139
Toluene	26000	500	µg/L	500	10/24/2018 6:16:13 PM	A55139
Ethylbenzene	1100	100	µg/L	100	10/24/2018 6:44:54 PM	A55139
Xylenes, Total	10000	150	µg/L	100	10/24/2018 6:44:54 PM	A55139
Surr: 1,2-Dichloroethane-d4	87.2	70-130	%Rec	100	10/24/2018 6:44:54 PM	A55139
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	100	10/24/2018 6:44:54 PM	A55139
Surr: Dibromofluoromethane	89.4	70-130	%Rec	100	10/24/2018 6:44:54 PM	A55139
Surr: Toluene-d8	98.2	70-130	%Rec	100	10/24/2018 6:44:54 PM	A55139

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- D Sample Diluted Due to Watrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Client: H	ILCORP ENER	GΥ										
Project: St	andard 1											
Sample ID 100ng Ics	TestCode: EPA Method 8260: Volatiles Short List											
Client ID: LCSW	Bate	Batch ID: A55139			RunNo: <b>55139</b>							
Prep Date:	Analysis	Analysis Date: 10/24/2018		SeqNo: 1833385			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	19	1.0	20.00	0	95.9	70	130					
Toluene	19	1.0	20.00	0	96.0	70	130					
Surr: 1,2-Dichloroethane-c	9.1		10.00		91.2	70	130					
Surr: 4-Bromofluorobenze	ne 9.9		10.00		99.4	70	130					
Surr: Dibromofluorometha	ne 9.2		10.00		92.3	70	130					
Surr: Toluene-d8	9.6		10.00		95.8	70	130					
Sample ID rb2	SampType: MBLK			Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist			
Client ID: PBW	Client ID: PBW Batch ID: A55139			F	RunNo: <b>55139</b>							
Prep Date:	Analysis Date: 10/24/2018			S	SeqNo: 1	833404	Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	ND	1.0										
Toluene	ND	1.0										
Ethylbenzene	ND	1.0										
Xylenes, Total	ND	1.5										
Surr: 1,2-Dichloroethane-c	4 8.7		10.00		87.3	70	130					
Surr: 4-Bromofluorobenze	ne 10		10.00		101	70	130					
Surr: Dibromofluorometha	ne 8.8		10.00		87.5	70	130					
Surr: Toluene-d8	9.7		10.00		96.9	70	130					
Sample ID 100ng Ics	Samp	Type: LC	s	TestCode: EPA Method 8260: Volatiles Short List								
Client ID: LCSW	Bate	ch ID: <b>C5</b>	5173	RunNo: <b>55173</b>								
Prep Date:	Analysis	Date: 10	0/25/2018	SeqNo: 1834391			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	18	1.0	20.00	0	92.5	70	130					
Toluene	19	1.0	20.00	0	97.5	70	130					
Surr: 1,2-Dichloroethane-c	4 8.9		10.00		88.6	70	130					
Surr: 4-Bromofluorobenze	ne 9.9		10.00		99.4	70	130					
Surr: Dibromofluorometha	ne 9.2		10.00		92.3	70	130					
Surr: Toluene-d8	9.7		10.00		96.7	70	130					
Sample ID rb	Samp	Type: ME	BLK	TestCode: EPA Method 8260: Volatiles Short List								
Client ID: PBW	Bate	Batch ID: C55173			RunNo: 55173							
Prep Date:	Analysis Date: 10/25/2018		5	SeqNo: 1	834399	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	ND	1.0										
Ioluene	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 range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

WO#:	1810B75
	20 Oct 18

Page 6 of 7

29-Oct-18

### **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Client: HII Project: Star	CORP ENERG	ïΥ								
Sample ID rb	Samp	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
Client ID: PBW	Client ID: PBW Batch ID: C55173				RunNo: 55173					
Prep Date: Analysis Date: 10/25/2018			SeqNo: 1834399			Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.9		10.00		88.5	70	130			
Surr: 4-Bromofluorobenzene	e 11		10.00		110	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.1	70	130			
Surr: Toluene-d8	9.7		10.00		97.5	70	130			

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

1810B75

29-Oct-18

WO#:

Page 7 of 7
ANALYSIS LABORATORY	4901 Haw 4901 Haw Alboquerque, NI 505-345-3975 FAX: 505-3 balle: www.hallenvuronmer	ikias NE. 187109 <b>Sai</b> 45-4107 htal.cum	mple Log-In Check L	ist
Client Name HILCORP ENERGY FAR Work OF	rder Number: 1810B75		RcptNo: 1	
Received By: Anne Thome. 10/23/201	8 6:45:00 AM	ann A.		
Completed By Anne Thome 10/23/201 Reviewed By 10/23/2 Labold by 10/23/2	8 10:06:57 AM	LABELET DAD 10	D B1: 173/18	
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 🔽		NA 🗔	
4 Were all samples received at a temperature of >0° C to r	6.0°C Yas V	No	NA	
<ol><li>Sample(s) in proper container(s)?</li></ol>	Yes 🔽	No 🗆		
<ul> <li>Sufficient complex values for indicated test(c)?</li> </ul>				
<ol> <li>Summer summer volume the morealed test(s) :</li> <li>Are complex (system U/OA and OA(O) system).</li> </ol>	tes M			
3. Was preservative added to bottles?	Ves L	No 🗹	NA D	
VOA vials have zero headspace?	Ves V	No 🗍	No VCA Viale	
0 Were any sample containers received broken?	Vac (1)	No V		1
	163	He dea	# of preserved bottles checked	/
1. Does paperwork match bottle labels? (Note discremention on chain of custody)	Yes 🗸	No	for pH	Ibolog
Are matrices correctly identified on Chain of Custorly?	Vies V	No	Adjusted?	noted
3 is it clear what analyses were requested?	Yes V	No.		
4. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes V	No	Checked by DAD 10/7	13/12
pecial Handling (if applicable)				
5. Was client notified of all discrepancies with this order?	Yes 🗌	No 🗆	NA 🗹	
Person Notified:	Date			
By Whom:	Via: eMail	Phone T Fax	In Person	
Regarding				
Client Instructions				
6. Additional remarks:				
7. Cooler Information	ant Mé L. Sant Date L	Discord Do	7	
1 2.2 Good Yes	Cal NO   SCEI DETE	Signed By	-	
			1	

Page 1 of 1

CIICIII	4/10										C FV	O NIAME	North A
	511	0		X Standard	C Rush		h	11		EN LOS	ATK	APONME	NIAL
		-		Project Name			1		N.		2	ABOR	ALOKY
Mailing	Address	" Jenn	the Dal	Standa	IH pr		490	1 Hawk	ns NF	Alhin	nmenta	NM 87100	
				Project #.			Tet	505.34	5.3075	Por la	E SOE	AE 4407	
Phone #	و و	946	585 1873						C IONA	nalysi	s Regu	Init-ot	
email or	Fax#:	deal	@ hillerg, com	Project Manag	er:		(A) (	(0)	-	19	12		
CA/OC F	ackage: lard		Level 4 (Full Validation)	D. 801	50		1508) s Gas on	AM \ O	(SWI	OS"Oc	bCB.8		
Accredit	ation P	D Othe		Sampler: C	bros	on L	TPH (	81). 0/ DB	S 0221	I*0N*	8085		
DEDD	(Type)			Sample Temp	erature:2	-CF-0.4-2.2	9E + 9E +	4 4 J	06 b 3 10	als: ON,	səp	AOV	_
Date	Time	Matrix	Sample Request ID	Container I Type and #	Preservative Type	HEAL No.	итм + хэта итм + хэта	aaros Hat adrew) Hat	oriteM) 803 01:08) e'HA9	RCRA 8 Met ID.7) anoinA	8081 Pestici	AOV) 80858 '-Im92) 0758	
10/22	1332	GW	20-MH	Othy 10A	HIL	192							
-	1348	-	HW-10		-	202						V	
-	1305		Hw-11			202			-			V	
-	1255		HW - 12			102					~	~	
>	01210	>	NW-14	$\geq$		atr.					1		
Date: Date:	1000 12 10 10 10 10 10 10 10 10 10 10 10 10 10	Relinquishe	N N	Processed by:	to	Date Time (0/22/ 5 1540	Remarks:	1150	Iten	502			
Date: Date:	ime: Sof	Relinquishe	der halle	Received by:	1 me	Date Ting							

Released to Imaging: 1/17/2023 1:49:55 PM



April 10, 2019

Jennifer Deal Hilcorp Energy PO Box 61529 Houston, TX 77208-1529 TEL: (337) 276-7676 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

OrderNo.: 1904030

RE: Standard #1

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/30/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Envi	ronmental Analysis	Laboratory,	Inc.		Analytical R Lab Order: 19 Date Reported	eport 04030 : 4/10/201	9
CLIENT: Project:	Hilcorp Energy Standard #1			L	ab Order:	1904030	
Lab ID:	1904030-001		Co	llection Date	<b>::</b> 3/29/2019 12:3	30:00 PM	
Client Sample	e ID: MW03			Matrix	: AQUEOUS		
Analyses		Result	RL	Qual Units	DF Date Analy	yzed B	atch ID
EPA METHO	D 8260: VOLATILES SHORT	LIST				Analyst	RAA
Benzene		21000	500	μg/L	500 4/8/2019 4::	28:00 PM	A58995
Toluene		110	10	μg/L	10 4/3/2019 11	:36:40 PM	B58841
Ethylbenzene	e	270	10	µg/L	10 4/3/2019 11	:36:40 PM	B58841
Methyl tert-bu	utyl ether (MTBE)	ND	10	μg/L	10 4/3/2019 11	:36:40 PM	B58841
1,2,4-Trimeth	ylbenzene	550	10	μg/L	10 4/3/2019 11	:36:40 PM	B58841
1,3,5-Trimeth	ylbenzene	240	10	μg/L	10 4/3/2019 11	:36:40 PM	B58841
Xylenes, Tota	al	11000	750	μg/L	500 4/8/2019 4:	28:00 PM	A58995
Surr: 1,2-D	Dichloroethane-d4	84.9	70-130	%Rec	10 4/3/2019 11	:36:40 PM	B58841
Surr: 4-Bro	omofluorobenzene	118	70-130	%Rec	10 4/3/2019 11	:36:40 PM	B58841
Surr: Dibro	omofluoromethane	85.6	70-130	%Rec	10 4/3/2019 11	:36:40 PM	B58841
Surr: Tolue	ene-d8	96.7	70-130	%Rec	10 4/3/2019 11	:36:40 PM	B58841
Lab ID:	1904030-002		Co	llection Date	<b>::</b> 3/29/2019 12:4	0:00 PM	
Client Sample	e ID: MW16			Matrix	AQUEOUS		
Analyses		Result	RL	Qual Units	DF Date Analy	yzed B	atch ID
EPA METHO	D 8260: VOLATILES SHORT	LIST				Analyst	RAA
Benzene		7700	100	μg/L	100 4/8/2019 4:	52:00 PM	A58995
Toluene		14000	1000	μg/L	1E+ 4/9/2019 12	2:55:00 PM	R59003
Ethylbenzene	e	940	100	μg/L	100 4/8/2019 4:	52:00 PM	A58995
Methyl tert-bu	utyl ether (MTBE)	ND	100	μg/L	100 4/8/2019 4:	52:00 PM	A58995
1,2,4-Trimeth	hylbenzene	380	100	μg/L	100 4/8/2019 4:	52:00 PM	A58995
1,3,5-Trimeth	hylbenzene	170	100	μg/L	100 4/8/2019 4:	52:00 PM	A58995
Xylenes, Tota	al	8600	150	µg/L	100 4/8/2019 4:	52:00 PM	A58995
Surr: 1,2-D	Dichloroethane-d4	101	70-130	%Rec	100 4/8/2019 4:	52:00 PM	A58995
Surr: 4-Bro	omofluorobenzene	101	70-130	%Rec	100 4/8/2019 4:	52:00 PM	A58995
Surr: Dibro	omofluoromethane	98.0	70-130	%Rec	100 4/8/2019 4:	52:00 PM	A58995
Surr: Tolue	ene-d8	98.1	70-130	%Rec	100 4/8/2019 4:	52:00 PM	A58995

Qualifiers:

- H
   Holding times for preparation or analysis exceeded

   PQL
   Practical Quanitative Limit
- PQL Practical Quanitative Limit S % Recovery outside of range due to dilution or matrix

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit W Sample container temperatu

Sample container temperature is out of limit as specified at testcode

Hall Envir	onmental Analysis	Laboratory,	Inc.		Analytie Lab Orde Date Rep	cal Report r: 1904030 orted: 4/10/2	019
CLIENT: Project:	Hilcorp Energy Standard #1			L	ab Order:	190403	0
Lab ID:	1904030-003		Co	llection Date	: 3/29/2019	1:00:00 PM	
Client Sample	<b>ID:</b> MW20			Matrix	: AQUEOU	S	
Analyses		Result	RL	Qual Units	DF Date A	Analyzed	Batch ID
EPA METHOD	8260: VOLATILES SHORT	LIST				Analy	/st: RAA
Benzene		1000	100	µg/L	100 4/9/20	19 1:19:00 PN	R59003
Toluene		900	10	μg/L	10 4/8/20	19 5:16:00 PM	A58995
Ethylbenzene		30	10	μg/L	10 4/8/20	19 5:16:00 PN	A58995
Methyl tert-but	yl ether (MTBE)	ND	10	µg/L	10 4/8/20	19 5:16:00 PN	A58995
1,2,4-Trimethy	lbenzene	ND	10	µg/L	10 4/8/20	19 5:16:00 PN	A58995
1,3,5-Trimethy	lbenzene	ND	10	µg/L	10 4/8/20	19 5:16:00 PN	A58995
Xylenes, Total		230	15	µg/L	10 4/8/20	19 5:16:00 PN	A58995
Surr: 1,2-Die	chloroethane-d4	103	70-130	%Rec	10 4/8/20	19 5:16:00 PN	A58995
Surr: 4-Bron	nofluorobenzene	102	70-130	%Rec	10 4/8/20	19 5:16:00 PN	I A58995
Surr: Dibron	nofluoromethane	102	70-130	%Rec	10 4/8/20	19 5:16:00 PN	A58995
Surr: Toluer	ne-d8	97.2	70-130	%Rec	10 4/8/20	19 5:16:00 PN	A58995
Lab ID:	1904030-004		Co	llection Date	: 3/29/2019	1:15:00 PM	
Client Sample	<b>ID:</b> MW22			Matrix	: AQUEOU	S	
Analyses		Result	RL	Qual Units	<b>DF</b> Date A	Analyzed	Batch ID
EPA METHOD	8260: VOLATILES SHORT	LIST				Analy	/st: RAA
Benzene		1.0	1.0	µg/L	1 4/8/20	19 5:40:00 PN	A58995
Toluene		2.0	1.0	µg/L	1 4/8/20	19 5:40:00 PN	A58995
Ethylbenzene		ND	1.0	µg/L	1 4/8/20	19 5:40:00 PN	A58995
Methyl tert-but	yl ether (MTBE)	ND	1.0	µg/L	1 4/8/20	19 5:40:00 PN	A58995
1,2,4-Trimethy	lbenzene	ND	1.0	µg/L	1 4/8/20	19 5:40:00 PN	A58995
1,3,5-Trimethy	lbenzene	ND	1.0	µg/L	1 4/8/20	19 5:40:00 PN	A58995
Xylenes, Total		2.0	1.5	µg/L	1 4/8/20	19 5:40:00 PN	A58995
Surr: 1,2-Die	chloroethane-d4	107	70-130	%Rec	1 4/8/20	19 5:40:00 PN	A58995
Surr: 4-Bron	nofluorobenzene	98.7	70-130	%Rec	1 4/8/20	19 5:40:00 PN	A58995
Surr: Dibron	nofluoromethane	107	70-130	%Rec	1 4/8/20	19 5:40:00 PN	A58995
Surr Toluer	ne-d8	95.7	70-130	%Rec	1 4/8/20	19 5·40·00 PM	Δ58005

Qualifiers:

- H
   Holding times for preparation or analysis exceeded

   PQL
   Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified at testcode

CLIENT:       Hilcorp Energy       Lab Order:       19         Project:       Standard #1       19         Lab ID:       1904030-005       Collection Date:       3/29/2019 2:15:00         Client Sample ID:       MW12       Matrix:       AQUEOUS         Analyses       Result       RL Qual Units       DF Date Analyzer	PM Batch ID
Lab ID:1904030-005Collection Date: 3/29/2019 2:15:00Client Sample ID:MW12Matrix: AQUEOUSAnalysesResultRL Qual UnitsDF Date Analyze	PM Batch ID
Client Sample ID:     MW12     Matrix:     AQUEOUS       Analyses     Result     RL     Qual     Units     DF     Date     Analyze	Batch ID
Analyses Result RL Qual Units DF Date Analyze	Batch ID
	Analvst: RAA
EPA METHOD 8260: VOLATILES SHORT LIST	
Benzene 870 10 µg/L 10 4/8/2019 6:04:0	0 PM A58995
Toluene 18 10 μg/L 10 4/8/2019 6:04:0	0 PM A58995
Ethylbenzene 1200 100 µg/L 100 4/9/2019 1:43:0	0 PM R59003
Methyl tert-butyl ether (MTBE) ND 10 µg/L 10 4/8/2019 6:04:0	0 PM A58995
1,2,4-Trimethylbenzene 180 10 μg/L 10 4/8/2019 6:04:0	0 PM A58995
1,3,5-Trimethylbenzene 83 10 μg/L 10 4/8/2019 6:04:0	0 PM A58995
Xylenes, Total 1500 15 μg/L 10 4/8/2019 6:04:0	0 PM A58995
Surr: 1,2-Dichloroethane-d4 105 70-130 %Rec 10 4/8/2019 6:04:0	0 PM A58995
Surr: 4-Bromofluorobenzene         103         70-130         %Rec         10         4/8/2019 6:04:00	0 PM A58995
Surr: Dibromofluoromethane         104         70-130         %Rec         10         4/8/2019 6:04:00	0 PM A58995
Surr: Toluene-d8         96.2         70-130         %Rec         10         4/8/2019         6:04:0	0 PM A58995
Lab ID:         1904030-006         Collection Date: 3/29/2019 2:00:00	PM
Client Sample ID:MW11Matrix:AQUEOUS	
Analyses Result RL Qual Units DF Date Analyze	a Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST	Analyst: <b>DJF</b>
Benzene 3.6 1.0 μg/L 1 4/4/2019 2:56:2	0 AM B58841
Toluene ND 1.0 μg/L 1 4/4/2019 2:56:2	0 AM B58841
Ethylbenzene ND 1.0 μg/L 1 4/4/2019 2:56:2	0 AM B58841
Methyl tert-butyl ether (MTBE) ND 1.0 μg/L 1 4/4/2019 2:56:2	0 AM B58841
1,2,4-Trimethylbenzene ND 1.0 μg/L 1 4/4/2019 2:56:2	0 AM B58841
1,3,5-Trimethylbenzene ND 1.0 μg/L 1 4/4/2019 2:56:2	0 AM B58841
Xylenes, Total ND 1.5 μg/L 1 4/4/2019 2:56:2	0 AM B58841
Surr: 1,2-Dichloroethane-d4         84.0         70-130         %Rec         1         4/4/2019 2:56:2	0 AM B58841
Surr: 4-Bromofluorobenzene         105         70-130         %Rec         1         4/4/2019 2:56:2	0 AM B58841
Surr: Dibromofluoromethane         82.4         70-130         %Rec         1         4/4/2019 2:56:2	0 AM B58841
Surr: Toluene-d8 94.9 70-130 %Rec 1 4/4/2019 2:56:2	0 AM B58841

Qualifiers:

 H
 Holding times for preparation or analysis exceeded

 PQL
 Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix S

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysi	s Laboratory,	Inc.			Analytical I Lab Order: 19 Date Reported	<b>Report 904030</b> d: <b>4/10</b> /2	2019
CLIENT:Hilcorp EnergyProject:Standard #1				Ι	Lab Order:	190403	30
Lab ID: 1904030-007		C	ollecti	on Date	e: 3/29/2019 12:	42:00 P	М
Client Sample ID: MW05				Matrix	<b>K:</b> AQUEOUS		
Analyses	Result	RL	Qual	Units	DF Date Anal	lyzed	Batch ID
EPA METHOD 8260: VOLATILES SHOR						Anal	yst: RAA
Benzene	10000	1000		µq/L	1E+ 4/9/2019 2	:07:00 PM	A R59003
Toluene	880	100		µg/L	100 4/8/2019 6	:28:00 PM	A58995
Ethylbenzene	450	100		µg/L	100 4/8/2019 6	:28:00 PM	A58995
Methyl tert-butyl ether (MTBE)	ND	100		μg/L	100 4/8/2019 6	:28:00 PM	A A58995
1,2,4-Trimethylbenzene	360	100		µg/L	100 4/8/2019 6	:28:00 PN	A A58995
1,3,5-Trimethylbenzene	140	100		µg/L	100 4/8/2019 6	:28:00 PN	A A58995
Xylenes, Total	2900	150		µg/L	100 4/8/2019 6	:28:00 PN	A A58995
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	100 4/8/2019 6	:28:00 PN	A A58995
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	100 4/8/2019 6	:28:00 PN	A58995
Surr: Dibromofluoromethane	103	70-130		%Rec	100 4/8/2019 6	:28:00 PN	A A A S A S A S A S A S A S A S A S A S
Surr: Toluene-d8	98.4	70-130		%Rec	100 4/8/2019 6	:28:00 PN	Л A58995
Lab ID: 1904030-008		C	ollecti	on Date	e: 3/29/2019 1:1	5:00 PM	ſ
Client Sample ID: MW19				Matrix	C: AQUEOUS		
Analyses	Result	RL	Qual	Units	DF Date Ana	lyzed	Batch ID
EPA METHOD 8260: VOLATILES SHOR						Anal	yst: RAA
Benzene	14000	1000		µq/L	1E+ 4/8/2019 6	:52:00 PM	A58995
Toluene	10000	1000		µg/L	1E+ 4/8/2019 6	:52:00 PM	A58995
Ethylbenzene	930	100		μg/L	100 4/8/2019 7	:16:00 PN	A58995
Methyl tert-butyl ether (MTBE)	ND	100		µg/L	100 4/8/2019 7	:16:00 PN	A A58995
1,2,4-Trimethylbenzene	400	100		µg/L	100 4/8/2019 7	:16:00 PN	A58995
1,3,5-Trimethylbenzene	170	100		µg/L	100 4/8/2019 7	:16:00 PN	A58995
Xylenes, Total	6200	150		µg/L	100 4/8/2019 7	:16:00 PN	л A58995
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	100 4/8/2019 7	:16:00 PN	л A58995
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	100 4/8/2019 7	:16:00 PN	A58995
Surr: Dibromofluoromethane	105	70-130		%Rec	100 4/8/2019 7	:16:00 PN	A58995
Surr: Toluene-d8	98.1	70-130		% Poc	100 1/8/2010 7	16.00 DN	1 158005

Qualifiers:

- H
   Holding times for preparation or analysis exceeded

   PQL
   Practical Quanitative Limit
  - Practical Quanitative Limit % Recovery outside of range due to dilution or matrix

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified at testcode

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**Released to Imaging: 1/17/2023 1:49:55 PM** 

S

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Hilcorp Energy Standard #1									
Sample ID: 100ng I	cs2 Sa	mpType: L	cs	Tes	tCode: El	PA Method	8260: Volatile	es Short L	_ist	
Client ID: LCSW	В	atch ID: B	58841	F	RunNo: 5	8841				
Prep Date:	Analys	is Date: 4	/3/2019	S	SeqNo: 1	980221	Units: µg/L			
Analyte	Resu	lt PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1	6 1.0	20.00	0	82.0	70	130			
Toluene	2	1 1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethar	ne-d4 8.	6	10.00		85.5	70	130			
Surr: 4-Bromofluorober	nzene 1	0	10.00		105	70	130			
Surr: Dibromofluorome	thane 8.	4	10.00		84.4	70	130			
Surr: Toluene-d8	1	0	10.00		100	70	130			
Sample ID: 190403	0-004A MS Sai	трТуре: <b>М</b>	S	Tes	tCode: El	PA Method	8260: Volatile	es Short L	_ist	
Client ID: MW22	В	atch ID: B	58841	F	RunNo: <b>5</b>	8841				
Prep Date:	Analys	sis Date: 4	/4/2019	S	SeqNo: 1	980235	Units: µg/L			
Analyte	Resu	lt PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1	7 1.0	20.00	1.030	79.0	70	130			
Toluene	2	2 1.0	20.00	2.699	95.6	70	130			
Surr: 1,2-Dichloroethar	ne-d4 8.	5	10.00		84.8	70	130			
Surr: 4-Bromofluorober	nzene 1	1	10.00		106	70	130			
Surr: Dibromofluorome	thane 8.	3	10.00		82.5	70	130			
Surr: Toluene-d8	9.	6	10.00		95.8	70	130			
Sample ID: 190403	0-004A MSD Sa	трТуре: <b>М</b>	SD	Tes	tCode: El	PA Method	8260: Volatile	es Short L	_ist	
Client ID: MW22	В	atch ID: B	58841	F	RunNo: 5	8841				
Prep Date:	Analys	sis Date: 4	/4/2019	S	SeqNo: 1	980236	Units: µg/L			
Analyte	Resu	lt PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1	6 1.0	20.00	1.030	75.9	70	130	3.81	20	
Toluene	2	0 1.0	20.00	2.699	87.9	70	130	7.31	20	
Surr: 1,2-Dichloroethar	ne-d4 8.	6	10.00		86.5	70	130	0	0	
Surr: 4-Bromofluorober	nzene 1	0	10.00		103	70	130	0	0	
Surr: Dibromofluorome	thane 8.	3	10.00		83.1	70	130	0	0	
Surr: Toluene-d8	9.	6	10.00		95.9	70	130	0	0	
Sample ID: rb1	Sa	трТуре: <b>М</b>	BLK	Tes	tCode: El	PA Method	8260: Volatile	es Short L	_ist	
Client ID: PBW	В	atch ID: B	58841	F	RunNo: 5	8841				
Prep Date:	Analys	sis Date: 4	/3/2019	S	SeqNo: 1	980249	Units: µg/L			
Analyte	Resu	lt PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	N	D 1.0								
Toluene	N	D 1.0								
Ethylbenzene	N	D 1.0								
Methyl tert-butyl ether (M	TBE) N	D 1.0								

#### Qualifiers:

H Holding times for preparation or analysis exceeded

 PQL
 Practical Quanitative Limit

 S
 % Recovery outside of range due to dilution or matrix

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified at testcode

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10-Apr-19

WO#:

Hilcorp Energy

**Client:** 

### QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Project: Stand	dard #1									
Sample ID: rb1	SampTyp	e: Me	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
Client ID: PBW	Batch II	D: B5	8841	F	RunNo: 5	8841				
Prep Date:	Analysis Date	e: 4/	3/2019	S	SeqNo: 1	980249	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	8.5		10.00		85.3	70	130			
Surr: Toluene-d8	9.6		10.00		96.3	70	130			
Sample ID: 100ng Ics	SampTyp	e: LC	s	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
Client ID: LCSW	Batch II	D: A5	8995	F	RunNo: 5	8995				
Prep Date:	Analysis Dat	e: 4/	8/2019	S	SeqNo: 1	985094	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.4	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.0	70	130			
Surr: Toluene-d8	9.6		10.00		95.8	70	130			
Sample ID: <b>rb</b>	SampTyp	e: Me	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
Client ID: PBW	Batch II	D: A5	8995	F	RunNo: 5	8995				
Prep Date:	Analysis Dat	e: 4/	8/2019	S	SeqNo: 1	985095	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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.6		10.00		95.8	70	130			

- **Qualifiers:**
- H Holding times for preparation or analysis exceeded
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified at testcode

1904030

10-Apr-19

WO#:

Hilcorp Energy

**Client:** 

# **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Project: Standar	rd #1										
Sample ID: 100ng Ics	SampT	ype: LC	S	Tes	tCode: El	PA Method	8260: Volatil	es Short L	.ist		-
Client ID: LCSW	Batch	n ID: <b>R5</b>	9003	F	RunNo: 5	9003					
Prep Date:	Analysis D	ate: 4/	9/2019	5	SeqNo: 1	985945	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	103	70	130				
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130				
Surr: 4-Bromofluorobenzene	9.9		10.00		99.2	70	130				
Surr: Dibromofluoromethane	11		10.00		105	70	130				
Surr: Toluene-d8	9.5		10.00		95.0	70	130				
Sample ID: <b>rb</b>	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260: Volatil	es Short L	.ist		-
Client ID: PBW	Batch	n ID: <b>R5</b>	9003	F	RunNo: 5	9003					
Prep Date:	Analysis D	ate: 4/	9/2019	5	SeqNo: 1	985946	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									
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130				
Surr: 4-Bromofluorobenzene	9.5		10.00		95.2	70	130				
Surr: Dibromofluoromethane	11		10.00		106	70	130				
Surr: Toluene-d8	9.5		10.00		95.1	70	130				_
Sample ID: 100ng Ics2	SampT	ype: LC	S	Tes	tCode: El	PA Method	8260: Volatil	es Short L	.ist		
Client ID: LCSW	Batch	n ID: <b>B5</b>	9003	F	RunNo: 5	9003					
Prep Date:	Analysis D	ate: 4/	10/2019	S	SeqNo: 1	986087	Units: %Red	;			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 1,2-Dichloroethane-d4	10		10.00		99.8	70	130				
Surr: 4-Bromofluorobenzene	9.8		10.00		98.2	70	130				
Surr: Dibromofluoromethane	9.9		10.00		99.1	70	130				
Surr: Toluene-d8	9.4		10.00		94.4	70	130				
Sample ID: rb2	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260: Volatil	es Short L	.ist		
Client ID: PBW	Batch	n ID: <b>B5</b>	9003	F	RunNo: 5	9003					
Prep Date:	Analysis D	ate: 4/	10/2019	5	SeqNo: 1	986088	Units: %Red	;			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130				
Surr: 4-Bromofluorobenzene	9.8		10.00		98.2	70	130				
Surr: Dibromofluoromethane	10		10.00		101	70	130				
Surr: Toluene-d8	9.4		10.00		94.2	70	130				

### **Qualifiers:**

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit s

% Recovery outside of range due to dilution or matrix

Reporting Detection Limit

RL W Sample container temperature is out of limit as specified at testcode

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1904030	WO#:
10-Apr-19	

Page	<b>4</b> 7	0	f 30(	6

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	HALL ENVIRONMEI ANALYSIS LABORATOR	NTAL Y	He TI	ull Environmental Alb. EL: 505-345-3975 Website: www.ha	Analy 49( uquero FAX: allenvi	rsis Laborato )1 Hawkins N jue, NM 8711 505-345-411 ronmental.co	ry VE 09 07 07	Sam	iple Log-In Che	ck List
Clie	ent Name: HILCOF	RP ENERGY	Wor	k Order Number	: 190	4030			RcptNo: 1	
Rec	eived By: Anne	Thorne	3/30/20	019 9:20:00 AM			am	A	-	
Com Revi	npleted By: Yazmi viewed By: YG LB: EN1	ne Garduno 3 Y 6 M 4/1	4/1/20 4/1/16 /19	19 11:51:45 AM			Normin	e lefindento		
Cha	ain of Custody									
1. Is	s Chain of Custody co	mplete?			Yes		No		Not Present	
2. н	How was the sample of	lelivered?			Cou	rier				
1.	1.2.									
3. W	<b>g In</b> Vas an attempt made	to cool the sam	ples?		Yes		No			
4. w	Vere all samples rece	ived at a tempe	rature of >0° C	to 6.0°C	Vec		No		NA 🗍	
5 5	ample(s) in proper co	ntainer/s)?			Vee		No			
0. 0		intainer(s)?			res		NO			
6. Si	ufficient sample volur	ne for indicated	test(s)?		Yes		No			
7. Ar	re samples (except V	OA and ONG) p	properly preserv	ved?	Yes	$\checkmark$	No			
8. W	Vas preservative adde	d to bottles?			Yes		No	~	NA 🗌	
9. vo	OA vials have zero he	eadspace?			Yes		No		No VOA Vials	
10. W	Vere any sample cont	ainers received	broken?		Yes		No		# of preserved	0
1.D	oes paperwork match Note discrepancies on	bottle labels?	dv)		Yes		No		for pH:	unless noted)
2 A	re matrices correctly i	dentified on Ch	ain of Custody	2	Yes		No		Adjusted?	
3 Is	it clear what analyse	s were requeste	ed?		Yes		No		1 St	
4. W	Vere all holding times f no, notify customer f	able to be met? for authorization	,		Yes		No		Checked by:	
Spec	cial Handling (if a	applicable)						-		
15.V	Vas client notified of a	all discrepancies	s with this order	?	Yes		No		NA 🗸	
	Porcon Notified:			Data E	_			_		
	Du Miserre				_					
	Borodic-			via:				гах		
	Client Instruction	ns:								
16. 4	Additional remarks:									
17. 0	Cooler Information									
	Cooler No   Temp	°C Condition	n Seal Intact	Seal No S	Seal D	ate S	igned I	By		
	1 1.0	Good	Yes				-			
	2 1.0	Good	Yes							
	3 1.0	Good	Yes	· · · · · · · · · · · · · · · · · · ·						

Page 1 of 1

Client: Hilcorp Enerow						]								1
		K Standard	□ Rush				AN	AL	γSJ	S	ABO	RATO	ORY	ved b
Jennifer Dear		Project Name					ww	w.hal	enviro	nme	ntal.com			y
· Mailing Address:		Stand	and #1		49	01 Ha	wkins	- BN	Albud	brend	ue, NM 8	7109		D: 1
		Project #:			Τe	el. 505	-345-3	3975	Fa	x 505	5-345-410	20		1/20
Phone #: 970-385-1096								A	nalysi	is Re	quest			/202
email or Fax#: Udent@ hit	COLD. COM	Project Mana	ger.		()		_		<sup>†</sup> O5		(jue			2 1:
QA/QC Package:		Jenni F	ar-hild	di	(80S	CB,8	SMIS		S '*O		∋sdA'		-	44:15
K Standard D Level	4 (Full Validation)	a knimort			s'5	d Z	502		d ''		/tue			5 P.
Accreditation:		Sampler: E	ric carn	110	IMT	2808	(1.,4		ON	(	, rese			<i>M</i> –
NELAC     Other		On Ice:	X Yes	O No	08 / 3	/se		S	٤,	AO	d)			
R EDD (Type)		# of Coolers:	m		)(ei LBE	opio	31C	etə	ON	() ()	uu			
		Cooler Temp	including CF): 1.C	or fa	19L _W	itse	8 V	M	۲. ۲, ۲,	d D	ofilo			
Date Time Matrix Sample	e Name	Container Type and #	Preservative	HEAL NO.	BTEX /	9 1 808	M) 803 PAHs b	3 АЯЭЯ	CI' E' E	A) 0228	, Total Co		_	
3/39/19 1230 GW MW	23	3 VO44		-001	×									
1 1240 1 MIN	20	1		200-	×									
1300 MW	20			-003	×		-							
1315 MW.	5			h00-	×				_	_				
WW SIHI	12			-005	X									
MW SOFI	11			-00V	×									
MW IN THEL	50	1		- 001	×		-							
1315 - MW 1	6	>(		-004	$\times$					-				
							-			-			-	T
							-			_				
Date: Time: Relinquished by: 3/20/15/0/1/1/1/1/2/20 Date: Time: Relinquished by: 3/10/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1	not.	Received by: Received by:	Via:	3 29 19 19 1560 Date Time 0 3 / 32 / 19	Remark	s: Cars	3	00	bur Dary	2110	@ 16cm	V.COM	5	Page 48
If necessary, samples submitted to Hal	I Environmental may be subc	contracted to other a	scredited laboratorie	<ul> <li>C 7 40</li> <li>S. This serves as notice of this</li> </ul>	possibility.	Any sub	contract	ed data	will be cl	early no	tated on the	analytical repo	ť	əf 300

ed to Imaging: 1/17/2023 1:49:55



June 21, 2019

Jennifer Deal Hilcorp Energy PO Box 61529 Houston, TX 77208-1529 TEL: (337) 276-7676 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

OrderNo.: 1906A31

Dear Jennifer Deal:

RE: Standard 1

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/19/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** Lab Order: 1906A31

Hall Environ	mental Analysis	Laboratory,	Inc.			Date Reported: 6/21/	2019	9
CLIENT:	Hilcorp Energy Standard 1			I	ab (	<b>Order:</b> 1906A	.31	
Lab ID:	1906A31-001		C	collection Date	: 6/	18/2019 2:40:00 PM	Л	
Client Sample ID:	MW-26			Matrix	: A	QUEOUS		
Analyses		Result	RL	Qual Units	DF	<b>Date Analyzed</b>	Ba	atch ID
EPA METHOD 80	21B: VOLATILES					Ana	lyst	NSB
Benzene		5.2	1.0	µg/L	1	6/20/2019 3:06:57	РМ	B60803
Toluene		ND	1.0	µg/L	1	6/20/2019 3:06:57	РМ	B60803
Ethylbenzene		ND	1.0	µg/L	1	6/20/2019 3:06:57 I	РМ	B60803
Xylenes, Total		ND	2.0	μg/L	1	6/20/2019 3:06:57 I	РМ	B60803
Surr: 4-Bromoflu	lorobenzene	104	80-120	%Rec	1	6/20/2019 3:06:57	РΜ	B60803
Lab ID:	1906A31-002		C	collection Date	: 6/	18/2019 3:00:00 PN	Л	
<b>Client Sample ID:</b>	MW-23			Matrix	: A	QUEOUS		
Analyses		Result	RL	Qual Units	DF	<b>Date Analyzed</b>	Ba	atch ID
EPA METHOD 80	21B: VOLATILES					Ana	lyst:	NSB
Benzene		ND	1.0	µg/L	1	6/20/2019 3:30:34	РМ	B60803
Toluene		ND	1.0	µg/L	1	6/20/2019 3:30:34 I	РМ	B60803
Ethylbenzene		ND	1.0	µg/L	1	6/20/2019 3:30:34 I	РМ	B60803
Xylenes, Total		ND	2.0	µg/L	1	6/20/2019 3:30:34	РМ	B60803
Surr: 4-Bromoflu	ıorobenzene	102	80-120	%Rec	1	6/20/2019 3:30:34 I	РМ	B60803

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

Qualifiers:

Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

\*

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix s

Е Value above quantitation range

Analyte detected in the associated Method Blank

- Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL Reporting Limit

в

Page 1 of 2

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Hilcorp Energy Standard 1										
Sample ID: RB	Sa	mpType	MBI	LK	Tes	tCode: El	PA Method	8021B: Volati	iles		
Client ID: PBW	E	Batch ID:	B60	803	F	RunNo: 6	0803				
Prep Date:	Analy	sis Date:	6/2	0/2019	S	SeqNo: 2	058308	Units: µg/L			
Analyte	Res	ult P	λ	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	Ν	ID	1.0								
Toluene	Ν	ID	1.0								
Ethylbenzene	Ν	ID	1.0								
Xylenes, Total	Ν	ID	2.0								
Surr: 4-Bromofluorob	enzene	20		20.00		102	80	120			
Sample ID: 100NC	G BTEX LCS Sa	mpType	LCS	3	Tes	tCode: El	PA Method	8021B: Volati	iles		
Client ID: LCSW	/ E	Batch ID:	B60	803	F	RunNo: 6	0803				
Prep Date:	Analy	sis Date:	6/2	0/2019	S	SeqNo: 2	058309	Units: µg/L			
Analyte	Res	ult P	λ	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		20	1.0	20.00	0	98.1	80	120			
Toluene	:	20	1.0	20.00	0	102	80	120			
Ethylbenzene	2	21	1.0	20.00	0	104	80	120			
Xylenes, Total	(	62	2.0	60.00	0	104	80	120			
Surr: 4-Bromofluorob	enzene	22		20.00		108	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 range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 2

1906A31

21-Jun-19

WO#:

	HALL ENVIR ANAL LABOI	ONMENT. ISIS RATORY	AL	Hall TEL W	Environmental Albi 505-345-3975 'ebsite: www.ha	Analy 49( uquero FAX: allenvi	vsis Labo DI Hawk Jue, NM 505-34: ronment	ratory ins NE 87109 5-4107 al.com	San	nple Log-In C	heck List
Client N	Name:	HILCORP	ENERGY	Work (	Order Number	: 190	6A31			RcptNo:	1
Receive	d By:	Anne Tho	rne	6/19/201	9 8:10:00 AM			an	" An	-	
Complet	ted By:	Erin Mele	ndrez	6/19/201	9 5:06:47 PM			vi	ng		
Reviewe	ed By:	LAS		Ulin							
Chain d	of Cus	tody									
1. Is Ch	ain of C	ustody comp	lete?			Yes		No	<b>b</b>	Not Present	
2. How	was the	sample deliv	ered?			Cou	rier				
Log In 3. Was a	2 an attem	pt made to o	cool the sampl	es?		Yes		No	<b>b</b>		
4. Were	all sam	oles received	at a temperat	ture of >0° C to	6.0°C	Yes		No			
5. Samp	ole(s) in	proper conta	iner(s)?			Yes		No	• □		
6. Suffici	ient sam	ple volume f	or indicated te	st(s)?		Yes		No			
7. Are sa	amples (	except VOA	and ONG) pro	perly preserved	17	Yes		No			
8. Was p	oreserva	tive added to	bottles?	1.00		Yes		No		NA 🗌	
9. VOA v	vials hav	e zero heads	space?			Yes		No		No VOA Vials	
10. Were	any sar	nple containe	ers received b	roken?		Yes		No		# of preserved	1201
11. Does (Note	paperwo discrepa	ork match bo ancies on cha	ttle labels? ain of custody)	)		Yes		No		for pH: (<2 or	>12 unless noted)
12. Are m	atrices of	correctly iden	tified on Chair	n of Custody?		Yes	$\checkmark$	No		Adjusted?	
13. Is it cl	lear what	analyses w	ere requested	?		Yes	V	No			
14. Were (If no,	all holdi notify ci	ng times able ustomer for a	e to be met? outhorization.)			Yes	~	No		Checked by:	
Special	Handl	ing (if app	licable)								
15. Was	client no	tified of all d	screpancies v	with this order?		Yes		No	•	NA 🗹	
	Person	Notified:			Date:	-	-		-		
	By Who	im:		· · · · · · · · · · · · · · · · · · ·	Via:	eM	ail 🗌	Phone	Fax	In Person	
	Regard Client In	ing: hstructions:							_		
16. Addit	tional re	marks:									
17. <u>Cool</u> Co	ler Infor ooler No	mation Temp °C	Condition	Seal Intact	Seal No S	Seal D	ate	Signed	l By		
1		1.3	Good	Yes							

Page 1 of 1

	RATORY		109																					alvtical renort
and Cart	INDALKUNN IS I ABOI	numental com	difernie NM 87	x 505-345-4107	is Request	(1	uəsc	JA\Jr	Jəsə. I	(AC	ەرس !-^C	AOV m92 ofiloC	) 0728 ) 0728 ) letol (	-										early notated on the ane
	IALYS'	w hallenvir	NF - Albu	3975 Fa	Analys	¢C	)S '†	ЪО	10 <sup>5'</sup>	<sup>۹</sup> ا	letal NO	. 8 Md	RCRA CI, F,											ed data will be cle
			01 Hawkins	el. 505-345-3			SV s,g	DSIV PCI	11) (1.1) (1.28	8/s	310 od : 015	by 8: by 8:	1 1808 9 8081 9 8 9848	1										Anv sub-contracte
			49(	T T		(0	1 <u>50</u> {	3) s,	AMT AMT	٥٤ 1	)(el LBE	ISIO	<u>ХЭТ8</u> 8:НЧТ	2	7							Kemarks		s possibility. A
	□ Rush		TH K				Deal - Hiltory	UNDS- LTE	Carroll	es 🗆 No		104:1.5,0.5/2F)=1.3	ervative 1000,0431	<1 -MI	- NN7	3					i	1 1 16/18/19 1636	A Date Time	I laboratories. This serves as notice of this
Turn-Around Time	<b>M</b> Standard	Project Name:	Stundan	Project #:		Project Manager:	Jennifor	Danny B	Sampler: Eni	On Ice: XY	# of Coolers:	Cooler Temp(includin	Container Pres	3 VOA H	3 NOA HC							MMT IM	Received by. Via:	ntracted to other accredite
stody Record		1.00	2		-1096	hillorp. COM		Level 4 (Full Validation)	Ipliance		*		Sample Name	NW-36	EL-MW							and a start	t by:	itted to Hall Environmental may be subcor
-of-Cu	010	iter I	s:		70-385	Jolenio			🗆 Az Con	□ Other	PDF		Matrix	Gu	GW							Kellinduisned	Relinquished	/ shmoles subm
Chain	nt: Hille	Jemn	ing Addres:		ne#: 9;	il or Fax#:	C Package	tandard	editation:	ELAC	DD (Type)		Time	0440 8	× 1500				-			1636	Time: a 1966	If necessary
	Clier		Mail		Phor	ema	QA/C	N S	Accr		Ш	1	Date	0/10	(alic		_					Che .	U/IS/1	



July 10, 2019

Danny Burns HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

RE: Standard 1

OrderNo.: 1906G46

Dear Danny Burns:

Hall Environmental Analysis Laboratory received 9 sample(s) on 6/29/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** 

Hall Enviro	nmental Analysis L	aboratory,	Inc.			Lab Order: <b>1906G46</b> Date Reported: <b>7/10/2019</b>	
CLIENT: Project:	HILCORP ENERGY Standard 1				L	ab Order: 1906G46	
Lab ID:	1906G46-001		С	ollecti	on Date	: 6/28/2019 8:00:00 AM	
Client Sample ID	: MW-15				Matrix	: AQUEOUS	
Analyses		Result	RL	Qual	Units	DF Date Analyzed Batch	h ID
EPA METHOD 80	021B: VOLATILES					Analyst: N	SB
Benzene		24000	500		µg/L	500 7/8/2019 10:10:07 AM B	61223
Toluene		28000	500		µg/L	500 7/8/2019 10:10:07 AM B	61223
Ethylbenzene		1100	50		µg/L	50 7/6/2019 3:04:24 AM A	61170
Xylenes, Total		10000	1000		µg/L	500 7/8/2019 10:10:07 AM B	61223
Surr: 4-Bromof	luorobenzene	111	80-120		%Rec	50 7/6/2019 3:04:24 AM A	61170
Lab ID:	1906G46-002		С	ollecti	on Date	: 6/28/2019 8:40:00 AM	
Client Sample ID	: MW 05				Matrix	: AQUEOUS	
Analyses		Result	RL	Qual	Units	DF Date Analyzed Batch	h ID
EPA METHOD 80	021B: VOLATILES					Analyst: N	SB
Benzene		5900	200		µg/L	200 7/6/2019 3:28:19 AM A	61170
Toluene		160	20		µg/L	20 7/6/2019 3:52:17 AM A	61170
Ethylbenzene		200	20		µg/L	20 7/6/2019 3:52:17 AM A	61170
Xylenes, Total		1400	40		µg/L	20 7/6/2019 3:52:17 AM A	61170
Surr: 4-Bromof	luorobenzene	102	80-120		%Rec	20 7/6/2019 3:52:17 AM A	61170
Lab ID:	1906G46-003		С	ollecti	on Date	: 6/28/2019 11:00:00 AM	
Client Sample ID	: MW 19				Matrix	: AQUEOUS	
Analyses		Result	RL	Qual	Units	DF Date Analyzed Batch	h ID
EPA METHOD 80	021B: VOLATILES					Analyst: N	SB
Benzene		13000	200		µg/L	200 7/8/2019 10:32:47 AM B	61223
Toluene		230	20		μg/L	20 7/5/2019 6:46:55 PM A	61171
Ethylbenzene		900	20		μg/L	20 7/5/2019 6:46:55 PM A	61171
Xylenes, Total		4900	400		µg/L	200 7/5/2019 6:24:09 PM A	61171
Surr: 4-Bromof	luorobenzene	118	80-120		%Rec	20 7/5/2019 6:46:55 PM A	61171

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

- Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL Reporting Limit

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Page 1 of 5

**Analytical Report** 

Hall Environ	mental Analysis L	aboratory,	Inc.			L D	ab Order: 19 ate Reported	<b>106G46</b> l: 7/10/2	019
CLIENT: H Project: S	HILCORP ENERGY Standard 1				Ι	Lab O	rder:	1906G4	6
Lab ID:	1906G46-004		С	ollecti	ion Date	e: 6/2	8/2019 9:2:	5:00 AM	
<b>Client Sample ID:</b>	MW 18				Matrix	k: AQ	UEOUS		
Analyses		Result	RL	Qual	Units	DF	Date Anal	yzed	Batch ID
EPA METHOD 802	21B: VOLATILES							Analy	/st: NSB
Benzene		15000	500		µg/L	500	7/8/2019 10	):55:28 Al	M B61223
Toluene		18000	500		μg/L	500	7/8/2019 10	):55:28 Al	M B61223
Ethylbenzene		770	500		μg/L	500	7/8/2019 10	):55:28 Al	M B61223
Xylenes, Total		9400	1000		µg/L	500	7/8/2019 10	):55:28 Aľ	M B61223
Surr: 4-Bromoflu	iorobenzene	94.9	80-120		%Rec	500	7/8/2019 10	):55:28 AN	M B61223
Lab ID:	1906G46-005		C	ollecti	ion Date	e: 6/2	8/2019 8:40	):00 AM	
Client Sample ID:	MW 12				Matrix	<b>k:</b> AQ	UEOUS		
Analyses		Result	RL	Qual	Units	DF	Date Anal	yzed	Batch ID
EPA METHOD 802	21B: VOLATILES							Analy	/st: NSB
Benzene		810	50		µg/L	50	7/8/2019 1 <sup>-</sup>	1:18:06 AI	M B61223
Toluene		55	5.0		μg/L	5	7/5/2019 9:	02:56 PM	A61171
Ethylbenzene		1000	50		µg/L	50	7/5/2019 8:	40:17 PM	A61171
Xylenes, Total		500	10		μg/L	5	7/5/2019 9:	02:56 PM	A61171
Surr: 4-Bromoflu	iorobenzene	157	80-120	S	%Rec	5	7/5/2019 9:	02:56 PM	A61171
Lab ID:	1906G46-006		C	ollecti	ion Date	e: 6/2	8/2019 10:	10:00 AN	Л
Client Sample ID:	MW 08				Matrix	<b>k:</b> AQ	UEOUS		
Analyses		Result	RL	Qual	Units	DF	Date Anal	yzed	Batch ID
EPA METHOD 802	21B: VOLATILES							Analy	/st: NSB
Benzene		ND	1.0		µq/L	1	7/8/2019 1 <i>′</i>	1:40:49 Al	M B61223
Toluene		ND	1.0		µg/L	1	7/8/2019 1	1:40:49 Al	M B61223
Ethylbenzene		ND	1.0		μg/L	1	7/8/2019 12	1:40:49 Al	M B61223
Xylenes, Total		ND	2.0		µg/L	1	7/8/2019 1 <i>′</i>	1:40:49 Al	M B61223
Surr: 4-Bromoflu	iorobenzene	93.4	80-120		%Rec	1	7/8/2019 1	1:40:49 Al	M B61223

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

E Value above quantitation range

Analyte detected in the associated Method Blank

- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

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Page 2 of 5

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Hall Enviro	nmental Analysis L	aboratory,	Inc.			A L L	Analytical Report Lab Order: 1906G46 Date Reported: 7/10	/2019	)
CLIENT:	HILCORP ENERGY				Ι	.ab C	<b>Order:</b> 19060	<b>3</b> 46	
Project:	Standard 1								
Lab ID:	1906G46-007		С	ollecti	on Date	e: 6/2	28/2019 7:45:00 A	М	
Client Sample ID	: MW 11				Matrix	: A(	QUEOUS		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 80	021B: VOLATILES						Ana	alyst:	NSB
Benzene		ND	1.0		µg/L	1	7/8/2019 12:03:34	PM	B61223
Toluene		ND	1.0		µg/L	1	7/8/2019 12:03:34	PM	B61223
Ethylbenzene		ND	1.0		μg/L	1	7/8/2019 12:03:34	PM	B61223
Xylenes, Total		ND	2.0		μg/L	1	7/8/2019 12:03:34	PM	B61223
Surr: 4-Bromof	luorobenzene	94.5	80-120		%Rec	1	7/8/2019 12:03:34	PM	B61223
Lab ID:	1906G46-008		С	ollecti	on Date	<b>e:</b> 6/2	28/2019 8:15:00 A	М	
Client Sample ID	: MW 22				Matrix	: A(	QUEOUS		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 80	021B: VOLATILES						Ana	alyst:	NSB
Benzene		ND	1.0		µg/L	1	7/8/2019 12:26:16	PM	B61223
Toluene		ND	1.0		μg/L	1	7/8/2019 12:26:16	PM	B61223
Ethylbenzene		ND	1.0		µg/L	1	7/8/2019 12:26:16	PM	B61223
Xylenes, Total		ND	2.0		µg/L	1	7/8/2019 12:26:16	PM	B61223
Surr: 4-Bromof	luorobenzene	95.8	80-120		%Rec	1	7/8/2019 12:26:16	PM	B61223
Lab ID:	1906G46-009		C	ollecti	on Date	<b>e:</b> 6/2	28/2019 11:00:00	AM	
Client Sample ID	: MW 16				Matrix	: A(	QUEOUS		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 80	021B: VOLATILES						Ana	alyst:	NSB
Benzene		3400	200		µg/L	20	0 7/8/2019 12:48:57	PM	B61223
Toluene		620	20		μg/L	20	7/5/2019 10:56:54	PM	A61171
Ethylbenzene		80	20		μg/L	20	7/5/2019 10:56:54	PM	A61171
Xylenes, Total		2100	40		µg/L	20	7/5/2019 10:56:54	PM	A61171
Surr: 4-Bromof	luorobenzene	116	80-120		%Rec	20	7/5/2019 10:56:54	PM	A61171

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

E Value above quantitation range

Analyte detected in the associated Method Blank

- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

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Page 3 of 5

### QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:	HIL	CORP ENERG	Y								
Project:	Stan	dard 1									
Sample ID:	RB-II	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	PBW	Batch	n ID: A6	1170	F	RunNo: 6	1170				
Prep Date:		Analysis D	ate: 7/	5/2019	S	SeqNo: 2	073608	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bron	nofluorobenzene	20		20.00		97.6	80	120			
Sample ID:	100NG BTEX	LCS-II SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batch	n ID: A6	1170	F	RunNo: 6	1170				
Prep Date:		Analysis D	ate: 7/	5/2019	8	SeqNo: 2	073609	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		19	1.0	20.00	0	96.5	80	120			
Toluene		20	1.0	20.00	0	101	80	120			
Ethylbenzene		20	1.0	20.00	0	102	80	120			
Xylenes, Total		60	2.0	60.00	0	101	80	120			
Surr: 4-Bron	nofluorobenzene	19		20.00		96.0	80	120			
Sample ID:	RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	PBW	Batch	n ID: A6	1171	F	RunNo: 6	1171				
Prep Date:		Analysis D	ate: 7/	5/2019	S	BeqNo: 2	073643	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bron	nofluorobenzene	19		20.00		97.2	80	120			
Sample ID:	100NG BTEX	LCS SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batch	n ID: A6	1171	F	RunNo: 6	1171				
Prep Date:		Analysis D	ate: 7/	5/2019	S	SeqNo: 2	073644	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene		19	1.0	20.00	0	93.6	80	120	-		
Ethylbenzene		19	1.0	20.00	0	94.0	80	120			
Xylenes, Total		56	2.0	60.00	0	92.8	80	120			
Surr: 4-Bron	nofluorobenzene	21		20.00		103	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 range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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WO#: **1906G46** 

10-Jul-19

**Client:** 

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

HILCORP ENERGY

Project:	Standard	l									
Sample ID:	1906G46-003AMS	SampT	Гуре: <b>М</b>	;	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Client ID:	MW 19	Batcl	h ID: <b>A6</b>	1171	F	RunNo: 6	1171				
Prep Date:		Analysis D	Date: 7/	5/2019	S	SeqNo: 20	073646	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene		700	20	400.0	230.7	119	80	120			
Ethylbenzene		1300	20	400.0	903.5	109	80	120			
Xylenes, Total		6200	40	1200	4959	103	80	120			Е
Surr: 4-Brom	nofluorobenzene	480		400.0		119	80	120			
Sample ID:	1906G46-003AMS	<b>)</b> SampT	Гуре: <b>М</b>	D	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Client ID:	MW 19	Batcl	h ID: <b>A6</b>	1171	F	RunNo: 6	1171				
Prep Date:		Analysis D	Date: 7/	5/2019	S	SeqNo: 20	073647	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene		700	20	400.0	230.7	118	80	120	0.270	20	
Ethylbenzene		1300	20	400.0	903.5	106	80	120	0.933	20	
Xylenes, Total		6100	40	1200	4959	93.4	80	120	1.92	20	Е
Surr: 4-Brom	nofluorobenzene	480		400.0		119	80	120	0	0	
Sample ID:	RB	SampT	Гуре: <b>МЕ</b>	BLK	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Sample ID: Client ID:	RB PBW	SampT Batcl	Гуре: <b>МЕ</b> h ID: <b>B6</b>	3LK 1223	Tes F	tCode: EF	PA Method	8021B: Volat	iles		
Sample ID: Client ID: Prep Date:	RB PBW	SampT Batcl Analysis D	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7</b> /	BLK 1223 8/2019	Tes F S	tCode: EF RunNo: 6' SeqNo: 2(	PA Method 1223 075449	8021B: Volati Units: μg/L	iles		
Sample ID: Client ID: Prep Date: Analyte	RB PBW	SampT Batcl Analysis D Result	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> PQL	BLK 1223 8/2019 SPK value	Tes F SPK Ref Val	tCode: EF RunNo: 6' SeqNo: 20 %REC	PA Method 1223 075449 LowLimit	<b>8021Β: Volat</b> Units: μg/L HighLimit	iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene	RB PBW	SampT Batcl Analysis D Result ND	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0	BLK 1223 B/2019 SPK value	Tes F S SPK Ref Val	tCode: EF RunNo: 6 SeqNo: 20 %REC	PA Method 1223 075449 LowLimit	8021B: Volat Units: μg/L HighLimit	iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene	RB PBW	SampT Batcl Analysis D Result ND ND	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0	BLK 1223 8/2019 SPK value	Tes F SPK Ref Val	tCode: EF RunNo: 6 SeqNo: 20 %REC	PA Method 1223 075449 LowLimit	8021B: Volat Units: μg/L HighLimit	iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene	RB PBW	Samp1 Batcl Analysis E Result ND ND ND	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0 1.0	8LK 1223 8/2019 SPK value	Tes F SPK Ref Val	tCode: EF RunNo: 6 SeqNo: 20 %REC	PA Method 1223 075449 LowLimit	8021B: Volati Units: μg/L HighLimit	iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	RB PBW	Samp1 Batcl Analysis E Result ND ND ND ND	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> <u>PQL</u> 1.0 1.0 1.0 2.0	8LK 1223 8/2019 SPK value	Tes F SPK Ref Val	tCode: EF RunNo: 6 SeqNo: 26 %REC	PA Method 1223 075449 LowLimit	<b>8021Β: Volat</b> Units: <b>μg/L</b> HighLimit	iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom	RB PBW	Samp1 Batcl Analysis E Result ND ND ND ND 19	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> <u>PQL</u> 1.0 1.0 1.0 2.0	BLK 1223 8/2019 SPK value 20.00	Tes F SPK Ref Val	tCode: EF RunNo: 6 SeqNo: 20 %REC 96.9	PA Method 1223 075449 LowLimit 80	<b>8021B: Volat</b> Units: μ <b>g/L</b> HighLimit 120	iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID:	RB PBW nofluorobenzene 100NG BTEX LCS	Samp1 Batcl Analysis D ND ND ND ND 19 Samp1	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0 1.0 2.0	BLK 1223 8/2019 SPK value 20.00	Tes F SPK Ref Val	tCode: EF RunNo: 6 SeqNo: 20 %REC 96.9 tCode: EF	PA Method 1223 075449 LowLimit 80 PA Method	8021B: Volati Units: μg/L HighLimit 120 8021B: Volati	iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID:	RB PBW nofluorobenzene 100NG BTEX LCS LCSW	Samp1 Batcl Analysis E ND ND ND ND 19 Samp1 Batcl	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0 1.0 2.0 Type: <b>LC</b> h ID: <b>B6</b>	BLK 1223 8/2019 SPK value 20.00 S 1223	Tes F SPK Ref Val	tCode: EF RunNo: 6 SeqNo: 20 %REC 96.9 tCode: EF RunNo: 6	PA Method 1223 075449 LowLimit 80 PA Method 1223	8021B: Volati Units: µg/L HighLimit 120 8021B: Volati	iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date:	RB PBW nofluorobenzene 100NG BTEX LCS LCSW	Samp1 Batcl Analysis D ND ND ND 19 Samp1 Batcl Analysis D	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0 1.0 2.0 Type: <b>LC</b> h ID: <b>B6</b> Date: <b>7/</b>	BLK 1223 8/2019 SPK value 20.00 S 1223 8/2019	Tes F SPK Ref Val Tes F S	tCode: EF RunNo: 6 SeqNo: 20 %REC 96.9 tCode: EF RunNo: 6 SeqNo: 20	PA Method 1223 075449 LowLimit 80 PA Method 1223 075450	8021B: Volati Units: µg/L HighLimit 120 8021B: Volati Units: µg/L	iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Analyte	RB PBW nofluorobenzene 100NG BTEX LCS LCSW	Samp1 Batcl Analysis D ND ND ND 19 Samp1 Batcl Analysis D Result	Type: ME h ID: B6 Date: 7/ PQL 1.0 1.0 1.0 2.0 Type: LC h ID: B6 Date: 7/ PQL	BLK 1223 8/2019 SPK value 20.00 S 1223 8/2019 SPK value	Tes F SPK Ref Val Tes F SPK Ref Val	tCode: EF RunNo: 6' SeqNo: 20 %REC 96.9 tCode: EF RunNo: 6' SeqNo: 20 %REC	PA Method 1223 075449 LowLimit 80 PA Method 1223 075450 LowLimit	8021B: Volati Units: µg/L HighLimit 120 8021B: Volati Units: µg/L HighLimit	iles %RPD iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Analyte Benzene	RB PBW nofluorobenzene 100NG BTEX LCS LCSW	Samp1 Batcl Analysis D ND ND ND 19 Samp1 Batcl Analysis D Result 18	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0 1.0 2.0 Type: <b>LC</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0	BLK 1223 B/2019 SPK value 20.00 S 1223 B/2019 SPK value 20.00	Tes SPK Ref Val Tes SPK Ref Val SPK Ref Val 0	tCode: EF RunNo: 6 SeqNo: 20 %REC 96.9 tCode: EF RunNo: 6 SeqNo: 20 %REC 92.1	PA Method 1223 075449 LowLimit 80 PA Method 1223 075450 LowLimit 80	8021B: Volati Units: µg/L HighLimit 120 8021B: Volati Units: µg/L HighLimit 120	iles %RPD iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Analyte Benzene Toluene	RB PBW nofluorobenzene 100NG BTEX LCS LCSW	Samp1 Batcl Analysis D ND ND ND 19 Samp1 Batcl Analysis D Result 18 18	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0 2.0 Type: <b>LC</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0 1.0	BLK 1223 8/2019 SPK value 20.00 S 1223 8/2019 SPK value 20.00 20.00	Tes SPK Ref Val Tes SPK Ref Val 0 0	tCode: EF RunNo: 6 SeqNo: 20 %REC 96.9 tCode: EF RunNo: 6 SeqNo: 20 %REC 92.1 91.0	PA Method 1223 075449 LowLimit 80 PA Method 1223 075450 LowLimit 80 80	8021B: Volati Units: µg/L HighLimit 120 8021B: Volati Units: µg/L HighLimit 120 120	iles %RPD iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bron Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene	RB PBW nofluorobenzene 100NG BTEX LCS LCSW	Samp1 Batcl Analysis D ND ND ND 19 Samp1 Batcl Analysis D Result 18 18 18	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0 1.0 2.0 Type: <b>LC</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0 1.0 1.0	BLK 1223 8/2019 SPK value 20.00 S 1223 8/2019 SPK value 20.00 20.00 20.00	Tes SPK Ref Val SPK Ref Val SPK Ref Val 0 0 0 0	tCode: EF RunNo: 6 SeqNo: 20 %REC 96.9 tCode: EF RunNo: 6 SeqNo: 20 %REC 92.1 91.0 90.7	PA Method 1223 075449 LowLimit 80 PA Method 1223 075450 LowLimit 80 80 80 80 80	8021B: Volati Units: μg/L HighLimit 120 8021B: Volati Units: μg/L HighLimit 120 120 120	iles %RPD iles %RPD	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bron Sample ID: Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	RB PBW nofluorobenzene 100NG BTEX LCS LCSW	Samp1 Batcl Analysis D ND ND ND 19 Samp1 Batcl Analysis D Result 18 18 18 18 54	Type: <b>ME</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0 2.0 Type: <b>LC</b> h ID: <b>B6</b> Date: <b>7/</b> PQL 1.0 1.0 1.0 2.0	BLK 1223 8/2019 SPK value 20.00 S 1223 8/2019 SPK value 20.00 20.00 20.00 20.00 20.00 20.00 20.00	Tes SPK Ref Val SPK Ref Val SPK Ref Val 0 0 0 0 0 0 0 0	tCode: EF RunNo: 6 SeqNo: 20 %REC 96.9 tCode: EF RunNo: 6 SeqNo: 20 %REC 92.1 91.0 90.7 90.2	PA Method 1223 075449 LowLimit 80 PA Method 1223 075450 LowLimit 80 80 80 80 80 80 80 80	8021B: Volati Units: μg/L HighLimit 120 8021B: Volati Units: μg/L HighLimit 120 120 120 120	iles %RPD iles %RPD	RPDLimit	Qual

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

WO#: **1906G46** 

10-Jul-19

	ANALY	ONMENTA SIS ATORY	AL	TE	ll Environme L: 505-345 Website: ww	ntal Analy 490 Albuquera 8975 FAX; w.hallenvi	sis Lab DI Hawi Jue, NM 505-34 ronmen	oratory kins NE 187109 15-4107 tal.com	Sar	nple Log-In (	Check List
Cli	ent Name:	HILCORP I	ENERGY FAF	R Work	Order Num	ber: 190	6G46			RcptNo	p; 1
Rec	ceived By:	Erin Mele	ndrez	6/29/20	19 9:30:00	АМ		in	MA	. 7	
Cor	mpleted By:	Erin Mele	ndrez	6/29/20	19 10:38:3	AM		V	MA		
Rev	viewed By: $\mathcal{D}$	AD D	+/01/19								
<u>Cha</u>	ain of Cust	ody									
1. 1	s Chain of Cu	stody comp	lete?			Yes		No		Not Present	
2. ł	How was the s	ample deliv	ered?			Cou	rier				
Lo	i <mark>g In</mark> Nas an attemp	at made to c	col the comp			Vee		No			
0. 1	vus un attemp		oor the sample	63 !		165		N			
4. v	Vere all sampl	es received	at a temperat	ure of >0° C	to 6.0°C	Yes		No		NA 🗌	
5. s	Sample(s) in pi	roper contai	ner(s)?			Yes		No			
6. s	ufficient samp	ele volume f	or indicated te	st(s)?		Yes		No			
7. A	re samples (e	xcept VOA	and ONG) pro	perly preserve	ed?	Yes	$\checkmark$	No			
8. V	Vas preservati	ve added to	bottles?			Yes		No		NA 🗌	
9. v	OA vials have	zero heads	pace?			Yes	~	No		No VOA Vials	
10. V	Vere any sam	ple containe	rs received b	roken?		Yes		No		# of preserved	-1
11.D	oes paperwor	k match bot	tle labels?			Yes	~	No		for pH:	or >12 unless noted)
2 A	re matrices co	prrectly iden	tified on Chair	n of Custodv?		Yes		No		Adjusted?	
3. Is	it clear what a	analyses we	ere requested	?		Yes	~	No		1	211
14. W (1	Vere all holding f no, notify cus	g times able stomer for a	to be met? uthorization.)			Yes		No		Checked by:	2-1-19
Spec	cial Handlin	ng (if app	licable)								
15.v	Was client noti	fied of all di	screpancies v	with this order?		Yes		No		NA 🗹	
	Person N	lotified:			Date	:					
	By Whon	n:			Via:	eM	ail 🗌	] Phone [	Fax	In Person	
	Regardin	ig:		-							
	Client Ins	structions:									
16	Additional rem	arks:									
17. 9	Cooler Inform	nation	A statement of the	a start							
	Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal D	ate	Signed	Ву		

Page 1 of 1

Client: 11-10									10.00			
1111	H7 02	8	Cheandar		h				NAL	YS.	S	ABORATO
ua()	ifer I	)ca	Project Nam	# - -	-			3	ww.ha	lenvin	nmen	tal.com
Mailing Addre	SS: 382	Azice Rend 3100	Car C	hard t	-	4	H 1061	awkin	s NE	Albu	duerqu	ie, NM 87109
	ALTEC	NM 87410	Project #:	NEISE			Tel. 50	5-345	-3975	Fa	x 505	-345-4107
Phone #: 54	25 79	33784	5	N1 101	0				4	ualys	is Rec	luest
email or Fax#	1 vola	1 Chilcop.com	Project Man	ager.		()	10		-	<sup>†</sup> O	-	(tu
QA/QC Packag	C G		Dani	IN Burn	5	208	5,8		SIM	S '*C		ləsqv
□ Standard		Level 4 (Full Validation)		1		5,8	Dd i		190	ЪС		4\tr
Accreditation:	D Az Co	mpliance	Sampler: J	mm			085	(1.	170	201		ese
D NELAC	□ Other		On Ice:	A Yes	ON D		8/5	Þ09	s JO	٤, ۱	(AC	Pr (Pr
□ EDD (Type	()		# of Coolers			38.	-pic	po	UT d	ON	0/-1	uJ
			Cooler Tem	D(including CF).	2+0.0(CF)=1.200	HA (	estio	dtəl	B W	31, 1	HO'	otilo
Date Time	Matrix	Sample Name	Container Type and #	Preservativ Type	PODCOSICIO	(X3T8	9 1808	EDB (N		CI'E'E	S) 0228	Total C
6-35 19 030	0 GW	MW-IS	(3) VOA'S	HCL	100-	24						
Cish	0	MUOS		Haus	-002	X						
1000		-Roard-	>	2	A	<i>H</i>			_			
/ 1/0	0	mu iq	(5)uqts	14da	-003	X			-			
00	1 5	MWB		Hacla	-00H	X						
180	0	MUIZ		14ds	-005	X						
(0)C	-	Muce		国し、	-006	X			-	-		
HEO 1	5	MWIE		HCL.	-007	X						
180	10	MWZZ		Ę	-00%	X						
V 112	30	Mule	2	HCL HCL	-009	X						
		1 11										
		1 6 11									1	
Date: Time:	Relinquish	1/ / / / WW	Received by.	L D D E	Date Time	Remar	ks:	Ü	Jb	Suur	0	tenu com
Date: Time:	Retinquish	ed by: U	Received by	Macourt	NCL Date Time Q31	-0-			3	yar u	000	HEAV COM



September 20, 2019

Danny Burns Hilcorp Energy PO Box 61529 Houston, TX 77208-1529 TEL: (337) 276-7676 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

OrderNo.: 1909919

Dear Danny Burns:

RE: Standard 1

Hall Environmental Analysis Laboratory received 12 sample(s) on 9/18/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

B63006

**Analytical Report** Lab Order 1909919

<b>Hall Environmental</b>	Analysis	Laboratory,	Inc.
	•		

50 9/18/2019 9:39:21 PM

Date F	Reported:	9/20	/2019
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CLIENT: Hilcorp EnergyProject:Standard 1Lab ID:1909919-001	Client Sample ID: MW-03           Collection Date: 9/17/2019 12:20:00 PM           Matrix: GROUNDWA         Received Date: 9/18/2019 8:10:00 AM						
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch	
EPA METHOD 8021B: VOLATILES					Analyst	NSB	
Benzene	12000	500	µg/L	500	9/18/2019 9:16:39 PM	B63006	
Toluene	250	50	µg/L	50	9/18/2019 9:39:21 PM	B63006	
Ethylbenzene	220	50	µg/L	50	9/18/2019 9:39:21 PM	B63006	
Xylenes, Total	6900	100	μg/L	50	9/18/2019 9:39:21 PM	B63006	

80-120

97.2

%Rec

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 1 of 14

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1909919

Date Reported: 9/20/2019

CLIENT: Hilcorp Energy	Client Sample ID: MW-08					
Project: Standard 1	Collection Date: 9/17/2019 2:45:00 PM					
Lab ID: 1909919-002	Matrix: GROUN	IDWA <b>Re</b>	ceived Dat	e: 9/1	18/2019 8:10:00 AM	
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	1.0	µg/L	1	9/18/2019 11:11:13 PM	B63006
Toluene	ND	1.0	µg/L	1	9/18/2019 11:11:13 PM	B63006
Ethylbenzene	ND	1.0	µg/L	1	9/18/2019 11:11:13 PM	B63006
Xylenes, Total	ND	2.0	µg/L	1	9/18/2019 11:11:13 PM	B63006
Surr: 4-Bromofluorobenzene	94.1	80-120	%Rec	1	9/18/2019 11:11:13 PM	B63006

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 14

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1909919

Date Reported: 9/20/2019

9/18/2019 11:34:17 PM B63006

CLIENT: Hilcorp Energy	Client Sample ID: MW-11 Collection Date: 9/17/2019 1:30:00 PM					
Project: Standard 1						
Lab ID: 1909919-003	Matrix: GROUNDWA Received Date: 9/18/2019 8:10:00 AM					
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	1.0	µg/L	1	9/18/2019 11:34:17 PM	B63006
Toluene	ND	1.0	µg/L	1	9/18/2019 11:34:17 PM	B63006
Ethylbenzene	ND	1.0	µg/L	1	9/18/2019 11:34:17 PM	B63006
Xylenes, Total	ND	2.0	μg/L	1	9/18/2019 11:34:17 PM	B63006

80-120

%Rec

1

93.1

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 14

Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 1909919

Date Reported: 9/20/2019

CLIENT: Hilcorp Energy	Client Sample ID: MW-12 Collection Date: 9/17/2019 1:10:00 PM						
Project: Standard 1							
Lab ID: 1909919-004	Matrix: GROUN	NDWA	Recei	ved Dat	t <b>e:</b> 9/1	8/2019 8:10:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst:	NSB
Benzene	920	50		µg/L	50	9/18/2019 11:57:15 PM	B63006
Toluene	120	5.0		µg/L	5	9/19/2019 12:20:09 AM	B63006
Ethylbenzene	1100	50		µg/L	50	9/18/2019 11:57:15 PM	B63006
Xylenes, Total	410	10		µg/L	5	9/19/2019 12:20:09 AM	B63006
Surr: 4-Bromofluorobenzene	146	80-120	S	%Rec	5	9/19/2019 12:20:09 AM	B63006

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1909919

Date Reported: 9/20/2019

50 9/19/2019 2:15:43 AM B63006

CLIENT: Hilcorp Energy	Client Sample ID: MW-15					
Project: Standard 1	Collection Date: 9/17/2019 11:45:00 AM					
Lab ID: 1909919-005	Matrix: GROUN	DWA Re	eceived Dat	t <b>e:</b> 9/1	8/2019 8:10:00 AM	
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	24000	500	µg/L	500	9/19/2019 1:52:29 AM	B63006
Toluene	28000	500	µg/L	500	9/19/2019 1:52:29 AM	B63006
Ethylbenzene	870	50	µg/L	50	9/19/2019 2:15:43 AM	B63006
Xylenes, Total	9400	100	µg/L	50	9/19/2019 2:15:43 AM	B63006

105

80-120

%Rec

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1909919

Date Reported: 9/20/2019

20 9/19/2019 3:24:47 AM B63006

						-
CLIENT: Hilcorp Energy	Client Sample ID: MW-16					
Project: Standard 1	Collection Date: 9/17/2019 12:50:00 PM					
Lab ID: 1909919-006	Matrix: GROUNI	OWA Re	ceived Dat	e: 9/18	8/2019 8:10:00 AM	
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	3300	200	µg/L	200	9/19/2019 3:01:44 AM	B63006
Toluene	1600	20	µg/L	20	9/19/2019 3:24:47 AM	B63006
Ethylbenzene	37	20	µg/L	20	9/19/2019 3:24:47 AM	B63006
Xylenes, Total	4400	40	µg/L	20	9/19/2019 3:24:47 AM	B63006

104

80-120

%Rec

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1909919

Date Reported: 9/20/2019

%Rec 20 9/19/2019 4:34:13 AM B63006

CLIENT: Hilcorp Energy Client Sample ID: MW-18						
Project: Standard 1	Collection Date: 9/17/2019 2:10:00 PM           Matrix: GROUNDWA         Received Date: 9/18/2019 8:10:00 AM					
Lab ID: 1909919-007						
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	16000	200	µg/L	200	9/19/2019 4:11:10 AM	B63006
Toluene	23000	500	µg/L	500	9/19/2019 10:28:42 AM	B63046
Ethylbenzene	870	20	µg/L	20	9/19/2019 4:34:13 AM	B63006
Xylenes, Total	9800	400	µg/L	200	9/19/2019 4:11:10 AM	B63006

111

80-120

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 1909919

Date Reported: 9/20/2019

CLIENT:Hilcorp EnergyProject:Standard 1Lab ID:1909919-008	Client Sample ID: MW-19 Collection Date: 9/17/2019 2:45:00 PM Matrix: GROUNDWA Received Date: 9/18/2019 8:10:00 AM						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst:	NSB
Benzene	17000	200	Р	µg/L	200	9/19/2019 10:52:07 AM	B63046
Toluene	440	20	Р	µg/L	20	9/19/2019 11:15:36 AM	B63046
Ethylbenzene	1100	20	Р	µg/L	20	9/19/2019 11:15:36 AM	B63046
Xylenes, Total	5800	400	Ρ	µg/L	200	9/19/2019 10:52:07 AM	B63046
Surr: 4-Bromofluorobenzene	105	80-120	Р	%Rec	20	9/19/2019 11:15:36 AM	B63046

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 1909919

Date Reported: 9/20/2019

CLIENT: Hilcorp Energy	Client Sample ID: MW-22					
Project: Standard 1	Collection Date: 9/17/2019 1:15:00 PM           Matrix: GROUNDWA         Received Date: 9/18/2019 8:10:00 AM					
Lab ID: 1909919-009						
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	1.0	µg/L	1	9/19/2019 12:49:24 PM	B63046
Toluene	ND	1.0	µg/L	1	9/19/2019 12:49:24 PM	B63046
Ethylbenzene	ND	1.0	µg/L	1	9/19/2019 12:49:24 PM	B63046
Xylenes, Total	ND	2.0	µg/L	1	9/19/2019 12:49:24 PM	B63046
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	9/19/2019 12:49:24 PM	B63046

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1909919

Date Reported: 9/20/2019

9/19/2019 1:12:48 PM B63046

CLIENT: Hilcorp Energy	Client Sample ID: MW-26 Collection Date: 9/17/2019 2:15:00 PM					
Project: Standard 1						
Lab ID: 1909919-010	Matrix: GROUNDWA	Recei	ved Da	<b>te: 9</b> /1	18/2019 8:10:00 AM	
Analyses	Result F	RL Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	1.0	µg/L	1	9/19/2019 1:12:48 PM	B63046
Toluene	ND	1.0	µg/L	1	9/19/2019 1:12:48 PM	B63046
Ethylbenzene	ND	1.0	µg/L	1	9/19/2019 1:12:48 PM	B63046
Xylenes, Total	ND	2.0	µq/L	1	9/19/2019 1:12:48 PM	B63046

80-120

%Rec

1

93.6

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1909919

9/19/2019 1:36:14 PM B63046

Date Reported: 9/20/2019

CLIENT: Hilcorp Energy	Client Sample ID: MW-23								
Project: Standard 1	Collection Date: 9/17/2019 3:15:00 PM								
Lab ID: 1909919-011	Matrix: GROUND	WA Re	ceived Dat	t <b>e:</b> 9/	18/2019 8:10:00 AM				
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch			
EPA METHOD 8021B: VOLATILES					Analyst	NSB			
Benzene	ND	1.0	µg/L	1	9/19/2019 1:36:14 PM	B63046			
Toluene	ND	1.0	µg/L	1	9/19/2019 1:36:14 PM	B63046			
Ethylbenzene	ND	1.0	µg/L	1	9/19/2019 1:36:14 PM	B63046			
Xylenes, Total	ND	2.0	μg/L	1	9/19/2019 1:36:14 PM	B63046			

104

80-120

%Rec

1

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1909919

Date Reported: 9/20/2019

20 9/19/2019 2:23:09 PM B63046

CLIENT: Hilcorp Energy	Client Sample ID: MW-05									
Project: Standard 1	Collection Date: 9/17/2019 12:45:00 PM									
Lab ID: 1909919-012	Matrix: GROUND	WA Re	eceived Dat	t <b>e:</b> 9/1	8/2019 8:10:00 AM					
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch				
EPA METHOD 8021B: VOLATILES					Analyst	NSB				
Benzene	5000	200	µg/L	200	9/19/2019 1:59:39 PM	B63046				
Toluene	770	20	µg/L	20	9/19/2019 2:23:09 PM	B63046				
Ethylbenzene	110	20	µg/L	20	9/19/2019 2:23:09 PM	B63046				
Xylenes, Total	3100	40	µg/L	20	9/19/2019 2:23:09 PM	B63046				

99.4

80-120

%Rec

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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### QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:	Hilcorp H	Energy									
Project:	Standard	1									
Sample ID:	RB	Samp <sup>-</sup>	Type: ME	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	PBW	Batc	h ID: <b>B6</b>	3006	F	RunNo: 6	3006				
Prep Date:		Analysis [	Date: <b>9/</b>	18/2019	S	SeqNo: 2	2148890	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bron	nofluorobenzene	18		20.00		89.7	80	120			
Sample ID:	100NG BTEX LCS	Samp <sup>-</sup>	Type: LC	S	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batc	h ID: <b>B6</b>	3006	F	RunNo: 6	63006				
Prep Date:		Analysis [	Date: <b>9/</b>	18/2019	S	SeqNo: 2	2148891	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		19	1.0	20.00	0	93.4	80	120			
Toluene		19	1.0	20.00	0	94.7	80	120			
Ethylbenzene		19	1.0	20.00	0	95.4	80	120			
Xylenes, Total		55	2.0	60.00	0	91.6	80	120			
Surr: 4-Bron	nofluorobenzene	19		20.00		94.2	80	120			
Sample ID:	1909919-001AMS	Samp	Туре: М	6	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	MW-03	Batc	h ID: <b>B6</b>	3006	F	RunNo: 6	3006				
Prep Date:		Analysis [	Date: <b>9/</b>	18/2019	S	SeqNo: 2	2148894	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		12000	50	1000	11290	87.4	80	120			E
Toluene		1200	50	1000	247.4	97.1	75.5	120			
Ethylbenzene		1200	50	1000	217.6	97.7	80	120			
Xylenes, Total		9500	100	3000	6863	88.7	77.3	119			
Surr: 4-Bron	nofluorobenzene	980		1000		98.1	80	120			
Sample ID:	1909919-001AMS	D Samp	Type: MS	SD.	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	MW-03	Batc	h ID: <b>B6</b>	3006	F	RunNo: <b>6</b>	3006				
Prep Date:		Analysis [	Date: <b>9/</b>	18/2019	S	SeqNo: 2	148905	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		12000	50	1000	11290	29.3	80	120	4.89	20	ES
Toluene		1100	50	1000	247.4	89.9	75.5	120	6.04	20	
Ethylbenzene		1100	50	1000	217.6	91.7	80	120	5.21	20	
Xylenes, Total		9100	100	3000	6863	75.3	77.3	119	4.33	20	S
Surr: 4-Bron	nofluorobenzene	1000		1000		102	80	120	0	0	

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

1909919

20-Sep-19

WO#:

### QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:	Hilcorp	Energy									
Project:	Standar	d 1									
Sample ID:	RB	SampTy	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	PBW	Batch	ID: <b>B6</b>	3046	F	RunNo: 6	3046				
Prep Date:		Analysis Da	ate: <b>9/</b>	19/2019	5	SeqNo: 2	150207	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bron	nofluorobenzene	19		20.00		92.9	80	120			
Sample ID:	100NG BTEX LC	SB SampTy	ype: LC	S	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batch	ID: <b>B6</b>	3046	F	RunNo: 6	3046				
Prep Date:		Analysis Da	ate: <b>9/</b>	19/2019	S	SeqNo: 2	150208	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		19	1.0	20.00	0	97.3	80	120			
Toluene		20	1.0	20.00	0	98.0	80	120			
Ethylbenzene		20	1.0	20.00	0	98.2	80	120			
Xylenes, Total		59	2.0	60.00	0	98.8	80	120			
Surr: 4-Bron	nofluorobenzene	20		20.00		97.9	80	120			
Sample ID:	1909919-008AM	S SampTy	ype: <b>MS</b>	6	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	MW-19	Batch	ID: <b>B6</b>	3046	F	RunNo: 6	3046				
Prep Date:		Analysis Da	ate: <b>9/</b>	19/2019	S	SeqNo: 2	150212	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		15000	20	400.0	15120	66.6	80	120			ES
Toluene		880	20	400.0	439.9	109	75.5	120			
Ethylbenzene		1500	20	400.0	1080	113	80	120			
Xylenes, Total		7200	40	1200	5962	105	77.3	119			E
Surr: 4-Bron	nofluorobenzene	430		400.0		108	80	120			
Sample ID:	1909919-008AM	SD SampTy	ype: <b>MS</b>	SD.	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	MW-19	Batch	ID: <b>B6</b>	3046	F	RunNo: 6	3046				
Prep Date:		Analysis Da	ate: <b>9/</b>	19/2019	ŝ	SeqNo: 2	150213	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		16000	20	400.0	15120	114	80	120	1.23	20	E
Toluene		900	20	400.0	439.9	115	75.5	120	2.50	20	
Ethylbenzene		1600	20	400.0	1080	120	80	120	1.81	20	
Xylenes, Total		7400	40	1200	5962	118	77.3	119	2.13	20	Е
Surr: 4-Bron	nofluorobenzene	470		400.0		117	80	120	0	0	

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

1909919

20-Sep-19

WO#:

	Page	77	0	f 306	
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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environment Aı TEL: 505-345-39 Website: www.	al Analy 490 Ibuquero 75 FAX: hallenvi	sis Labora DI Hawkins Jue, NM 87 505-345-4 ronmental.c	tory NE 109 107 com	Sample Log-In Check List					
Client Name: HILCORP ENERGY	Work Order Numbe	er: 190	9919			RcptNo: 1				
Received By: Erin Melendrez 9/	18/2019 8:10:00 A	м		ú.	nz	F				
Completed By: Anne Thorne 9/ Reviewed By: Dr 9/19/19	18/2019 10:35:47 /	۹M		am	A	~				
Chain of Custody										
1. Is Chain of Custody complete?		Yes	~	No		Not Present				
2. How was the sample delivered?		Cou	rier							
Log In										
3. Was an attempt made to cool the samples?		Yes	~	No		NA 🗌				
<ol> <li>Were all samples received at a temperature of &gt;</li> </ol>	•0° C to 6.0°C	Yes		No						
5. Sample(s) in proper container(s)?		Yes		No						
5. Sufficient sample volume for indicated test(s)?		Yes		No						
7. Are samples (except VOA and ONG) properly pre	eserved?	Yes	~	No						
3. Was preservative added to bottles?		Yes		No						
9. VOA vials have zero headspace?		Yes	~	No		No VOA Vials				
0. Were any sample containers received broken?		Yes		No	•	# .f				
1. Does paperwork match bottle labels?		Yes	~	No		bottles checked for pH:	-			
Are matrices correctly identified on Chain of Cust	odv2	Voc	-	No		Adjusted?	ea)			
Is it clear what analyses were requested?	ody	Ves		No		1.1				
4. Were all holding times able to be met?		Yes	~	No	ē	Checked by: D 9/10	¥1			
pecial Handling (if applicable)										
5. Was client notified of all discrepancies with this c	order?	Yes		No		NA 🔽				
Person Notified:	Date				_					
By Whom:	Via:	eMa	ail 🗆 Ph		Fax	In Person				
Regarding:	1.12									
Client Instructions:										
6. Additional remarks:										

Page 1 of 1

Received by	, <i>oc</i>	' <b>D:</b> 11	1/20/.	2022	2 1:4	4:15 P	M																deel g/20-	age 78 o	<i>б<b>ј</b> 306</i> :Чо
HALL ENVIRONMEN		4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	(0) (0)	PO4, 802 PO4, 5 PO4, 5 PO4, 5 PO4, 5	АП / О 2808/s 1808/s 2808/s 20 25/ 20 25/ 20 25/ 20 25/ 20 25/ 20 25/ 20 25/ 20 25/ 20 25/ 20 25/ 20 25/ 20 25/ 20 25/ 20 20 20 20 20 20 20 20 20 20 20 20 20	то ( 10 с 10 3, 10 с 10 с 10 с 10 с 10 с 10 с 10 с 10 с	ML 450 450 461 461 461 40 40 40 40 40 40 40 40 40 40	B1EX & TPH:80 8081 P PAHs b CI, F, F 8260 (/ 8270 (5 70tal C													Per Diana clicage to rush i	Danny - wange -	ssibility. Any sub-contracted data will be clearly notated on the analytical rep-
Turn-Around Time:	Project Name:	Stenders #1	Project #:	001 10 · · · · ·	Project Manager:	Daniel Burns	Sampler: Travis Short / Mary Mrdienewia	# of Coolers:	Cooler Temp(including CF): 3.8-0.4 (CF)=3.4°C	Container Preservative 1909914	3 (VOA'S) HCL 201	1 202	802	102	( SUT	2011 5	102	82	502	100		V V V 2/2	Received by: Via: Date Time R	Received by: Via:COUNTER Date Time 10	ontracted to other accredited laboratories. This serves as notice of this pc
Chain-of-Custody Record		Mailing Address: 387 Nov 4600 3100	Pater N.M. 87410	Phone #: '3 505 324 SIUK	email or Fax#: Jdeoule halus of . Com	QA/QC Package: Q Standard	Accreditation:	EDD (Type)		Date Time Matrix Sample Name	9/17 1220 EN MW-03	1 1445 1 MW-08	1330 NW-11	1310 NNW-12	INS MW- IS	1250 NW-16	1410 NW-18	DI - MW SHAL	1315 NW-22	1415 MW-26	1515 NNW- 23	V RUG & MM- OS	9/17/1402 Traves Short	Date: Time: Relinquished by:	If necessary, samples submitted to Hall Environmental may be subc

Released to Imaging: 1/17/2023 1:49:55 PM



December 23, 2019

Danny Burns HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

RE: Standard 1

OrderNo.: 1912903

Dear Danny Burns:

Hall Environmental Analysis Laboratory received 7 sample(s) on 12/18/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report
Lab Order 1912903

Hall E	nvironmental	Analysis	Laboratory,	Inc.
		•		

Lab Older 1912905

Date Reported: 12/23/2019

CLIENT: HILCORP ENERGY Project: Standard 1	Client Sample ID: MW15           Collection Date: 12/17/2019 12:45:00 PM									
Lab ID: 1912903-001	Matrix: AQUEOUS Received Date: 12/18/2019 7:40:00 AM									
Analyses	Result	RL Qual	Units	DF	Date Analyzed					
EPA METHOD 8021B: VOLATILES					Analyst: NSB					
Benzene	23000	500	µg/L	500	12/20/2019 12:36:30 PM					
Toluene	29000	500	µg/L	500	12/20/2019 12:36:30 PM					
Ethylbenzene	640	500	µg/L	500	12/20/2019 12:36:30 PM					
Xylenes, Total	10000	1000	µg/L	500	12/20/2019 12:36:30 PM					
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	500	12/20/2019 12:36:30 PM					

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 8

**Analytical Report** Lab Order 1912903

Date Reported: 12/23/2019

CLIENT: HILCORP ENERGY	mple ID:	: MW12	2							
Project: Standard 1	Collection Date: 12/17/2019 1:02:00 PM									
Lab ID: 1912903-002	Matrix: AQUEOUS Received Date: 12/18/2019 7:40:00 AM									
Analyses	Result	RL Qual	Units	DF	Date Analyzed					
EPA METHOD 8021B: VOLATILES					Analyst: NSB					
Benzene	940	20	µg/L	20	12/20/2019 12:59:19 PM					
Toluene	34	20	µg/L	20	12/20/2019 12:59:19 PM					
	460	20	ua/l	20	12/20/2019 12:59:19 PM					
Ethylbenzene	400	20	~ 9 <sup>,</sup> =		12/20/2010 12:001:01					
Ethylbenzene Xylenes, Total	240	40	μg/L	20	12/20/2019 12:59:19 PM					

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D
- Sample Diluted Due to Matrix н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit PQL
- Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 2 of 8

**Analytical Report** Lab Order 1912903

Date Reported: 12/23/2019

CLIENT: HILCORP ENERGY	Client Sample ID: MW05							
Project: Standard 1	Collection Date: 12/17/2019 1:15:00 PM							
Lab ID: 1912903-003	Matrix: AQUEOUS Received Date: 12/18/2019 7:40:00 AM							
Analyses	Result	RL Qual	Units	DF	Date Analyzed			
EPA METHOD 8021B: VOLATILES					Analyst: NSB			
Benzene	5400	100	µg/L	100	12/20/2019 1:22:08 PM			
Toluene	140	100	µg/L	100	12/20/2019 1:22:08 PM			
Ethylbenzene	150	100	µg/L	100	12/20/2019 1:22:08 PM			
Xylenes, Total	2600	200	µg/L	100	12/20/2019 1:22:08 PM			
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	100	12/20/2019 1:22:08 PM			

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D
- Sample Diluted Due to Matrix Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 3 of 8

**Analytical Report** Lab Order 1912903

Date Reported: 12/23/2019

CLIENT: HILCORP ENERGY     Client Sample ID: MW16									
Project: Standard 1	Collection Date: 12/17/2019 2:12:00 PM								
Lab ID: 1912903-004	Matrix: AQUEOUS Received Date: 12/18/2019 7:40:00 AM								
Analyses	Result	RL Qua	d Units	DF	Date Analyzed				
EPA METHOD 8021B: VOLATILES					Analyst: <b>NSB</b>				
Benzene	2300	50	µg/L	50	12/20/2019 1:44:53 PM				
Toluene	230	50	µg/L	50	12/20/2019 1:44:53 PM				
Ethylbenzene	39	25	µg/L	50	12/20/2019 1:44:53 PM				
Xylenes, Total	1800	100	µg/L	50	12/20/2019 1:44:53 PM				
Surr: 4-Bromofluorobenzene	108	80-120	%Rec	50	12/20/2019 1:44:53 PM				

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D
- Sample Diluted Due to Matrix Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 4 of 8

Analytical Report
Lab Order 1912903

Date Reported: 12/23/2019

CLIENT: HILCORP ENERGY Project: Standard 1	Client Sample ID: MW18 Collection Date: 12/17/2019 2:45:00 PM							
Lab ID: 1912903-005	Matrix: AQUEOUS Received Date: 12/18/2019 7:40:00 AM							
Analyses	Result	RL Qual	Units	DF	Date Analyzed			
EPA METHOD 8021B: VOLATILES					Analyst: <b>NSB</b>			
Benzene	17000	200	µg/L	200	12/20/2019 2:07:49 PM			
Toluene	19000	200	µg/L	200	12/20/2019 2:07:49 PM			
Ethylbenzene	780	200	µg/L	200	12/20/2019 2:07:49 PM			
Xylenes, Total	10000 400 µg/L 200 12/20/2019 2:07:49 PM							
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	200	12/20/2019 2:07:49 PM			

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

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level.
   Sample Diluted Due to Matrix
- D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 8

**Analytical Report** Lab Order 1912903

Date Reported: 12/23/2019

CLIENT: HILCORP ENERGY	Client Sample ID: MW19							
<b>Project:</b> Standard 1		Collection	1 Date:	12/17/2	2019 2:15:00 PM			
Lab ID: 1912903-006	Matrix: AQUEOUS         Received Date: 12/18/2019 7:40:00 AM							
Analyses	Result	RL Qual	Units	DF	Date Analyzed			
EPA METHOD 8021B: VOLATILES					Analyst: <b>NSB</b>			
Benzene	11000	200	µg/L	200	12/20/2019 2:30:48 PM			
Toluene	880	200	µg/L	200	12/20/2019 2:30:48 PM			
Ethylbenzene	760	200	µg/L	200	12/20/2019 2:30:48 PM			
Xylenes, Total	3400	400	µg/L	200	12/20/2019 2:30:48 PM			
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	200	12/20/2019 2:30:48 PM			

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D
- Sample Diluted Due to Matrix Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 6 of 8

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order 1912903

Date Reported: 12/23/2019

12/20/2019 2:53:40 PM

	-				-			
CLIENT: HILCORP ENERGY     Client Sample ID: MW26								
Project: Standard 1	Collection Date: 12/17/2019 3:15:00 PM							
Lab ID: 1912903-007	Matrix: AQUEOUS         Received Date: 12/18/2019 7:40:00 AM							
Analyses	Result	RL Qual U	nits	DF	Date Analyzed			
EPA METHOD 8021B: VOLATILES					Analyst: NSB			
Benzene	ND	1.0 µ	ıg/L	1	12/20/2019 2:53:40 PM			
Toluene	ND	1.0 µ	ıg/L	1	12/20/2019 2:53:40 PM			
Ethylbenzene	ND 1.0 μg/L 1 12/20/2019 2:53:40 PI							
Xylenes, Total	ND	2.0 μ	ıg/L	1	12/20/2019 2:53:40 PM			

103

80-120

%Rec 1

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

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level.
   Sample Diluted Due to Matrix
- D Sample Diluted Due to Matrix
   H Holding times for preparation or analysis exceeded
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 7 of 8

# **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Client: Project:	HILCORF Standard 1	P ENERG	Y								
Sample ID: rb		SampT	ype: ME	BLK	Tes	tCode: El	iles				
Client ID: PBW	1	Batch	ID: <b>B6</b>	5336	F	RunNo: 6	5336				
Prep Date:		Analysis D	ate: 12	2/20/2019	S	SeqNo: 2	244510	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bromofluoro	benzene	24		20.00		118	80	120			
Sample ID: 100n	g btex lcs	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCS	N	Batch	ID: <b>B6</b>	5336	F	RunNo: 6	5336				
Prep Date:		Analysis D	ate: 12	2/20/2019	5	SeqNo: 2	244511	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		19	1.0	20.00	0	93.7	80	120			
Toluene		19	1.0	20.00	0	94.5	80	120			
Ethylbenzene		19	1.0	20.00	0	95.3	80	120			
Xylenes, Total		57	2.0	60.00	0	95.1	80	119			
Surr: 4-Bromofluoro	benzene	25		20.00		123	80	120			S

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Р Sample pH Not In Range

Page 8 of 8

1912903

23-Dec-19

WO#:

#### J Analyte detected below quantitation limits

RL Reporting Limit

Page	88	0	f 306	

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environm TEL: 505-345- Website: ww	ental Analy 490 Albuquer 3975 FAX: ww.hallenvi	vsis Labo 11 Hawk que, NM 505-34 ronment	oratory ins NE 87109 <b>Sar</b> 5-4107 al.com	Sample Log-In Check Li			
Client Name: HILCORP ENERGY FAR	Work Order Nun	nber: 191	2903		RcptNo: 1			
Received By: Desiree Dominguez	12/18/2019 7:40:0	O AM		TA				
Completed By: Desiree Dominguez	12/18/2019 8:11:5	7 AM		TP				
Reviewed By: 16 (2)18/19								
Chain of Custody								
1. Is Chain of Custody sufficiently complete?		Yes	$\checkmark$	No 🗌	Not Present			
2. How was the sample delivered?		Cou	rier					
Log In 3. Was an attempt made to cool the samples?		Yes		No 🗌				
4. Were all samples received at a temperature of	>0° C to 6.0°C	Yes		No 🗌				
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	$\checkmark$	No 🗌				
8. Was preservative added to bottles?		Yes		No 🗹	NA 🗔			
9. Received at least 1 vial with headspace <1/4" f	or AQ VOA?	Yes		No 🗌				
10. Were any sample containers received broken?		Yes		No 🗹	# of preserved			
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes		No 🗌	for pH: (<2 or >12 unless note			
12. Are matrices correctly identified on Chain of Cu	istody?	Yes	~	No 🗌	Adjusted?			
13. Is it clear what analyses were requested?		Yes	~	No 🗌	1			
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes		No 🗌	Checked by: Dm 12/18/			
Special Handling (if applicable)								
15. Was client notified of all discrepancies with thi	s order?	Yes		No 🗌	NA 🗹			
Person Notified:	Date							
By Whom:	Via:	eM	ail 🗌	Phone 🗌 Fax	In Person			
Regarding:	Allers for the state of the state of the state		01 11 10 11 11 10	· · · · · · · · · · · · · · · · · · ·				
Client Instructions:								
16. Additional remarks:								
17. Cooler Information Cooler No Temp °C Condition Sea	Intact Seal No.	Seal D	ate	Signed By	1			
1 0.3 Cood Vee	Geal 140	Jear D	ale	Signed by				

Page 1 of 1

Receiv	ed by	<b>OCD:</b> 1	1/20	/202.	2 1:4	44:15 P	M											T		1	Pa	ge 89 oj	306
	ANALYSIS LABORATORY	Www.hallenvironmental.com	Tel: 505-345-3975 Fax 505-345-4107	Analysis Request	() () () ()	's (802 <sup>°</sup> PCB's D_4, S D_4, S DSIMS	/ ТМВ 0 / DR 5/8082 1/8082 1/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/		MTTM 15D ethd y 83 h Me 9 Me 6Mi emi	21EX4 2081 Pe 2081 Pe 2081 Pe 2016 (M 221, F, B 2260 (V 3270 (S 7018 C 5 7018 C 5										Remarks:	Alfase cc: downs dowins eitenvicom	tshort @ Herry, com and mindjenovich@ Herry.com with revilts.	s possibility. Any sub-contracted data will be clearly notated on the analytical report.
Turn-Around Time:	Standard  Rush	Project Name: Standard #1	Project #:	01181006	Project Manager:	Danny Burns	Sampler: Mary Mrdjewinkich Travy She On Ice: Myes 7 No	# of Coolers: \	Cooler Temp(including CF): 0, 5-0.2 < 0.3 °	Container Preservative HEAL No. Type and # Type	3 VOAS HUI - 001	200-	- 003	-004	- 005	- 006	t00 - 1 1			Received by: Via: Date Time	Anut West " Andig 1542	Received by: Via: Date Time	contracted to other accredited laboratories. This serves as notice of this
Chain-of-Custody Record	Client: Hill Orp Entray Company	Jennifer Near 1		Phone #: 505-324-3128	email or Fax#: , deal & hill corp, corn	QA/QC Package:	Accreditation:	EDD (Type) 3DF		Date Time Matrix Sample Name	12/17/19/1245 GUU MWIS	1202 1 MMIZ	Sound 1315	alium GIM	SIMM SHH	Pium 1915	V MWZVE			Date: Time: Relinquished by:	I LANG X TOW ZIS HULL	Date: Time: Relinquished by/	If necessary, samples submitted to Hall Environmental may be sub



March 26, 2020

Jennifer Deal Hilcorp Energy PO Box 61529 Houston, TX 77208-1529 TEL: (337) 276-7676 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

RE: Standard 1

OrderNo.: 2003652

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 15 sample(s) on 3/13/2020 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Received by	, OCD:	11/20/2022	2 1:44:15 PM
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**Analytical Report** 

Page	<b>91</b>	of 306

Hall Envi	ronmental Analysis	Lab Order: 2003652 Date Reported: 3/26/2020						
CLIENT: Project:	Hilcorp Energy Standard 1			Ι	Lab Order: 200	)3652		
Lab ID:	2003652-001		C	Collection Date	e: 3/12/2020 1:30:00	PM		
Client Sample	e ID: MW02			Matrix	<b>K:</b> AQUEOUS			
Analyses		Result	RL	Qual Units	DF Date Analyzed	1 Ba	atch ID	
EPA METHO	D 8260: VOLATILES SHORT	LIST			ŀ	Analyst	CCM	
Benzene		17000	200	µg/L	200 3/23/2020 4:26:	00 PM	S67522	
Toluene		8200	200	µg/L	200 3/23/2020 4:26:	00 PM	S67522	
Ethylbenzene	e	1800	200	µg/L	200 3/23/2020 4:26:	00 PM	S67522	
Xylenes, Tota	al	15000	300	µg/L	200 3/23/2020 4:26:	00 PM	S67522	
Surr: 1,2-D	Dichloroethane-d4	94.3	70-130	%Rec	200 3/23/2020 4:26:	00 PM	S67522	
Surr: 4-Bro	omofluorobenzene	94.9	70-130	%Rec	200 3/23/2020 4:26:	00 PM	S67522	
Surr: Dibro	omofluoromethane	92.6	70-130	%Rec	200 3/23/2020 4:26:	00 PM	S67522	
Surr: Tolue	ene-d8	99.7	70-130	%Rec	200 3/23/2020 4:26:	00 PM	S67522	
Lab ID:	2003652-002		C	Collection Date	e: 3/12/2020 2:00:00	PM		
Client Sample	e ID: MW03			Matrix	<b>k:</b> AQUEOUS			
Analyses		Result	RL	Qual Units	DF Date Analyzed	1 Ba	atch ID	
EPA METHO	D 8260: VOLATILES SHORT	LIST			ŀ	Analyst	CCM	
Benzene		15000	200	µg/L	200 3/23/2020 4:50:	00 PM	S67522	
Toluene		ND	200	μg/L	200 3/23/2020 4:50:	00 PM	S67522	
Ethylbenzene	e	470	200	µg/L	200 3/23/2020 4:50:	00 PM	S67522	
Xylenes, Tota	al	6300	300	µg/L	200 3/23/2020 4:50:	00 PM	S67522	
Surr: 1,2-D	Dichloroethane-d4	93.4	70-130	%Rec	200 3/23/2020 4:50:	00 PM	S67522	
Surr: 4-Bro	omofluorobenzene	95.7	70-130	%Rec	200 3/23/2020 4:50:	00 PM	S67522	
Surr: Dibro	omofluoromethane	93.9	70-130	%Rec	200 3/23/2020 4:50:	00 PM	S67522	
Surr: Tolue	ene-d8	99.2	70-130	%Rec	200 3/23/2020 4:50:	00 PM	S67522	

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

Qualifiers:

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

Sample pH Not In Range Р

RL Reporting Limit

в

Page 1 of 10

Received by	, OCD:	11/20/2022	2 1:44:15 PM
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**Analytical Report** 

Page	92	of 306

Hall Environmental Analysis Laboratory, Inc.					Lab Order: 2003652 Date Reported: 3/26/2020				
CLIENT: Project:	Hilcorp Energy Standard 1			]	Lab Order: 20	03652			
Lab ID:	2003652-003		С	collection Date	e: 3/12/2020 1:00:00	) PM			
<b>Client Sampl</b>	<b>e ID:</b> MW05			Matrix	<b>K:</b> AQUEOUS				
Analyses		Result	RL	Qual Units	DF Date Analyze	d Ba	atch ID		
EPA METHO	DD 8260: VOLATILES SHORT	LIST				Analyst	CCM		
Benzene		4400	100	µg/L	100 3/23/2020 5:14	:00 PM	S67522		
Toluene		130	100	µg/L	100 3/23/2020 5:14	:00 PM	S67522		
Ethylbenzen	e	180	100	μg/L	100 3/23/2020 5:14	:00 PM	S67522		
Xylenes, Tot	al	1000	150	μg/L	100 3/23/2020 5:14	:00 PM	S67522		
Surr: 1,2-[	Dichloroethane-d4	94.3	70-130	%Rec	100 3/23/2020 5:14	.00 PM	S67522		
Surr: 4-Br	omofluorobenzene	94.6	70-130	%Rec	100 3/23/2020 5:14	.00 PM	S67522		
Surr: Dibro	omofluoromethane	95.3	70-130	%Rec	100 3/23/2020 5:14	.00 PM	S67522		
Surr: Tolu	ene-d8	98.7	70-130	%Rec	100 3/23/2020 5:14	:00 PM	S67522		
Lab ID:	2003652-004		C	ollection Date	e: 3/12/2020 1:15:00	) PM			
Client Sample	<b>e ID:</b> MW06			Matrix	<b>k:</b> AQUEOUS				
Analyses		Result	RL	Qual Units	DF Date Analyze	d Ba	atch ID		
EPA METHO	DD 8260: VOLATILES SHORT	LIST				Analyst	: CCM		
Benzene		19000	500	µg/L	500 3/23/2020 5:38	:00 PM	S67522		
Toluene		25000	500	μg/L	500 3/23/2020 5:38	:00 PM	S67522		
Ethylbenzen	e	1300	500	µg/L	500 3/23/2020 5:38	:00 PM	S67522		
Xylenes, Tot	al	14000	750	µg/L	500 3/23/2020 5:38	:00 PM	S67522		
Surr: 1,2-[	Dichloroethane-d4	91.8	70-130	%Rec	500 3/23/2020 5:38	.00 PM	S67522		
Surr: 4-Br	omofluorobenzene	96.1	70-130	%Rec	500 3/23/2020 5:38	:00 PM	S67522		
Surr: Dibro	omofluoromethane	93.7	70-130	%Rec	500 3/23/2020 5:38	.00 PM	S67522		
Surr: Tolu	ene-d8	99.3	70-130	%Rec	500 3/23/2020 5:38	00 PM	S67522		

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

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

P Sample pH Not RL Reporting Limit Sample pH Not In Range

в

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Received by	, OCD:	11/20/2022	2 1:44:15 PM
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**Analytical Report** . . . . . . . . .

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Hall Environmental Analysis Laboratory, Inc.						I	Lab Order: 2003652 Date Reported: 3/26/2	020
CLIENT: Project:	Hilcorp Energy Standard 1				I	.ab (	<b>)rder:</b> 200365	2
Lab ID:	2003652-005		C	Collecti	on Date	: 3/	12/2020 4:59:00 PM	
Client Sample	e ID: MW08				Matrix	: A	QUEOUS	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHO	D 8260: VOLATILES SHORT	LIST					Analy	yst: CCM
Benzene		ND	1.0		µg/L	1	3/23/2020 6:02:00 P	M S67522
Toluene		ND	1.0		μg/L	1	3/23/2020 6:02:00 P	M S67522
Ethylbenzene	e	ND	1.0		µg/L	1	3/23/2020 6:02:00 P	M S67522
Xylenes, Tota	al	1.7	1.5		µg/L	1	3/23/2020 6:02:00 P	M S67522
Surr: 1,2-E	Dichloroethane-d4	93.9	70-130		%Rec	1	3/23/2020 6:02:00 P	M S67522
Surr: 4-Bro	omofluorobenzene	94.4	70-130		%Rec	1	3/23/2020 6:02:00 P	M S67522
Surr: Dibro	omofluoromethane	95.1	70-130		%Rec	1	3/23/2020 6:02:00 P	M S67522
Surr: Tolue	ene-d8	99.3	70-130		%Rec	1	3/23/2020 6:02:00 P	M S67522
Lab ID:	2003652-006		C	Collecti	on Date	: 3/	12/2020 3:50:00 PM	
Client Sample	e ID: MW11				Matrix	: A0	QUEOUS	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHO	D 8260: VOLATILES SHORT	LIST					Analy	yst: CCM
Benzene		1.0	1.0		µg/L	1	3/23/2020 6:26:00 P	M S67522
Toluene		1.1	1.0		µg/L	1	3/23/2020 6:26:00 P	M S67522
Ethylbenzene	e	ND	1.0		µg/L	1	3/23/2020 6:26:00 P	M S67522
Xylenes, Tota	al	5.1	1.5		µg/L	1	3/23/2020 6:26:00 P	M S67522
Surr: 1,2-E	Dichloroethane-d4	92.3	70-130		%Rec	1	3/23/2020 6:26:00 P	M S67522
Surr: 4-Bro	omofluorobenzene	93.9	70-130		%Rec	1	3/23/2020 6:26:00 P	M S67522
Surr: Dibro	omofluoromethane	94.0	70-130		%Rec	1	3/23/2020 6:26:00 P	M S67522
Surr: Tolue	ene-d8	99.0	70-130		%Rec	1	3/23/2020 6:26:00 P	M S67522

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

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix
 H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

Sample pH Not In Range Р

P Sample pH Not RL Reporting Limit

в

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**Analytical Report** 

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Hall Environmental Analysis Laboratory, Inc.					Lab Order: 2003652 Date Reported: 3/26/2020			
CLIENT: Project:	Hilcorp Energy Standard 1			I	<b>Lab Order:</b> 2003652			
Lab ID:	2003652-007		Colle	ection Date	e: 3/12/2020 2:20:00 PM			
Client Sample	<b>e ID:</b> MW12			Matrix	: AQUEOUS			
Analyses		Result	RL Q	ual Units	DF Date Analyzed B	atch ID		
ΕΡΑ ΜΕΤΗΟ	DD 8260: VOLATILES SHORT	LIST			Analys	t: CCM		
Benzene		1600	20	µg/L	20 3/23/2020 6:49:00 PM	S67522		
Toluene		360	20	µg/L	20 3/23/2020 6:49:00 PM	S67522		
Ethylbenzen	e	480	20	µg/L	20 3/23/2020 6:49:00 PM	S67522		
Xylenes, Tot	al	550	30	µg/L	20 3/23/2020 6:49:00 PM	S67522		
Surr: 1,2-	Dichloroethane-d4	93.0	70-130	%Rec	20 3/23/2020 6:49:00 PM	S67522		
Surr: 4-Bro	omofluorobenzene	95.7	70-130	%Rec	20 3/23/2020 6:49:00 PM	S67522		
Surr: Dibro	omofluoromethane	94.4	70-130	%Rec	20 3/23/2020 6:49:00 PM	S67522		
Surr: Tolu	ene-d8	98.4	70-130	%Rec	20 3/23/2020 6:49:00 PM	S67522		
Lab ID:	2003652-008		Colle	ection Date	e: 3/12/2020 3:00:00 PM			
Client Sample	<b>e ID:</b> MW14			Matrix	: AQUEOUS			
Analyses		Result	RL Q	ual Units	DF Date Analyzed B	atch ID		
EPA METHO	DD 8260: VOLATILES SHORT	LIST			Analys	t: CCM		
Benzene		13000	200	µg/L	200 3/23/2020 7:13:00 PM	S67522		
Toluene		13000	200	μg/L	200 3/23/2020 7:13:00 PM	S67522		
Ethylbenzen	e	1300	200	µg/L	200 3/23/2020 7:13:00 PM	S67522		
Xylenes, Tot	al	14000	300	µg/L	200 3/23/2020 7:13:00 PM	S67522		
Surr: 1,2-[	Dichloroethane-d4	91.1	70-130	%Rec	200 3/23/2020 7:13:00 PM	S67522		
Surr: 4-Bro	omofluorobenzene	97.0	70-130	%Rec	200 3/23/2020 7:13:00 PM	S67522		
Surr: Dibro	omofluoromethane	93.4	70-130	%Rec	200 3/23/2020 7:13:00 PM	S67522		
Surr: Tolu	lene-d8	99.5	70-130	%Rec	200 3/23/2020 7:13:00 PM	S67522		

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

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

 Number of the second stream of the second stream

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

Sample pH Not In Range

P Sample pH Not RL Reporting Limit

В

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	Analytical Report	
	Lab Order: 2003652	
Hall Environmental Analysis Laboratory, Inc.	Date Reported: 3/26/2020	

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CLIENT: Project:	Hilcorp Energy Standard 1			Ι	.ab O	<b>order:</b> 200	)3652	
Lab ID:	2003652-009		C	collection Date	e: 3/1	2/2020 12:40:0	0 PM	
Client Sample	<b>ID:</b> MW15			Matrix	: AQ	UEOUS		
Analyses		Result	RL	Qual Units	DF	Date Analyzed	I Ba	atch ID
EPA METHOD	8260: VOLATILES SHORT	LIST				ŀ	Analyst	CCM
Benzene		23000	500	µg/L	500	3/23/2020 7:37:	00 PM	S67522
Toluene		4500	500	μg/L	500	3/23/2020 7:37:	00 PM	S67522
Ethylbenzene		660	500	µg/L	500	3/23/2020 7:37:	00 PM	S67522
Xylenes, Total		9400	750	µg/L	500	3/23/2020 7:37:	00 PM	S67522
Surr: 1,2-Die	chloroethane-d4	92.3	70-130	%Rec	500	3/23/2020 7:37:	00 PM	S67522
Surr: 4-Bron	nofluorobenzene	95.4	70-130	%Rec	500	3/23/2020 7:37:	00 PM	S67522
Surr: Dibron	nofluoromethane	93.3	70-130	%Rec	500	3/23/2020 7:37:	00 PM	S67522
Surr: Toluer	ne-d8	98.2	70-130	%Rec	500	3/23/2020 7:37:	00 PM	S67522
Lab ID:	2003652-010		С	collection Date	<b>e:</b> 3/1	2/2020 2:55:00	PM	
Client Sample	<b>ID:</b> MW16			Matrix	: AQ	UEOUS		
Analyses		Result	RL	Qual Units	DF	Date Analyzed	I Ba	atch ID
EPA METHOD	8260: VOLATILES SHORT	LIST				A	Analyst	: CCM
Benzene		2300	50	µg/L	50	3/23/2020 8:01:	00 PM	S67522
Toluene		830	50	µg/L	50	3/23/2020 8:01:	00 PM	S67522
Ethylbenzene		ND	50	µg/L	50	3/23/2020 8:01:	00 PM	S67522
Xylenes, Total		3800	75	µg/L	50	3/23/2020 8:01:	00 PM	S67522
Surr: 1,2-Die	chloroethane-d4	91.6	70-130	%Rec	50	3/23/2020 8:01:	00 PM	S67522
Surr: 4-Bron	nofluorobenzene	96.0	70-130	%Rec	50	3/23/2020 8:01:	00 PM	S67522
Surr: Dibron	nofluoromethane	92.6	70-130	%Rec	50	3/23/2020 8:01:	00 PM	S67522
Surr: Toluer	ne-d8	99.8	70-130	%Rec	50	3/23/2020 8:01:	00 PM	S67522

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix s

Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

P Sample pH Not RL Reporting Limit Sample pH Not In Range

в

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Analytical Report

Hall Environmental Analysis Laboratory, Inc.					Lab Order: 2003652 Date Reported: 3/26/2020				
CLIENT: Project:	Hilcorp Energy Standard 1			I	ab O	rder: 20036	552		
Lab ID:	2003652-011		Colle	ection Date	<b>:</b> 3/12	2/2020 4:25:00 P	М		
Client Sample	e ID: MW18			Matrix	: AQ	UEOUS			
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch I	D	
EPA METHO	D 8260: VOLATILES SHORT	LIST				An	alyst: CCI	N	
Benzene		1200	50	µg/L	50	3/23/2020 8:24:00	PM S67	522	
Toluene		360	50	µg/L	50	3/23/2020 8:24:00	PM S67	522	
Ethylbenzene	9	59	50	µg/L	50	3/23/2020 8:24:00	PM S67	522	
Xylenes, Tota	al	720	75	µg/L	50	3/23/2020 8:24:00	PM S67	522	
Surr: 1,2-D	Dichloroethane-d4	93.2	70-130	%Rec	50	3/23/2020 8:24:00	PM S67	522	
Surr: 4-Bro	omofluorobenzene	93.7	70-130	%Rec	50	3/23/2020 8:24:00	PM S67	522	
Surr: Dibro	omofluoromethane	93.0	70-130	%Rec	50	3/23/2020 8:24:00	PM S67	522	
Surr: Tolue	ene-d8	97.6	70-130	%Rec	50	3/23/2020 8:24:00	PM S67	522	
Lab ID:	2003652-012		Colle	ection Date	<b>:</b> 3/12	2/2020 3:40:00 P	M		
Client Sample	e ID: MW19			Matrix	: AQ	UEOUS			
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch I	D	
EPA METHO	D 8260: VOLATILES SHORT	LIST				Ana	alyst: CCI	N	
Benzene		10000	200	µg/L	200	3/23/2020 8:48:00	PM S67	522	
Toluene		1600	200	μg/L	200	3/23/2020 8:48:00	PM S67	522	
Ethylbenzene	9	760	200	μg/L	200	3/23/2020 8:48:00	PM S67	522	
Xylenes, Tota	al	2400	300	µg/L	200	3/23/2020 8:48:00	PM S67	522	

91.9

94.9

94.7

98.4

70-130

70-130

70-130

70-130

%Rec

%Rec

%Rec

%Rec

200 3/23/2020 8:48:00 PM

200 3/23/2020 8:48:00 PM

200 3/23/2020 8:48:00 PM

200 3/23/2020 8:48:00 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

E Value above quantitation range

Analyte detected in the associated Method Blank

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

в

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S67522

S67522

S67522

S67522

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Analytical Report

Hall Envi	ronmental Analysis	Laboratory,	Inc.			Lab Order: 2003652 Date Reported: 3/26/20	020
CLIENT: Project:	Hilcorp Energy Standard 1			Ι	Lab (	Order: 2003652	2
Lab ID:	2003652-013		C	Collection Date	e: 3/	12/2020 3:25:00 PM	
Client Sample	e ID: MW22			Matrix	<b>k:</b> A	QUEOUS	
Analyses		Result	RL	Qual Units	DF	<b>Date Analyzed</b>	Batch ID
EPA METHO	D 8260: VOLATILES SHORT	LIST				Analy	st: CCM
Benzene		1.1	1.0	µg/L	1	3/23/2020 9:12:00 PM	1 S67522
Toluene		1.2	1.0	µg/L	1	3/23/2020 9:12:00 PN	1 S67522
Ethylbenzene	e	ND	1.0	µg/L	1	3/23/2020 9:12:00 PN	1 S67522
Xylenes, Tota	al	6.7	1.5	µg/L	1	3/23/2020 9:12:00 PM	S67522
Surr: 1,2-D	Dichloroethane-d4	91.7	70-130	%Rec	1	3/23/2020 9:12:00 PM	S67522
Surr: 4-Bro	omofluorobenzene	94.0	70-130	%Rec	1	3/23/2020 9:12:00 PN	1 S67522
Surr: Dibro	omofluoromethane	94.8	70-130	%Rec	1	3/23/2020 9:12:00 PM	1 S67522
Surr: Tolue	ene-d8	98.6	70-130	%Rec	1	3/23/2020 9:12:00 PN	1 S67522
Lab ID:	2003652-014		C	Collection Date	e: 3/	/12/2020 5:15:00 PM	
Client Sample	<b>e ID:</b> MW23			Matrix	<b>k:</b> A	QUEOUS	
Analyses		Result	RL	Qual Units	DF	<b>Date Analyzed</b>	Batch ID
EPA METHO	D 8260: VOLATILES SHORT	LIST				Analy	st: CCM
Benzene		ND	1.0	µg/L	1	3/23/2020 9:36:00 PN	1 S67522
Toluene		ND	1.0	µg/L	1	3/23/2020 9:36:00 PM	1 S67522
Ethylbenzene	e	ND	1.0	µg/L	1	3/23/2020 9:36:00 PN	1 S67522
Xylenes, Tota	al	ND	1.5	µg/L	1	3/23/2020 9:36:00 PN	1 S67522
Surr: 1,2-D	Dichloroethane-d4	92.2	70-130	%Rec	1	3/23/2020 9:36:00 PN	1 S67522
Surr: 4-Bro	omofluorobenzene	96.1	70-130	%Rec	1	3/23/2020 9:36:00 PM	1 S67522
Surr: Dibro	omofluoromethane	94.3	70-130	%Rec	1	3/23/2020 9:36:00 PM	1 S67522
Surr: Tolue	ene-d8	98.7	70-130	%Rec	1	3/23/2020 9:36:00 PM	1 S67522

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
  - H Holding times for preparation or analysis exceeded
  - ND Not Detected at the Reporting Limit
  - PQL Practical Quanitative Limit
  - S % Recovery outside of range due to dilution or matrix

E Value above quantitation range

Analyte detected in the associated Method Blank

- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

в

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**CLIENT: Project:** 

Lab ID:

**Client Sample** Analyses

Benzene

Toluene

Ethylbenzene

Xylenes, Total

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

Analyst: CCM

3/23/2020 10:00:00 PM S67522

onmental Analysis Laboratory, II	Analytical Report Lab Order: 2003652 Date Reported: 3/26/2020
Hilcorp Energy Standard 1	Lab Order: 2003652
2003652-015 ID: MW26 Result	Collection Date: 3/12/2020 4:30:00 PM Matrix: AQUEOUS RL Qual Units DF Date Analyzed Batch ID

1.0

1.0

1.0

1.5

70-130

70-130

70-130

70-130

µg/L

µg/L

µg/L

µg/L

%Rec

%Rec

%Rec

%Rec

1

1

1

1

1

1

1

1

ND

ND

ND

ND

92.3

93.5

95.2

98.0

### Hall Envir

**EPA METHOD 8260: VOLATILES SHORT LIST** 

Value exceeds Maximum Contaminant Level. В Analyte detected in the associated Method Blank Е Value above quantitation range

J

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

- Н Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

Sample Diluted Due to Matrix

% Recovery outside of range due to dilution or matrix S

- Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Qualifiers:** 

Hilcorp Energy

**Client:** 

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Project: Standard	1									
Sample ID: 2003652-015ams	SampT	ype: MS	5	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: MW26	Batch	1D: <b>56</b>	7522	F	RunNo: 6	7522				
Prep Date:	Analysis D	ate: 3/2	23/2020	S	SeqNo: 2	331178	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.8	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.9	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.8	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.1	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			
Sample ID: 2003652-015amsc	I SampT	ype: <b>MS</b>	D	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: MW26	Batch	n ID: <b>S6</b>	7522	F	RunNo: <b>6</b>	7522				
Prep Date:	Analysis D	ate: 3/2	23/2020	S	SeqNo: 2	331179	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.0	70	130	4.90	20	
Toluene	20	1.0	20.00	0	98.8	70	130	3.19	20	
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.5		10.00		94.9	70	130	0	0	
Surr: Dibromofluoromethane	9.4		10.00		93.6	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		98.4	70	130	0	0	
Sample ID: 100ng Ics	SampT	ype: LC	S	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW	Batch	n ID: <b>S6</b>	7522	F	RunNo: 6	7522				
Prep Date:	Analysis D	ate: 3/2	23/2020	S	SeqNo: 2	331180	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.3	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.2	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.6	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.0	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			
Sample ID: MB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW	Batch	n ID: <b>S6</b>	7522	F	RunNo: <b>6</b>	7522				
Prep Date:	Analysis D	ate: 3/2	23/2020	S	SeqNo: 2	331181	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								
Xvlenes. Total	ND	1.5								

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

WO#: 2003652
--------------

26-Mar-20

Client:	Hilcorp Energy									
Project:	Standard 1									
Sample ID: MB	Samp	Туре: М	BLK	Tes	tCode: El	PA Method	8260: Volatile	es Short L	ist	
Client ID: PBW	Bate	ch ID: S	67522	F	RunNo: 6	7522				
Prep Date:	Analysis	Date: 3	3/23/2020	S	SeqNo: 2	331181	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethar	ne-d4 9.3		10.00		92.9	70	130			
Surr: 4-Bromofluorober	nzene 9.2		10.00		92.3	70	130			
Surr: Dibromofluorome	thane 9.5		10.00		94.6	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 10 of 10

2003652

26-Mar-20

WO#:

Released to Imaging: 1/17/2023 1:49:55 PM

Page	101	of	306
1 use	TOT	<b>vj</b> •	

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmenta All TEL: 505-345-397. Website: www.h	l Analysis Labo 4901 Hawk buquerque, NM 5 FAX: 505-342 allenvironment	oratory ins NE 87109 <b>San</b> 5-4107 al.com	Sample Log-In Check List					
Client Name: HILCORP ENERGY	Work Order Number	: 2003652		RcptNo: 1					
Received By: Juan Rojas	3/13/2020 8:10:00 AM	1	Guarda g						
Completed By: Erin Melendrez	3/13/2020 3:02:28 PM	1	Vi us						
Reviewed By: DAD 3/14/20									
Chain of Custody									
1. Is Chain of Custody sufficiently comp	plete?	Yes 🗹	No 🗌	Not Present					
2. How was the sample delivered?		Client							
Log In									
3. Was an attempt made to cool the sa	mples?	Yes 🗹	No 🗌	NA 🗌					
4. Were all samples received at a temp	erature of >0° C to 6.0°C	Yes 🗹	No 🗌						
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌						
6. Sufficient sample volume for indicate	d 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 headspa	ce <1/4" for AQ VOA?	Yes 🗹	No 🗌	NA 10- My 326					
10. Were any sample containers receive	d broken?	Yes	No 🗹	# of preserved					
11. Does paperwork match bottle labels? (Note discrepancies on chain of custo	ody)	Yes 🗹	No 🗌	bottles checked for pH: (<2 or >12 unless noted)					
12. Are matrices correctly identified on C	hain of Custody?	Yes 🗹	No 🗌	Adjusted?					
13. Is it clear what analyses were reques	ted?	Yes 🗹	No 🗌	10 101					
14. Were all holding times able to be met (If no, notify customer for authorizatio	? n.)	Yes 🗹	No 🗌	Checked by: JR 3(1617					
Special Handling (if applicable)									
15. Was client notified of all discrepancie	es with this order?	Yes 🗌	No 🗌	NA 🗹					
Person Notified:	Date:								
By Whom:	Via:	eMail	Phone 🗌 Fax	In Person					
Regarding: Client Instructions:									
16. Additional remarks:									
17. <u>Cooler Information</u> Cooler No Temp °C Condition 1 1.0 Good	on Seal Intact Seal No	Seal Date	Signed By						

Page 1 of 1

Receiv IV IV IV IV IV	ORATORY of	60128	1/20/	202	21:	44:15	PM																	com, and a	rd renovich lenvern	102 0	e analytical report.
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Turn-Around Time:	🖉 Standard 🛛 Rush	Project Name: Standard #1	Project #: A17 \$ 1700 6	00-00-00	Project Manager:	Daniel Burns	Sampler: Travis Short (Mary midjenwich	On Ice: A Yes D No	# of Coolers: 1 10 stisted	Cooler Temp(including CF): L. L	Container Preservative HEAL No. Type and # Type	3(VOAS) HEL -ON	200- 1	-003	-00H	-005	-0000	LQ0-	-078	Púo-	- 010	110-11	V V -012	Received by: Via: Date Time	Received by: Via: Date Time	1 And Courter 3/13/20 8:10	ubcontracted to other accredited laboratories. This serves as notice of thi
-of-Custody Record	My Energy Company	ther Deal II	NM 87410	8-324-5128	JDeal Chilcorp. com	□ I evel 4 (Full Validation	□ Az Compliance	□ Other	PDF		Matrix Sample Name	GW MNNDZ	1 MW 03	SOMW	MW 06	min 0g	MNN	MW 12	Mw id	MM VE	mu le	DI NU 1	V NNN 19	Relinquished by:	Relinquished by:	Monotha Lind Luc	samples submitted to Hall Environmental may be s
ain-	1100	ldress	ec	So	ax#:	ckage: rd	ion:		ype)		ne	330	100	200	315	559	550	47.0	San	240	55	520	015	ne: V S	Je:	340	cessary.
40 Palaa	Client:	Mailing Ac	Az	Phone #:	email or F	QA/QC Par	Accreditat	D NELAC	B EDD (1		Date	3/12 1	1 -			1 14	1	1	1	1	1 11	-	1 1	3//2 17	Date: Tin	3/12/20 11	lf ne

Kecer	TORY of part	y 0	<i>CD: 1</i>	1/20	1/202	21:	44:15 P																Pag	' <del>e 103</del>	I report.
	ANALYSTS LABORA		4901 Hawkins NE - Albuquergue, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	(0)	PCB's PO4, S PO4, S	,reser 1022, 102, 10	(P )3, 10 00 50 01 50 50 50	ticid ticid Mets Mets Mots Mots Mot Mots Mot Mot Mot Mot Mot Mot Mot Mot Mot Mot	8108: 1 Pes 1 Pes 1 By 8 1 By 8 2 Br, 2 (VO 0 (VO 1 (Ser 1 Coli	Тоtа 8081 В26( 826( 826( 827( 101а 827(										narks:			bility. Any sub-contracted data will be clearly notated on the analytical
Turn-Around Time:	🕅 Standard 🗆 Rush	Project Name:	Stendard #1	Project #:	0/18/10mp	Project Manager:	Daniel Burns	Sampler: Travis Shurt Murty Miduenovich	On Ice: X Yes D No	# of Coolers:		Type and # Type 2003/052 (B	3/voris) HCL -013 X	X. hig- 1 1		X	X	×	×	× 1	× ×	Received by: Via: Date Time Re	( Mater Work 1420 114	Received by: Via: Uate little	Manual Coversion 2015/10 0 +10 1
Chain-of-Custody Record	Client: Hilloof P Erleray Cuppend	TONNIDOC DOCI	Mailing Address: 362 Lous 3/W	AZACL NNN R7410	Phone #: 505 - 32 - 5128	email or Fax#: 3 Lew & Willer , lon	QA/QC Package: v Standard   Level 4 (Full Validation)	Accreditation:	I NELAC I Other			Date Time Matrix Sample Name	3/12 1525 GW NW 22	5 Z MM 1 SILI	V 1630 V NW 26							Date: Time: Relinquished by:	3/14/11/11 76/ 000	3]_1 IRUN MANAMIN MANAMIN	If necessary. samples submitted to Hall Environmental may be subg

Page 103 of 306



July 06, 2020

Danny Burns HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com

RE: Standard 1

OrderNo.: 2006D83

Dear Danny Burns:

Hall Environmental Analysis Laboratory received 15 sample(s) on 6/26/2020 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** Lab Order 2006D83

Date Reported: 7/6/2020

CLIENT: HILCORP ENERGY	Client Sample ID: MW 02 Collection Date: 6/25/2020 1:50:00 PM												
Project: Standard 1													
Lab ID: 2006D83-001	Matrix: AQUEOUS	ate: 6/26/2020 8:10:00 AM											
Analyses	Result	RL	Qual Units	s DF Date Analyzed Batch									
EPA METHOD 8260: VOLATILES SH	ORT LIST			Analyst: DJF									
Benzene	19000	200	µg/L	200 6/28/2020 10:37:14 PM B69970									
Toluene	18000	200	µg/L	200 6/28/2020 10:37:14 PM B69970									
Ethylbenzene	2300	200	µg/L	200 6/28/2020 10:37:14 PM B69970									
Xylenes, Total	21000	300	µg/L	200 6/28/2020 10:37:14 PM B69970									
Surr: 1,2-Dichloroethane-d4	96.6 7	0-130	%Red	c 200 6/28/2020 10:37:14 PM B69970									
Surr: 4-Bromofluorobenzene	94.5 7	0-130	%Red	c 200 6/28/2020 10:37:14 PM B69970									
Surr: Dibromofluoromethane	93.7 7	0-130	%Red	c 200 6/28/2020 10:37:14 PM B69970									
Surr: Toluene-d8	99.9 7	0-130	%Red	c 200 6/28/2020 10:37:14 PM B69970									

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 1 of 18

Ethylbenzene

Xylenes, Total

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

**Analytical Report** Lab Order 2006D83

20 6/28/2020 11:06:41 PM B69970

Hall Environmental Analysis Laboratory, Inc.				

Hall Environmental Analysis Laboratory, Inc.				Date Reported: 7/6/2020						
CLIENT:	HILCORP ENERGY		Clien	t Sample II	D: MV	V 03				
Project:	Standard 1		Collection Date: 6/25/2020 1:25:00 PM							
Lab ID:	2006D83-002	Matrix: AQUEOUS Received Date: 6/26/2020 8:10:00 AM								
Analyses		Result	RL Q	ual Units	DF	Date Analyzed	Batch			
EPA MET	HOD 8260: VOLATILES SH	ORT LIST				Analyst:	RAA			
Benzene		14000	500	µg/L	500	7/2/2020 5:42:07 PM	SL70086			
Toluene		110	20	µg/L	20	6/28/2020 11:06:41 PM	B69970			

20

30

70-130

70-130

70-130

70-130

µg/L

µg/L

%Rec

%Rec

%Rec

%Rec

20

20

20

20

20

510

1500

98.3

128

98.9

104

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 2 of 18

Surr: Toluene-d8

**Analytical Report** 

Hall Environmental Analysis Laboratory, Inc.
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Lab Order 2006D83

Date Reported: 7/6/2020

100 6/28/2020 11:36:06 PM B69970

CLIENT: HI	LCORP ENERGY	Client Sample ID: MW 05 Collection Date: 6/25/2020 2:20:00 PM								
Project: Sta	andard 1									
Lab ID: 20	06D83-003	Matrix: AQUEOUS Received Date: 6/26/2020 8:10:00 AM								
Analyses		ŀ	Result	RL	Qual	Units	DF	Date An	alyzed	Batch
EPA METHO	D 8260: VOLATILES SH	ORT LIST							Analyst:	DJF
Benzene			5000	100		µg/L	100	6/28/2020	0 11:36:06 PM	B69970
Toluene			170	100		µg/L	100	6/28/2020	0 11:36:06 PM	B69970
Ethylbenzen	e		87	50		µg/L	100	6/28/2020	0 11:36:06 PM	B69970
Xylenes, Tot	al		700	150		µg/L	100	6/28/2020	0 11:36:06 PM	B69970
Surr: 1,2-[	Dichloroethane-d4		111	70-130		%Rec	100	6/28/2020	0 11:36:06 PM	B69970
Surr: 4-Bro	omofluorobenzene		94.4	70-130		%Rec	100	6/28/2020	0 11:36:06 PM	B69970
Surr: Dibro	omofluoromethane		110	70-130		%Rec	100	6/28/2020	0 11:36:06 PM	B69970

103

70-130

%Rec

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 3 of 18

**CLIENT: HILCORP ENERGY** 

Project: Standard 1

**Analytical Report** Lab Order 2006D83

boratory, Inc.	Date Reported: 7/6/2020
Client Sam	<b>ple ID:</b> MW 06
Collection	<b>n Date:</b> 6/25/2020 12:45:00 PM

Lab ID: 2006D83-004	Matrix: AQUEOUS		Received Date: 6/26/2020 8:10:00 AM						
Analyses	Result		Qual Units	DF Date Analyzed	Batch				
EPA METHOD 8260: VOLATILES SHORT L	IST			Analyst	RAA				
Benzene	20000	500	µg/L	500 7/2/2020 6:12:29 PM	SL70086				
Toluene	31000	500	µg/L	500 7/2/2020 6:12:29 PM	SL70086				
Ethylbenzene	1500	200	µg/L	200 6/29/2020 2:33:55 AM	B69970				
Xylenes, Total	17000	300	µg/L	200 6/29/2020 2:33:55 AM	B69970				
Surr: 1,2-Dichloroethane-d4	104	70-130	%Rec	200 6/29/2020 2:33:55 AM	B69970				
Surr: 4-Bromofluorobenzene	98.3	70-130	%Rec	200 6/29/2020 2:33:55 AM	B69970				
Surr: Dibromofluoromethane	104	70-130	%Rec	200 6/29/2020 2:33:55 AM	B69970				
Surr: Toluene-d8	105	70-130	%Rec	200 6/29/2020 2:33:55 AM	B69970				

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range RL Reporting Limit
- Page 4 of 18
Surr: Toluene-d8

**Analytical Report** 

Hall Environmental	Analysis	Laboratory, Inc.
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Lab Order 2006D83

Date Reported: 7/6/2020

6/29/2020 3:03:18 AM B69970

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 08								
Project:	Standard 1		Collection Date: 6/25/2020 1:10:00 PM							
Lab ID:	2006D83-005	Matrix: AQUEOUS		Received Da	<b>te:</b> 6/2	26/2020 8:10:00 AM				
Analyses		Result	RL	Qual Units	DF	<b>Date Analyzed</b>	Batch			
EPA MET	THOD 8260: VOLATILES SH	ORT LIST				Analyst:	DJF			
Benzene	)	ND	1.0	µg/L	1	6/29/2020 3:03:18 AM	B69970			
Toluene		ND	1.0	µg/L	1	6/29/2020 3:03:18 AM	B69970			
Ethylben	zene	ND	1.0	µg/L	1	6/29/2020 3:03:18 AM	B69970			
Xylenes,	Total	ND	1.5	µg/L	1	6/29/2020 3:03:18 AM	B69970			
Surr: 1	1,2-Dichloroethane-d4	106	70-130	%Rec	1	6/29/2020 3:03:18 AM	B69970			
Surr: 4	4-Bromofluorobenzene	96.6	70-130	%Rec	1	6/29/2020 3:03:18 AM	B69970			
Surr: [	Dibromofluoromethane	108	70-130	%Rec	1	6/29/2020 3:03:18 AM	B69970			

102

70-130

%Rec

1

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range RL
  - Reporting Limit

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Surr: Toluene-d8

**Analytical Report** 

Lab Order 2006D83

Date Reported: 7/6/2020

6/29/2020 3:32:35 AM B69970

CLIENT:	HILCORP ENERGY		Client Sample ID: MW 11							
Project:	Standard 1		Collection Date: 6/25/2020 11:50:00 AM							
Lab ID:	2006D83-006	Matrix:	AQUEOU	JS	Receiv	ved Dat	t <b>e:</b> 6/2	26/2020 8:10:00 AM		
Analyses		R	esult	RL	Qual	Units	DF	Date Analyzed	Batch	
EPA MET	HOD 8260: VOLATILES SH	ORT LIST						Analyst	DJF	
Benzene			ND	1.0		µg/L	1	6/29/2020 3:32:35 AM	B69970	
Toluene			ND	1.0		µg/L	1	6/29/2020 3:32:35 AM	B69970	
Ethylben	zene		ND	1.0		µg/L	1	6/29/2020 3:32:35 AM	B69970	
Xylenes,	Total		ND	1.5		µg/L	1	6/29/2020 3:32:35 AM	B69970	
Surr: 1	I,2-Dichloroethane-d4		109	70-130		%Rec	1	6/29/2020 3:32:35 AM	B69970	
Surr: 4	1-Bromofluorobenzene		93.6	70-130		%Rec	1	6/29/2020 3:32:35 AM	B69970	
Surr: [	Dibromofluoromethane		107	70-130		%Rec	1	6/29/2020 3:32:35 AM	B69970	

105

70-130

%Rec

1

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 6 of 18

Hall Environmenta	l Analysis	Laboratory, Inc.	
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Lab Order 2006D83

Date Reported: 7/6/2020

<b>CLIENT:</b> HILCORP ENERGY		Client Sample ID: MW 12								
<b>Project:</b> Standard 1		Collection Date: 6/25/2020 11:20:00 AM								
Lab ID: 2006D83-007	Matrix: AQUEOUS		<b>Received Da</b>	<b>te:</b> 6/2	26/2020 8:10:00 AM					
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch				
EPA METHOD 8260: VOLATILES	SHORT LIST				Analyst:	DJF				
Benzene	710	20	µg/L	20	6/29/2020 4:02:25 AM	B69970				
Toluene	220	20	µg/L	20	6/29/2020 4:02:25 AM	B69970				
Ethylbenzene	ND	20	µg/L	20	6/29/2020 4:02:25 AM	B69970				
Xylenes, Total	340	30	µg/L	20	6/29/2020 4:02:25 AM	B69970				
Surr: 1,2-Dichloroethane-d4	104 7	0-130	%Rec	20	6/29/2020 4:02:25 AM	B69970				
Surr: 4-Bromofluorobenzene	109 7	0-130	%Rec	20	6/29/2020 4:02:25 AM	B69970				
Surr: Dibromofluoromethane	103 7	0-130	%Rec	20	6/29/2020 4:02:25 AM	B69970				
Surr: Toluene-d8	102 7	0-130	%Rec	20	6/29/2020 4:02:25 AM	B69970				

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 7 of 18

Lab Order 2006D83

Date Reported: 7/6/2020

CLIENT: HILCORP ENERGY	Client Sample ID: MW 14							
Project: Standard 1		(	Collection Da	ate: 6/25/2020 3:20:00 PM				
Lab ID: 2006D83-008	Matrix: AQUEOUS		Received Da	ate: 6/26/2020 8:10:00 AM				
Analyses	Result	RL	Qual Units	s DF Date Analyzed Batch				
EPA METHOD 8260: VOLATILES SH	ORT LIST			Analyst: DJF				
Benzene	11000	500	µg/L	500 6/29/2020 4:31:46 AM B69970				
Toluene	17000	500	µg/L	500 6/29/2020 4:31:46 AM B69970				
Ethylbenzene	1000	500	µg/L	500 6/29/2020 4:31:46 AM B69970				
Xylenes, Total	15000	750	µg/L	500 6/29/2020 4:31:46 AM B69970				
Surr: 1,2-Dichloroethane-d4	110 7	0-130	%Red	c 500 6/29/2020 4:31:46 AM B69970				
Surr: 4-Bromofluorobenzene	98.7 7	0-130	%Red	c 500 6/29/2020 4:31:46 AM B69970				
Surr: Dibromofluoromethane	108 7	0-130	%Red	c 500 6/29/2020 4:31:46 AM B69970				
Surr: Toluene-d8	103 7	0-130	%Red	c 500 6/29/2020 4:31:46 AM B69970				

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Project: Standard 1

**Analytical Report** Lab Order 2006D83

Hall Environmental Analysis Laborator	ry, Inc. Date Reported:	7/6/2
CLIENT: HILCORP ENERGY	Client Sample ID: MW 15	

2020 Collection Date: 6/25/2020 12:00:00 PM

Lab ID: 2006D83-009	Matrix: AQUEOUS		<b>Received Dat</b>	e: 6/26/2020 8:10:00 AM	
Analyses	Result	RL	Qual Units	DF Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT L	IST			Analyst:	DJF
Benzene	28000	500	µg/L	500 6/29/2020 6:00:30 AM	B69970
Toluene	1000	500	μg/L	500 6/29/2020 6:00:30 AM	B69970
Ethylbenzene	470	250	μg/L	500 6/29/2020 6:00:30 AM	B69970
Xylenes, Total	8600	750	μg/L	500 6/29/2020 6:00:30 AM	B69970
Surr: 1,2-Dichloroethane-d4	110 7	0-130	%Rec	500 6/29/2020 6:00:30 AM	B69970
Surr: 4-Bromofluorobenzene	92.3 7	0-130	%Rec	500 6/29/2020 6:00:30 AM	B69970
Surr: Dibromofluoromethane	108 7	0-130	%Rec	500 6/29/2020 6:00:30 AM	B69970
Surr: Toluene-d8	103 7	0-130	%Rec	500 6/29/2020 6:00:30 AM	B69970

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: Toluene-d8

**Analytical Report** 

Lab Order 2006D83

Date Reported: 7/6/2020

50 6/29/2020 6:30:23 AM B69970

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 16							
Project:	Standard 1		(	Collection Dat	<b>:e:</b> 6/2	25/2020 3:00:00 PM			
Lab ID:	2006D83-010	Matrix: AQUEO	US	Received Dat	e: 6/2	26/2020 8:10:00 AM			
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA MET	HOD 8260: VOLATILES SH	ORT LIST				Analyst	DJF		
Benzene		2100	50	µg/L	50	6/29/2020 6:30:23 AM	B69970		
Toluene		340	50	µg/L	50	6/29/2020 6:30:23 AM	B69970		
Ethylben	zene	51	50	µg/L	50	6/29/2020 6:30:23 AM	B69970		
Xylenes,	Total	3300	75	µg/L	50	6/29/2020 6:30:23 AM	B69970		
Surr: 1	I,2-Dichloroethane-d4	105	70-130	%Rec	50	6/29/2020 6:30:23 AM	B69970		
Surr: 4	1-Bromofluorobenzene	94.3	70-130	%Rec	50	6/29/2020 6:30:23 AM	B69970		
Surr: [	Dibromofluoromethane	102	70-130	%Rec	50	6/29/2020 6:30:23 AM	B69970		

102

70-130

%Rec

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Orden 200(D92

Hall Environmental Analysis Laborate	Dry, Inc. Date Reported	7
	Client Semple ID: MW 18	
CLIENT: HILCONF ENERGY	Cheft Sample ID: MW 10	

Lab Order 2006D83
Date Reported: 7/6/2020

Project: Standard 1	Collection Date: 6/25/2020 12:15:00 PM									
Lab ID: 2006D83-011	Matrix: AQUEOUS	Received Date: 6/26/2020 8:10:00 AM								
Analyses	Result	RL (	Qual Units	DF Date Analyzed	Batch					
EPA METHOD 8260: VOLATILES SHO	ORT LIST			Analys	t: DJF					
Benzene	13000	200	µg/L	200 6/29/2020 6:59:42 AM	B69970					
Toluene	ND	200	µg/L	200 6/29/2020 6:59:42 AM	B69970					
Ethylbenzene	560	200	µg/L	200 6/29/2020 6:59:42 AM	B69970					
Xylenes, Total	6000	300	µg/L	200 6/29/2020 6:59:42 AM	B69970					
Surr: 1,2-Dichloroethane-d4	106 7	0-130	%Rec	200 6/29/2020 6:59:42 AM	B69970					
Surr: 4-Bromofluorobenzene	98.5 7	0-130	%Rec	200 6/29/2020 6:59:42 AM	B69970					
Surr: Dibromofluoromethane	104 7	0-130	%Rec	200 6/29/2020 6:59:42 AM	B69970					
Surr: Toluene-d8	104 7	0-130	%Rec	200 6/29/2020 6:59:42 AM	B69970					

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: Dibromofluoromethane

Surr: Toluene-d8

Analytical Report
Lab Order 2006D83

200 6/29/2020 7:29:28 AM

200 6/29/2020 7:29:28 AM

B69970

B69970

Hall Environmental Analysis Laboratory, Inc.	Date Reported: 7/6/2020
CLIENT: HILCORP ENERGY	Client Sample ID: MW 19

<b>Project:</b> Standard 1	<b>Collection Date:</b> 6/25/2020 2:55:00 PM									
Lab ID: 2006D83-012	Matrix: AQUEOUS	<b>Received Date:</b> 6/26/2020 8:10:00 AM								
Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch				
EPA METHOD 8260: VOLATILES S	HORT LIST				Analys	t: DJF				
Benzene	16000	200	µg/L	200	6/29/2020 7:29:28 AM	B69970				
Toluene	5400	200	µg/L	200	6/29/2020 7:29:28 AM	B69970				
Ethylbenzene	950	200	µg/L	200	6/29/2020 7:29:28 AM	B69970				
Xylenes, Total	3400	300	µg/L	200	6/29/2020 7:29:28 AM	B69970				
Surr: 1,2-Dichloroethane-d4	103 7	0-130	%Rec	200	6/29/2020 7:29:28 AM	B69970				
Surr: 4-Bromofluorobenzene	96.6 7	0-130	%Rec	200	6/29/2020 7:29:28 AM	B69970				

101

103

70-130

70-130

%Rec

%Rec

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmenta	l Analysis Laboratory, Inc.	
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Lab Order 2006D83

Date Reported: 7/6/2020

CLIENT: HILCORP ENERGY	Client Sample ID: MW 22										
Project: Standard 1		<b>Collection Date:</b> 6/25/2020 11:00:00 AM									
Lab ID: 2006D83-013	Matrix: AQUEOUS		Receive	ed Dat	<b>:e:</b> 6/2	26/2020 8:10:00 AM					
Analyses	Result	RL	Qual U	Units	DF	Date Analyzed	Batch				
EPA METHOD 8260: VOLATILES SH	ORT LIST					Analyst:	DJF				
Benzene	ND	1.0	I	µg/L	1	6/29/2020 7:59:16 AM	B69970				
Toluene	ND	1.0	I	µg/L	1	6/29/2020 7:59:16 AM	B69970				
Ethylbenzene	ND	1.0	I	µg/L	1	6/29/2020 7:59:16 AM	B69970				
Xylenes, Total	3.2	1.5	I	µg/L	1	6/29/2020 7:59:16 AM	B69970				
Surr: 1,2-Dichloroethane-d4	105 7	0-130	G	%Rec	1	6/29/2020 7:59:16 AM	B69970				
Surr: 4-Bromofluorobenzene	89.9 7	0-130	G	%Rec	1	6/29/2020 7:59:16 AM	B69970				
Surr: Dibromofluoromethane	102 7	0-130	c	%Rec	1	6/29/2020 7:59:16 AM	B69970				
Surr: Toluene-d8	104 7	0-130	c	%Rec	1	6/29/2020 7:59:16 AM	B69970				

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: Toluene-d8

B69970

**Analytical Report** Lab Order 2006D83

Date Reported: 7/6/2020

6/29/2020 8:28:58 AM

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 23										
Project:	Standard 1	Collection Date: 6/25/2020 2:00:00 PM										
Lab ID:	2006D83-014	Matrix:	AQUEOUS		Recei	ved Dat	t <b>e:</b> 6/2	26/2020 8:10:00 AM				
Analyses		R	esult	RL	Qual	Units	DF	Date Analyzed	Batch			
EPA MET	THOD 8260: VOLATILES SHOP							Analyst	DJF			
Benzene	9		ND	1.0		µg/L	1	6/29/2020 8:28:58 AM	B69970			
Toluene			ND	1.0		µg/L	1	6/29/2020 8:28:58 AM	B69970			
Ethylben	izene		ND	1.0		µg/L	1	6/29/2020 8:28:58 AM	B69970			
Xylenes,	Total		ND	1.5		µg/L	1	6/29/2020 8:28:58 AM	B69970			
Surr:	1,2-Dichloroethane-d4		105 7	0-130		%Rec	1	6/29/2020 8:28:58 AM	B69970			
Surr: 4	4-Bromofluorobenzene		94.3 7	0-130		%Rec	1	6/29/2020 8:28:58 AM	B69970			
Surr: I	Dibromofluoromethane		101 7	0-130		%Rec	1	6/29/2020 8:28:58 AM	B69970			

101

70-130

%Rec

1

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

RL Reporting Limit Page 14 of 18

Hall Environmental	Analysis	Laboratory, Inc.
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Lab Order 2006D83

Date Reported: 7/6/2020

CLIENT: HILCORP ENERGY	Client Sample ID: MW 26										
Project: Standard 1		<b>Collection Date:</b> 6/25/2020 10:00:00 AM									
Lab ID: 2006D83-015	Matrix: AQUEOUS		Received	Dat	<b>e:</b> 6/2	26/2020 8:10:00 AM					
Analyses	Result	RL	Qual Ur	nits	DF	Date Analyzed	Batch				
EPA METHOD 8260: VOLATILES SH	ORT LIST					Analyst:	DJF				
Benzene	ND	1.0	μg	ı/L	1	6/29/2020 8:58:54 AM	B69970				
Toluene	ND	1.0	μg	ı/L	1	6/29/2020 8:58:54 AM	B69970				
Ethylbenzene	ND	1.0	μg	ı/L	1	6/29/2020 8:58:54 AM	B69970				
Xylenes, Total	ND	1.5	μg	ı/L	1	6/29/2020 8:58:54 AM	B69970				
Surr: 1,2-Dichloroethane-d4	104 7	0-130	%	Rec	1	6/29/2020 8:58:54 AM	B69970				
Surr: 4-Bromofluorobenzene	91.6 7	0-130	%	Rec	1	6/29/2020 8:58:54 AM	B69970				
Surr: Dibromofluoromethane	101 7	0-130	%	Rec	1	6/29/2020 8:58:54 AM	B69970				
Surr: Toluene-d8	98.3 7	0-130	%	Rec	1	6/29/2020 8:58:54 AM	B69970				

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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## **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Client:	HILCORP EN	ERGY									
Project:	Standard 1										
Sample ID: mb2	S	ampType	: MB	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist	
Client ID: <b>PBW</b>		Batch ID	: B6	9970	F	unNo: 6	9970				
Prep Date:	Analy	vsis Date	: 6/2	29/2020	S	eqNo: 2	430549	Units: µg/L			
Analyte	Res	ult P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1	١D	1.0					-			
Toluene	1	ND	1.0								
Ethylbenzene	1	ND	1.0								
Xylenes, Total	I	ND	1.5								
Surr: 1,2-Dichloroethan	e-d4	10		10.00		105	70	130			
Surr: 4-Bromofluoroben	zene	9.6		10.00		95.8	70	130			
Surr: Dibromofluoromet	hane	11		10.00		106	70	130			
Surr: Toluene-d8		10		10.00		101	70	130			
Sample ID: 100ng lo	cs2 S	ampType	: LC	S	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW		Batch ID	: <b>B</b> 6	9970	F	unNo: 6	9970				
Prep Date:	Analy	vsis Date	6/2	29/2020	S	eqNo: 2	430550	Units: µg/L			
Analyte	Res	ult P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		22	1.0	20.00	0	110	70	130			
Toluene		21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethan	e-d4	11		10.00		105	70	130			
Surr: 4-Bromofluoroben	zene	9.5		10.00		95.4	70	130			
Surr: Dibromofluoromet	hane	11		10.00		106	70	130			
Surr: Toluene-d8		10		10.00		103	70	130			
Sample ID: 2006d83	<b>3-008a ms</b> Sa	ampType	: MS	5	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist	
Client ID: MW 14		Batch ID	: <b>B</b> 6	9970	F	unNo: 6	9970				
Prep Date:	Analy	vsis Date	: 6/2	29/2020	S	eqNo: 2	430559	Units: µg/L			
Analyte	Res	ult P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	220	00	500	10000	10580	119	70	130			
Toluene	280	00	500	10000	17050	106	70	130			
Surr: 1,2-Dichloroethan	e-d4 52	00		5000		103	70	130			
Surr: 4-Bromofluoroben	izene 46	00		5000		91.1	70	130			
Surr: Dibromofluoromet	hane 53	00		5000		105	70	130			
Surr: Toluene-do	50	00		5000		101	70	130			
Sample ID: 2006d83	8-008a msd S	ampType	: MS	D	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist	
Client ID: MW 14		Batch ID	B6	9970	F	lunNo: 6	9970				
Prep Date:	Analy	vsis Date	6/2	29/2020	S	eqNo: 2	430560	Units: µg/L			
Analyte	Res	ult P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	220	00	500	10000	10580	115	70	130	1.60	20	
Toluene	280	00	500	10000	17050	107	70	130	0.373	20	

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 16 of 18

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2006D83

06-Jul-20

WO#:

Value above quantitation range

## **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

ND	Not Detected at the Reporting Limit	r	Sample pri Not in Kange	
PQL	Practical Quanitative Limit	RL	Reporting Limit	
S	% Recovery outside of range due to dilution or matrix			
Relea	used to Imaging: 1/17/2023 1:49:55 PM			
Relea				

Batch ID: R69998

Analysis Date: 6/29/2020

Client: H	ILCORP ENE	RGY									
Project: S	tandard 1										
Sample ID: 2006d83-	008a msd Sar	npType:	MSD	Test	Code: E	EPA Method	8260: Volatil	es Short L	.ist		
Client ID: MW 14	В	atch ID:	B69970 RunNo: 69970								
Prep Date:	Analys	Analysis Date: 6/29/2020			eqNo: 2	2430560	Units: µg/L				
Analyte	Resu	lt PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 1,2-Dichloroethane-	d4 520	D	5000		104	70	130	0	0		
Surr: 4-Bromofluorobenze	ene 480	D	5000		95.5	70	130	0	0		
Surr: Dibromofluorometha	ane 530	D	5000		106	70	130	0	0		
Surr: Toluene-d8	510	0	5000		101	70	130	0	0		
Sample ID: mb1	Sar	npType:	MBLK	TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW	В	atch ID:	R69998	R	unNo: (	69998					
Prep Date:	Analys	is Date:	6/29/2020	S	eqNo: 2	2431851	Units: %Red	;			
Analyte	Resu	lt PG	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 1,2-Dichloroethane-	d4 1	0	10.00		104	70	130				
Surr: 4-Bromofluorobenze	ene 9.	2	10.00		91.5	70	130				
Surr: Dibromofluorometha	ane 1	0	10.00		102	70	130				
Surr: Toluene-d8	1	0	10.00		102	70	130				
Sample ID: 100ng Ics	i <b>b</b> Sar	npType:	LCS	Test	Code: E	EPA Method	8260: Volatil	es Short L	.ist		

RunNo: 69998

SeqNo: 2431852

Units: %Rec

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.7	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			
Sample ID: mb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW	Batch	n ID: <b>SL</b>	70086	F	RunNo: 7	0086				
	rep Date: Analysis Date: 7/2/2020									
Prep Date:	Analysis D	0ate: 7/	2/2020	S	SeqNo: 2	435180	Units: µg/L			
Prep Date: Analyte	Analysis D Result	ate: <b>7/</b> PQL	<b>2/2020</b> SPK value	SPK Ref Val	SeqNo: <b>2</b> %REC	435180 LowLimit	Units: <b>µg/L</b> HighLimit	%RPD	RPDLimit	Qual
Prep Date: Analyte Benzene	Analysis D Result ND	Date: <b>7/</b> PQL 1.0	2/2020 SPK value	SPK Ref Val	SeqNo: 2 %REC	435180 LowLimit	Units: <b>µg/L</b> HighLimit	%RPD	RPDLimit	Qual
Prep Date: Analyte Benzene Toluene	Analysis D Result ND ND	Date: 7/ PQL 1.0 1.0	2/2020 SPK value	SPK Ref Val	SeqNo: 2	435180 LowLimit	Units: <b>µg/L</b> HighLimit	%RPD	RPDLimit	Qual
Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4	Analysis D Result ND ND 10	Date: 7/ PQL 1.0 1.0	2/2020 SPK value 10.00	SPK Ref Val	SeqNo: <b>2</b> %REC 104	435180 LowLimit 70	Units: µg/L HighLimit 130	%RPD	RPDLimit	Qual
Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene	Analysis E Result ND ND 10 9.0	Date: <b>7/</b> PQL 1.0 1.0	2/2020 SPK value 10.00 10.00	SPK Ref Val	SeqNo: 2 %REC 104 90.4	435180 LowLimit 70 70	Units: µg/L HighLimit 130 130	%RPD	RPDLimit	Qual
Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane	Analysis D Result ND 10 9.0 10	Date: <b>7/</b> <u>PQL</u> 1.0 1.0	2/2020 SPK value 10.00 10.00 10.00	SPK Ref Val	SeqNo: 2 %REC 104 90.4 101	435180 LowLimit 70 70 70	Units: <b>µg/L</b> HighLimit 130 130 130	%RPD	RPDLimit	Qual

#### **Qualifiers:**

Client ID: LCSW

Prep Date:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- MD Not Detected at the Perperting Li

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- ъ la pU Not In D

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WO#: 2006D83

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	HILCO Standar	RP ENERG d 1	Y											
Sample ID: 100	ng sl Ics4	SampT	ype: LC	S4	TestCode: EPA Method 8260: Volatiles Short List									
Client ID: Bat	chQC	Batch	n ID: <b>SL</b>	70086	F	RunNo: 70086								
Prep Date:		Analysis D	ate: 7/	2/2020	S	SeqNo: 24	435181	Units: µg/L						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene		21	1.0	20.00	0	107	80	120						
Toluene		22	1.0	20.00	0	109	80	120						
Surr: 1,2-Dichloro	ethane-d4	9.9		10.00		99.3	70	130						
Surr: 4-Bromofluo	orobenzene	9.2		10.00		91.7	70	130						
Surr: Dibromofluo	romethane	10		10.00		99.7	70	130						
Surr: Toluene-d8		10		10.00		104	70	130						

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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06-Jul-20

2006D83

WO#:

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albu TEL: 505-345-3975 Website: clients.ha	Analy. 490 Iquerq FAX: Ilenvir	sis Laboratory 1 Hawkins NE ue, NM 87109 505-345-4107 conmental.com	9	San	nple Log-In Check List
Client Name: Hilcorp Energy	Work Order Number:	2006	SD83			RcptNo: 1
Received By: Scott Anderson 6	6/26/2020 8:10:00 AM					
Completed By: Emily Mocho 6	6/26/2020 9:02:32 AM					
Reviewed By: EM 6/26/20						
Chain of Custody						
1. Is Chain of Custody complete?		Yes		No		Not Present
2. How was the sample delivered?		Cour	ier			
Log In 3. Was an attempt made to cool the samples?		Yes		No		
			5 L			
4. Were all samples received at a temperature of	>0° C to 6.0°C	Yes		No		
5. Sample(s) in proper container(s)?		Yes		No		
6. Sufficient sample volume for indicated test(s)?		Yes	<b>V</b>	No		
7. Are samples (except VOA and ONG) properly p	reserved?	Yes	~	No [		
8. Was preservative added to bottles?		Yes		No	~	
9. Received at least 1 vial with headspace <1/4" for	or AQ VOA?	Yes		No [		
10. Were any sample containers received broken?		Yes		No	~	# of preserved
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes	$\checkmark$	No		for pH: (<2.or >12 unless noted)
2. Are matrices correctly identified on Chain of Cu	stody?	Yes	V	No		Adjusted?
3. Is it clear what analyses were requested?		Yes		No		
<ol> <li>Were all holding times able to be met? (If no, notify customer for authorization.)</li> </ol>		Yes		No		Checked by: JP 6 26 20
Special Handling (if applicable)						
15. Was client notified of all discrepancies with this	s order?	Yes		No		NA 🗹
Person Notified:	Date:			-	-	
By Whom:	Via:	eMa	ail 🗌 Phone	•	Fax	In Person
Regarding;				-	-	
Client Instructions:						
16. Additional remarks:						
17. <u>Cooler Information</u> Cooler No Temp ºC Condition Seal	Intact Seal No S	eal D	ate Sigi	ned E	By	
1 2.9 Good Not Pr	resent					

Page 1 of 1

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Time:	C Rush	ä	It Pures		7817006	iger:	el Burn	R Yes	perature: 2.9	Preservative Type	HcL	2						Haclie	2		Hschz	Hallz	L'AIL	(e) 6.2	credited laboratories.
Turn-Around	X Standard	Project Name	Stana	Project #:	C	Project Mana	Danie	Sampler: T.S.	Sample Tem	Container Type and #	3 (VoN)										1 1	2	Received by:	Received by:	ontracted to other ac
istody Record	64	)eal	J 3100	01hL8	4 - 5178	13hilarp, com	Level 4 (Full Validation)			Sample Request ID	NW 02	NW 03	NNUOS	NN 06	NNN 08	mw 11.	MW 12	MW 14	MW 15	MW 16	NN 18	MW/19	in the second se	d by:	nitted to Hall Environmental may be subc
-of-Cu	rp Ene	Por C	5: 382 E	ec.NM	5-32	Jalea		□ Othe	POF	Matrix	Hro				_		_				1	$\wedge$	Relinquishe	Relinquishe	samples subm
hain	Hilco	Jenn	Address	AZA	#: 50	r Fax#:	Package: dard	itation AP	(Type)	Time	1350	22C1	1470	5221	1310	1150	0711	1520	1200	1500	1215	1755	Time: /6Sy	Time: > \gdO	necessary,
0	Client:		Mailing		Phone	email o	QA/QC	Accred.	₫ EDD	Date	6/25							-	-		1	>	Date: 6/25	Date:	IL IL

Received by OCD: 11/2	0/202	2 1:	44:15 <b>F</b>	PM									Page 125 of 306
HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com vkins NE - Albuquerque, NM 87109 A55.375 Fax 505.345.4107	Analysis Request	504 (fm	2 ,≱Oq 92dA\tr	94.1) 1022, Δ) 2023, Δ) 2022, Δ)		88 % 3 Me 3 Me (AO) (AO) (AO) (AO) (AO) (AO) (AO) (AO)	PAHs b PAHs b CI, F, E 8260 (V 8270 (S Total Co						ase cc blorns ettenu. con Tshort etenu, con ontracted data will be clearly notated on the analytical report.
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490°		(0)	ЯМ \ O.	ad / c	N9)	19D	08:H9T						arks: liity. An
		-(†	<u>508) s'</u>	amt	BE /	TM.	BTEX	X	$\times$	×	$\times$		Rem
Turn-Around Time:	017817006	Project Manager:	Daniel Burns	Sampler: T.Short & D. BUINS	# of Coolers: 1	Cooler Temp(including cF): 2.7 - 0 = 2.7	Container Preservative HEAL No. Type and # Type	3 (VOR) 1761 -	-013	-014	V V -015		Received by: Via: Date Time Received by: Via: 'Date Time SPA Councient G.26-20 8:10 bcontracted to other accredited laboratories. This serves as notice of this
Client: Hilcoff Energy Client: Hilcoff Energy Sennifer Deal Mailing Address: 22 a 3/00 Aztec. NM 87410	Phone #: 505 - 324 - 5178	email or Fax#: Joka ( & hillor p , Corh	QA/QC Package:	Accreditation:	Ø EDD (Type) PO F		Date Time Matrix Sample Name	6/25 HVSS H20 NNW 10 75	1 1100 1 MW 22	1/ 1400 1 MW 23	V 1000 V MW 26		Date:     Time:     Relinquished by:       G/LS     Relinquished by:       Date:     Time:       Relinquished by:     Relinquished by:       Isolate:     Isolate:       Increasary, samples submitted to Hall Environmental may be sub-



October 02, 2020

Danny Burns Hilcorp Energy PO Box 61529 Houston, TX 77208-1529 TEL: (337) 276-7676 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com

OrderNo.: 2009E37

Dear Danny Burns:

RE: Standard 1

Hall Environmental Analysis Laboratory received 15 sample(s) on 9/24/2020 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,

Ander

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009E37

Date Reported: 10/2/2020

Lab ID:         2009E37-001         Matrix:         GROUNDWA         Received Date: 9/	24/2020 8:30:00 AM
Project:   Standard 1   Collection Date: 9/	23/2020 1:49:00 PM
CLIENT: Hilcorp Energy Client Sample ID: M	W02

1 mary ses	Result	NL Q		DI Date Milatyzeu	Daten
EPA METHOD 8260: VOLATILES SHORT LIST				Analyst	JMR
Benzene	17000	200	µg/L	200 9/27/2020 2:13:12 PM	R72182
Toluene	16000	200	µg/L	200 9/27/2020 2:13:12 PM	R72182
Ethylbenzene	2800	200	µg/L	200 9/27/2020 2:13:12 PM	R72182
Xylenes, Total	25000	300	µg/L	200 9/27/2020 2:13:12 PM	R72182
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec	200 9/27/2020 2:13:12 PM	R72182
Surr: Dibromofluoromethane	109	70-130	%Rec	200 9/27/2020 2:13:12 PM	R72182
Surr: Toluene-d8	102	70-130	%Rec	200 9/27/2020 2:13:12 PM	R72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 1 of 17

## Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009E37

Date Reported: 10/2/2020

Analyses		<b>Result RL</b> Qual Units <b>DF</b> Date Analyzed	Batch
Lab ID:	2009E37-002	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM	
Project:	Standard 1	Collection Date: 9/23/2020 1:06:00 PM	
CLIENT:	Hilcorp Energy	Client Sample ID: MW03	

111111J505	Rebuit		Zuur Olinto	DI Dute Imalyzeu	Dutten
EPA METHOD 8260: VOLATILES SHORT LIST				Analys	t: JMR
Benzene	14000	200	µg/L	200 9/27/2020 2:41:41 PM	R72182
Toluene	570	200	µg/L	200 9/27/2020 2:41:41 PM	R72182
Ethylbenzene	460	200	µg/L	200 9/27/2020 2:41:41 PM	R72182
Xylenes, Total	3500	300	µg/L	200 9/27/2020 2:41:41 PM	R72182
Surr: 1,2-Dichloroethane-d4	96.7	70-130	%Rec	200 9/27/2020 2:41:41 PM	R72182
Surr: Dibromofluoromethane	103	70-130	%Rec	200 9/27/2020 2:41:41 PM	R72182
Surr: Toluene-d8	105	70-130	%Rec	200 9/27/2020 2:41:41 PM	R72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009E37

Date Reported: 10/2/2020

Analyses		Result RL Qual Units DF Date Analyzed	Batch
Lab ID:	2009E37-003	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM	
Project:	Standard 1	Collection Date: 9/23/2020 12:40:00 PM	
CLIENT:	Hilcorp Energy	Client Sample ID: MW05	

EPA METHOD 8260: VOLATILES SHORT LIST					Analys	t: JMR
Benzene	3900	100	µg/L	100	9/27/2020 3:10:10 PM	R72182
Toluene	1100	100	µg/L	100	9/27/2020 3:10:10 PM	R72182
Ethylbenzene	260	100	µg/L	100	9/27/2020 3:10:10 PM	R72182
Xylenes, Total	4200	150	µg/L	100	9/27/2020 3:10:10 PM	R72182
Surr: 1,2-Dichloroethane-d4	94.6	70-130	%Rec	100	9/27/2020 3:10:10 PM	R72182
Surr: Dibromofluoromethane	109	70-130	%Rec	100	9/27/2020 3:10:10 PM	R72182
Surr: Toluene-d8	101	70-130	%Rec	100	9/27/2020 3:10:10 PM	R72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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## Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009E37

Date Reported: 10/2/2020

CLIENT:	Hilcorp Energy	Client Sample ID: MW06	
Project:	Standard 1	Collection Date: 9/23/2020 11:43:00 AM	
Lab ID:	2009E37-004	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM	
Analyses		Result RL Qual Units DF Date Analyzed	Batch

EPA METHOD 8260: VOLATILES SHORT LIST					Analyst:	JMR
Benzene	16000	500	µg/L	500	9/27/2020 3:38:41 PM	R72182
Toluene	24000	500	µg/L	500	9/27/2020 3:38:41 PM	R72182
Ethylbenzene	1500	500	µg/L	500	9/27/2020 3:38:41 PM	R72182
Xylenes, Total	18000	750	µg/L	500	9/27/2020 3:38:41 PM	R72182
Surr: 1,2-Dichloroethane-d4	93.2	70-130	%Rec	500	9/27/2020 3:38:41 PM	R72182
Surr: Dibromofluoromethane	104	70-130	%Rec	500	9/27/2020 3:38:41 PM	R72182
Surr: Toluene-d8	104	70-130	%Rec	500	9/27/2020 3:38:41 PM	R72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009E37

Date Reported: 10/2/2020

CLIENT:	Hilcorp Energy	Client Sample ID: M	W08
Project:	Standard 1	Collection Date: 9/2	23/2020 11:15:00 AM
Lab ID:	2009E37-005	Matrix: GROUNDWA Received Date: 9/2	24/2020 8:30:00 AM
Analyses		Result RL Qual Units DF	Date Analyzed Batch

EPA METHOD 8260: VOLATILES SHORT LIST					Analyst:	JMR
Benzene	ND	1.0	µg/L	1	9/27/2020 4:07:11 PM	R72182
Toluene	ND	1.0	µg/L	1	9/27/2020 4:07:11 PM	R72182
Ethylbenzene	ND	1.0	µg/L	1	9/27/2020 4:07:11 PM	R72182
Xylenes, Total	ND	1.5	µg/L	1	9/27/2020 4:07:11 PM	R72182
Surr: 1,2-Dichloroethane-d4	95.1	70-130	%Rec	1	9/27/2020 4:07:11 PM	R72182
Surr: Dibromofluoromethane	110	70-130	%Rec	1	9/27/2020 4:07:11 PM	R72182
Surr: Toluene-d8	103	70-130	%Rec	1	9/27/2020 4:07:11 PM	R72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2009E37

#### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/2/2020

CLIENT:	Hilcorp Energy	Client Sample ID: MW11	
Project:	Standard 1	Collection Date: 9/23/2020 12:45:00 PM	
Lab ID:	2009E37-006	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM	
Analyses		Result RL Qual Units DF Date Analyzed	Batch

EPA METHOD 8260: VOLATILES SHORT LIST					Analyst:	JMR
Benzene	ND	1.0	µg/L	1	9/27/2020 4:35:41 PM	R72182
Toluene	ND	1.0	µg/L	1	9/27/2020 4:35:41 PM	R72182
Ethylbenzene	ND	1.0	µg/L	1	9/27/2020 4:35:41 PM	R72182
Xylenes, Total	ND	1.5	µg/L	1	9/27/2020 4:35:41 PM	R72182
Surr: 1,2-Dichloroethane-d4	93.9	70-130	%Rec	1	9/27/2020 4:35:41 PM	R72182
Surr: Dibromofluoromethane	100	70-130	%Rec	1	9/27/2020 4:35:41 PM	R72182
Surr: Toluene-d8	102	70-130	%Rec	1	9/27/2020 4:35:41 PM	R72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009E37

Date Reported: 10/2/2020

Project:	Standard 1	Collection Date: 9/23/2020 1:30:00 PM	
Lab ID:	2009E37-007	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM	

Anaryses	Result	KL Qua	I Units	Dr	Date Analyzed	Datch
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst	JMR
Benzene	890	20	µg/L	20	9/27/2020 5:04:10 PM	R72182
Toluene	87	20	µg/L	20	9/27/2020 5:04:10 PM	R72182
Ethylbenzene	220	20	µg/L	20	9/27/2020 5:04:10 PM	R72182
Xylenes, Total	120	30	µg/L	20	9/27/2020 5:04:10 PM	R72182
Surr: 1,2-Dichloroethane-d4	96.9	70-130	%Rec	20	9/27/2020 5:04:10 PM	R72182
Surr: Dibromofluoromethane	107	70-130	%Rec	20	9/27/2020 5:04:10 PM	R72182
Surr: Toluene-d8	99.0	70-130	%Rec	20	9/27/2020 5:04:10 PM	R72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2009E37

#### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/2/2020

CLIENT: Hilcorp EnergyClient Sample ID: MW14Project:Standard 1Collection Date: 9/23/2020 2:40:00 PM	Lab ID:	2009E37-008	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM	
CLIENT: Hilcorp Energy Client Sample ID: MW14	<b>Project:</b>	Standard 1	Collection Date: 9/23/2020 2:40:00 PM	
	CLIENT:	Hilcorp Energy	Client Sample ID: MW14	

Analyses	Result	KL Quai	Units	DF Date Analyzeu	Datch
EPA METHOD 8260: VOLATILES SHORT LIST				Analyst:	JMR
Benzene	8200	200	µg/L	200 9/27/2020 5:32:40 PM	R72182
Toluene	14000	200	µg/L	200 9/27/2020 5:32:40 PM	R72182
Ethylbenzene	800	200	µg/L	200 9/27/2020 5:32:40 PM	R72182
Xylenes, Total	16000	300	µg/L	200 9/27/2020 5:32:40 PM	R72182
Surr: 1,2-Dichloroethane-d4	96.0	70-130	%Rec	200 9/27/2020 5:32:40 PM	R72182
Surr: Dibromofluoromethane	108	70-130	%Rec	200 9/27/2020 5:32:40 PM	R72182
Surr: Toluene-d8	102	70-130	%Rec	200 9/27/2020 5:32:40 PM	R72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2009E37

Hall Environmental	l Analysis	Laboratory, Inc.	
--------------------	------------	------------------	--

Date Reported: 10/2/2020

Analyses		Result RL Qual Units DF Date Analyzed	Batch			
Lab ID:	2009E37-009	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM				
Project:	Standard 1	Collection Date: 9/23/2020 11:00:00 AM				
CLIENT:	Hilcorp Energy	Client Sample ID: MW15				

EPA METHOD 8260: VOLATILES SHORT LIST					Analy	st: JMR
Benzene	21000	500	µg/L	500	9/27/2020 6:01:09 PM	/ R72182
Toluene	1200	500	µg/L	500	9/27/2020 6:01:09 PM	/ R72182
Ethylbenzene	610	500	µg/L	500	9/27/2020 6:01:09 PM	/ R72182
Xylenes, Total	8600	750	µg/L	500	9/27/2020 6:01:09 PM	/ R72182
Surr: 1,2-Dichloroethane-d4	96.1	70-130	%Rec	500	9/27/2020 6:01:09 PM	/ R72182
Surr: Dibromofluoromethane	108	70-130	%Rec	500	9/27/2020 6:01:09 PM	/ R72182
Surr: Toluene-d8	98.2	70-130	%Rec	500	9/27/2020 6:01:09 PM	/ R72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009E37

Date Reported: 10/2/2020

Analyses		Result RL Qual Units DF Date Analyzed	Batch				
Lab ID:	2009E37-010	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM					
Project:	Standard 1	Collection Date: 9/23/2020 2:20:00 PM					
CLIENT:	Hilcorp Energy	Client Sample ID: MW16					

Anaryses	Result	KL Qua	i Units	DI	Date Analyzeu	Daten
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst	JMR
Benzene	1400	50	µg/L	50	9/27/2020 6:29:36 PM	R72182
Toluene	230	50	µg/L	50	9/27/2020 6:29:36 PM	R72182
Ethylbenzene	75	50	µg/L	50	9/27/2020 6:29:36 PM	R72182
Xylenes, Total	3600	75	µg/L	50	9/27/2020 6:29:36 PM	R72182
Surr: 1,2-Dichloroethane-d4	93.1	70-130	%Rec	50	9/27/2020 6:29:36 PM	R72182
Surr: Dibromofluoromethane	108	70-130	%Rec	50	9/27/2020 6:29:36 PM	R72182
Surr: Toluene-d8	99.7	70-130	%Rec	50	9/27/2020 6:29:36 PM	R72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

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- RL Reporting Limit

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**Analytical Report** Lab Order 2009E37

#### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/2/2020

CLIENT:	Hilcorp Energy	Client Sample ID: MW18	
Project:	Standard 1	Collection Date: 9/23/2020 12:00:00 PM	
Lab ID:	2009E37-011	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM	
Analyses		Result BI Qual Units DF Date Analyzed	Ratch

1 mary ses	Result	KL Quai	Omes	DI	Date Maryzeu	Daten
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst:	JMR
Benzene	8400	500	µg/L	500	9/28/2020 4:00:08 PM	B72182
Toluene	ND	50	µg/L	50	9/28/2020 12:10:51 AM	B72182
Ethylbenzene	320	50	µg/L	50	9/28/2020 12:10:51 AM	B72182
Xylenes, Total	4200	75	µg/L	50	9/28/2020 12:10:51 AM	B72182
Surr: 1,2-Dichloroethane-d4	98.6	70-130	%Rec	50	9/28/2020 12:10:51 AM	B72182
Surr: Dibromofluoromethane	109	70-130	%Rec	50	9/28/2020 12:10:51 AM	B72182
Surr: Toluene-d8	101	70-130	%Rec	50	9/28/2020 12:10:51 AM	B72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
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- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009E37

Date Reported: 10/2/2020

Analyses		Result RL Qual Units DF Date Analyzed	Batch			
Lab ID:	2009E37-012	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM				
Project:	Standard 1	<b>Collection Date:</b> 9/23/2020 3:10:00 PM				
CLIENT:	Hilcorp Energy	Client Sample ID: MW19				

111111/505	Result	THE \	Zuur Omus	DI Dute imaiyzeu	Dutth
EPA METHOD 8260: VOLATILES SHORT LIST				Analysi	JMR
Benzene	12000	200	µg/L	200 9/28/2020 1:36:16 AM	B72182
Toluene	4100	200	µg/L	200 9/28/2020 1:36:16 AM	B72182
Ethylbenzene	730	200	µg/L	200 9/28/2020 1:36:16 AM	B72182
Xylenes, Total	2800	300	µg/L	200 9/28/2020 1:36:16 AM	B72182
Surr: 1,2-Dichloroethane-d4	96.2	70-130	%Rec	200 9/28/2020 1:36:16 AM	B72182
Surr: Dibromofluoromethane	107	70-130	%Rec	200 9/28/2020 1:36:16 AM	B72182
Surr: Toluene-d8	104	70-130	%Rec	200 9/28/2020 1:36:16 AM	B72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
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- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 12 of 17

#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009E37

Date Reported: 10/2/2020

Analyses		Result RL Qual Units DF Date Analyzed	Batch			
Lab ID:	2009E37-013	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM				
<b>Project:</b>	Standard 1	Collection Date: 9/23/2020 1:00:00 PM				
CLIENT:	Hilcorp Energy	Client Sample ID: MW22				

U Contraction of the second se		ě			v	
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst:	JMR
Benzene	ND	1.0	µg/L	1	9/28/2020 2:04:37 AM	B72182
Toluene	ND	1.0	µg/L	1	9/28/2020 2:04:37 AM	B72182
Ethylbenzene	ND	1.0	µg/L	1	9/28/2020 2:04:37 AM	B72182
Xylenes, Total	ND	1.5	µg/L	1	9/28/2020 2:04:37 AM	B72182
Surr: 1,2-Dichloroethane-d4	92.3	70-130	%Rec	1	9/28/2020 2:04:37 AM	B72182
Surr: Dibromofluoromethane	105	70-130	%Rec	1	9/28/2020 2:04:37 AM	B72182
Surr: Toluene-d8	108	70-130	%Rec	1	9/28/2020 2:04:37 AM	B72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009E37

Date Reported: 10/2/2020

Analyses		Result RL Qual Units DF Date Analyzed	Batch
Lab ID:	2009E37-014	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM	
Project:	Standard 1	<b>Collection Date:</b> 9/23/2020 10:50:00 AM	
CLIENT:	Hilcorp Energy	Client Sample ID: MW23	

-						
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst:	JMR
Benzene	ND	1.0	µg/L	1	9/28/2020 2:33:06 AM	B72182
Toluene	ND	1.0	µg/L	1	9/28/2020 2:33:06 AM	B72182
Ethylbenzene	ND	1.0	µg/L	1	9/28/2020 2:33:06 AM	B72182
Xylenes, Total	ND	1.5	µg/L	1	9/28/2020 2:33:06 AM	B72182
Surr: 1,2-Dichloroethane-d4	91.2	70-130	%Rec	1	9/28/2020 2:33:06 AM	B72182
Surr: Dibromofluoromethane	102	70-130	%Rec	1	9/28/2020 2:33:06 AM	B72182
Surr: Toluene-d8	99.6	70-130	%Rec	1	9/28/2020 2:33:06 AM	B72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009E37

Date Reported: 10/2/2020

Analyses		Result RL Qual Units DF Date Analyzed	Batch
Lab ID:	2009E37-015	Matrix: GROUNDWA Received Date: 9/24/2020 8:30:00 AM	
Project:	Standard 1	<b>Collection Date:</b> 9/23/2020 11:40:00 AM	
<b>CLIENT:</b>	Hilcorp Energy	Client Sample ID: MW26	

EPA METHOD 8260: VOLATILES SHORT LIST					Analyst	JMR
Benzene	ND	1.0	µg/L	1	9/28/2020 3:01:36 AM	B72182
Toluene	ND	1.0	µg/L	1	9/28/2020 3:01:36 AM	B72182
Ethylbenzene	ND	1.0	µg/L	1	9/28/2020 3:01:36 AM	B72182
Xylenes, Total	ND	1.5	µg/L	1	9/28/2020 3:01:36 AM	B72182
Surr: 1,2-Dichloroethane-d4	92.4	70-130	%Rec	1	9/28/2020 3:01:36 AM	B72182
Surr: Dibromofluoromethane	104	70-130	%Rec	1	9/28/2020 3:01:36 AM	B72182
Surr: Toluene-d8	101	70-130	%Rec	1	9/28/2020 3:01:36 AM	B72182

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Hilcorp Energy

**Client:** 

## **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Project: Standard	d 1									
Sample ID: 100ng Ics	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW	Batcl	n ID: <b>R7</b>	2182	F	RunNo: 72	2182				
Prep Date:	Analysis D	Date: 9/	27/2020	S	SeqNo: 2	530705	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	88.9	70	130			
Toluene	20	1.0	20.00	0	97.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	9.7		10.00		96.9	70	130			
Sample ID: mb1	SampT	уре: <b>МЕ</b>	BLK	Tes	tCode: EF	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW	Batcl	n ID: <b>R7</b>	2182	F	RunNo: <b>7</b> 2	2182				
Prep Date:	Analysis D	0ate: <b>9/</b>	27/2020	S	SeqNo: 2	530706	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			
Sample ID: 100ng Ics2	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW	Batcl	n ID: <b>B7</b>	2182	F	RunNo: <b>7</b> 2	2182				
Prep Date:	Analysis D	Date: 9/	27/2020	5	SeqNo: 2	530707	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.4	70	130			
Toluene	20	1.0	20.00	0	99.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.1	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			
Sample ID: mb2	SampT	уре: <b>МЕ</b>	BLK	Tes	tCode: EF	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW	Batcl	n ID: <b>B7</b>	2182	F	RunNo: 72	2182				
Prep Date:	Analysis D	Date: 9/	27/2020	SeqNo: 2530708			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								

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix S

В Analyte detected in the associated Method Blank

Е Va

J Analyte detected below quantitation limits

Р Sample pH Not In Range

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2009E37

02-Oct-20

WO#:

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alue	above	quantit	ation 1	ange		

RL Reporting Limit =

## **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Client: H	lilcorp Energy									
Project: S	tandard 1									
Sample ID: mb2	Sa	ampType: <b>N</b>	BLK	Tes	tCode: EF	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW		Batch ID: B	72182	F	RunNo: 72	2182				
Prep Date:	Analy	sis Date: 🤉	/27/2020	S	SeqNo: 2	530708	Units: µg/L			
Analyte	Res	ult PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	١	ND 1.0	)							
Xylenes, Total	١	ND 1.5	5							
Surr: 1,2-Dichloroethane-	d4 s	9.7	10.00		96.8	70	130			
Surr: 4-Bromofluorobenzo	ene	10	10.00		101	70	130			
Surr: Dibromofluorometha	ane	11	10.00		110	70	130			
Surr: Toluene-d8		10	10.00		103	70	130			
Sample ID: 2009e37-	011a ms Sa	ampType: <b>N</b>	S	Tes	tCode: EF	PA Method	8260: Volatile	es Short L	ist	
Client ID: MW18		Batch ID: B	72182	F	RunNo: 72	2182				
Prep Date:	Analy	sis Date: 🤉	/28/2020	S	SeqNo: 2	530724	Units: µg/L			
Analyte	Res	ult PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	110	00 50	) 1000	9384	153	70	130			ES
Toluene	10	00 50	) 1000	0	101	70	130			
Surr: 1,2-Dichloroethane-	d4 4	90	500.0		97.7	70	130			
Surr: 4-Bromofluorobenze	ene 5	60	500.0		113	70	130			
Surr: Dibromofluorometha	ane 5	20	500.0		104	70	130			
Surr: Toluene-d8	5	20	500.0		105	70	130			
Sample ID: 2009e37-	011a msd Sa	ampType: <b>N</b>	SD	Tes	tCode: EF	PA Method	8260: Volatile	es Short L	ist	
Client ID: MW18		Batch ID: B	72182	F	RunNo: 72	2182				
Prep Date:	Analy	sis Date: 🤉	/28/2020	S	SeqNo: 2	530725	Units: µg/L			
Analyte	Res	ult PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	100	00 50	) 1000	9384	74.7	70	130	7.48	20	E
Toluene	9	60 50	) 1000	0	96.3	70	130	5.05	20	
Surr: 1,2-Dichloroethane-	d4 5	00	500.0		101	70	130	0	0	
Surr: 4-Bromofluorobenze	ene 5	90	500.0		119	70	130	0	0	
Surr: Dibromofluoromethe	ane 5	40	500.0		108	70	130	0	0	
Surr: Toluene-d8	5	00	500.0		101	70	130	0	0	

#### **Qualifiers:**

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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в Analyte detected in the associated Method Blank

Е Value above quantitation range

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 17 of 17

WO#: 2009E37

02-Oct-20

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Alb TEL: 505-345-397; Website: clients.ha	l Analy 49( puquero 5 FAX: allenvi	vsis Laboratory 01 Hawkins NI que. NM 8710 505-345-410 ironmental.con	9 7 7	Sample Log-In Check List				
Client Name: Hilcorp Energy	Work Order Number	: 200	9E37			RcptNo: 1			
Received By: Isaiah Ortiz	9/24/2020 8:30:00 AM			I	_0	4			
Completed By: Isaiah Ortiz	9/24/2020 8:53:03 AM			T	-0	4			
Reviewed By: SPA 9.24.	20								
Chain of Custody									
1. Is Chain of Custody complete?		Yes		No		Not Present			
2. How was the sample delivered?		Cou	irier						
Log In					Secto				
3. Was an attempt made to cool the samples?		Yes	$\checkmark$	No					
4. Were all samples received at a temperature	of >0° C to 6.0°C	Yes		No					
5. Sample(s) in proper container(s)?		Yes		No					
6. Sufficient sample volume for indicated test(	\$)?	Yes		No					
7. Are samples (except VOA and ONG) proper	ly preserved?	Yes		No					
8. Was preservative added to bottles?		Yes		No		NA 🗌			
9. Received at least 1 vial with headspace <1/4	4" for AQ VOA?	Yes		No					
10. Were any sample containers received broke	en?	Yes		No	V				
						# of preserved bottles checked			
11. Does paperwork match bottle labels?		Yes		No		for pH:			
12 Are matrices correctly identified on Chain of	Custody?	Yes	V	No		Adjusted?			
13. Is it clear what analyses were requested?		Yes	~	No		/	1		
14. Were all holding times able to be met?		Yes		No		Checked by: EM 9124	12		
(If no, notify customer for authorization.)							1		
Special Handling (if applicable)									
15. Was client notified of all discrepancies with	this order?	Yes		No		NA 🗹			
Person Notified:	Date:	-			-				
By Whom:	Via:	eM	lail 🗌 Phon	e 🗌	] Fax	In Person			
Regarding:									
Client Instructions:									
16. Additional remarks:									
17. <u>Cooler Information</u> Cooler No Temp ⁰C Condition S 1 0.6 Good Ye	eal Intact Seal No S	Seal D	ate Sig	ned	Ву				

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Page 1 of 1
TORY TORY	1:44:15 PM												Page	e 145 of
HALL ENVIRONMEN ANALYSIS LABORA www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107 Analysis Request	(GRO / DRO / MRO) sides/8082 PCB's 910 or 8270SIMS 913 -VOA) ( -VOA) ( PO4, SO <sub>4</sub> SO <sub>4</sub> ( PO4, SO <sub>4</sub> ) ( PO4, SO <sub>4</sub> ( PO4, SO <sub>4</sub> ) ( PO4,	TPH:8015D 8081 Pestid PPHs by 83 RCRA 8 Me CI, F, Br, 1 8260 (VOA 8260 (VOA 8270 (Semi 70tal Colifo											c: dhencmann @Henr.com	Aburns @ Itenv. com
	.BETTTMB's (8021)	€ Se ØTEXY MI	X 100	202	1 10	05	90	100	000	010	1110	A 210	Ine Rer Ilain C	ime
# 7	Burns 4727	HEAL N 2009E				Q	Ø	0	00	)	)	C	Date T glaspero	Date T 9/24/20
nne: Rush	Der. Denny 01-570	ncluding CF): <b>B</b> . <i>C</i> Preservative Type	HCI	-				-	-	(	A	No.	Via: V	Via: กับมัน
Project Name Standard Star Project #:	Project Manaç してビー ス Sampler: のn Ice: # of Coolers:	Cooler Temp <sub>(i</sub> Container Type and #	3-40mL					_			N	$\geq$	Received by:	Received by:
Deel Co.	Chilcorp Level 4 (Full Validation) pliance	ample Name	MW02	MW03	M W OG	M W08	IIMW	MW 12 Micity	MW 15	MW 16	MW18	61MW	A	by: of the Libra to+
Corp (	) dlcel	Matrix S	GW				_				1	2	Reknquished	Relinquished
Address	- Fax#: <sup>-</sup> Package: dard :ation: AC (Type)_	Time	1349	1240	1143	1115	1245	1330	1100	1420	1200	1510	Time:	Time: 1816
Client:	email o QA/QC I C Stan Accredii D EDD	Date	9-23			-					7	~	Datě: 9 <i>13-1</i> 0	Date:

k	<i>leceiv</i>			D: 11	/20/	2022	1:4	4:15 1	РМ													Page	e 146 oj	300
		AALL ENVIRONME		4901 Hawkins NE - Albuquerque, NM 87109	Tel 505-345-3075 Eav 505-345-4107	Analysis Request	()T	Abser SIMS VMS CB's SIMS	ent/ 22 P 22 P	Sez ( 0 N 8 S 8 S 8 S 8 S 8 S 8 S 8 S 8 S 8 S 8	096 150 <sup>2</sup> 150 <sup>2</sup> 1	0(C cid 31 648 0(C 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2015C Pesti Meth by 8 Br, VOA Sem Sem	TPH:80 8081 F PPHs I 8260 (1 8260 (1 8250 (2 8250 (2 8250 (2 1 70tal C								marks:		sibility. Any sub-contracted data will be clearly notated on the analytical
na 2 f 2	Turn-Around Time:	K Standard D Rush	Project Name:	Standard #1	Project #:		Project Manager:	LTE		Sampler:	On Ice:   Yes  No		Cooler Temp(including CF): 0.6-0 CC1 0.6- (°C)	Container Preservative HEAL No. The Type and # Type	3-40ml Hel O13 X	x x 0 1 1	L V DIC				)	Received by: Via: Date Time Re DDALUOA 9/3/2020 /6/6	Received by: Via: Date Time	ontracted to other accredited laboratories. This serves as notice of this pos
	Chain-of-Custody Record	Client: Hilcorp Energy Co.	Athr: Sommiter Doul	Mailing Address:		Phone #:	email or Fax#:	QA/QC Package:						Date Time Matrix Sample Name	9.230 1300 GW MW 22	1050 MW23	V 1140 V MW26					Date: Time: Relinquished by Date: 1/2/10/10/10/10/10/10/10/10/10/10/10/10/10/	Date: Time: Relinquished by: 33/552 18 to Annot Incl 1) R.D. Lan.	If necessary, samples submitted to Hall Environmental may be suboc

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December 23, 2020

Jennifer Deal HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com

RE: Standard 1

OrderNo.: 2012766

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 16 sample(s) on 12/16/2020 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environ	mental Analysis L	aboratory,	Inc.			A La Da	nalytical Repo ab Order: 201270 ate Reported: 12	rt 56 2/23/202	20
CLIENT: H Project: S	HILCORP ENERGY Standard 1				L	Lab O	rder: 201	2766	
Lab ID:	2012766-001		C	ollecti	on Date	e: 12/	15/2020 1:17:0	0 PM	
Client Sample ID:	MW 02				Matrix	GR	OUNDWATEF	ł	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	l Ba	tch ID
EPA METHOD 802	21B: VOLATILES						Д	Analyst:	NSB
Benzene		17000	200		µg/L	200	12/18/2020 10:4	6:46 AN	Л A74138
Toluene		12000	200		μg/L	200	12/18/2020 10:4	6:46 AN	/I A74138
Ethylbenzene		1900	200		μg/L	200	12/18/2020 10:4	6:46 AN	Л A74138
Xylenes, Total		19000	400		µg/L	200	12/18/2020 10:4	6:46 AN	/I A74138
Surr: 4-Bromoflu	orobenzene	113	80-120		%Rec	200	12/18/2020 10:4	6:46 AN	/I A74138
Lab ID:	2012766-002		С	ollecti	on Date	<b>e:</b> 12/	15/2020 12:48:0	00 PM	
Client Sample ID:	MW 03				Matrix	GR	OUNDWATEF	٤	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	l Ba	tch ID
EPA METHOD 802	21B: VOLATILES						A	analyst:	NSB
Benzene		14000	200		µg/L	200	12/18/2020 11:5	7:40 AN	/I A74138
Toluene		360	200		µg/L	200	12/18/2020 11:5	7:40 AN	A74138
Ethylbenzene		390	200		μg/L	200	12/18/2020 11:5	7:40 AN	/I A74138
Xylenes, Total		1600	400		μg/L	200	12/18/2020 11:5	7:40 AN	A74138 /
Surr: 4-Bromoflu	orobenzene	109	80-120		%Rec	200	12/18/2020 11:5	7:40 AN	/I A74138
Lab ID:	2012766-003		C	ollecti	on Date	e: 12/	15/2020 11:25:0	00 AM	
Client Sample ID:	MW 04				Matrix	: GR	OUNDWATEF	٤	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	l Ba	tch ID
EPA METHOD 802	21B: VOLATILES						Α	analyst:	NSB
Benzene	-	690	50		ua/l	50	12/18/2020 12.2	0:56 PN	/ A74138
Toluene		35	5.0		ua/L	5	12/19/2020 6:39	:51 AM	A74138
Ethylbenzene		52	5.0		µg/L	5	12/19/2020 6:39	:51 AM	A74138
Xylenes, Total		190	10		μg/L	5	12/19/2020 6:39	:51 AM	A74138
Surr: 4-Bromoflu	orobenzene	105	80-120		%Rec	5	12/19/2020 6:39	:51 AM	A74138

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

E Value above quantitation range

Analyte detected in the associated Method Blank

- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

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						A L	ab Order: 2	Report 2012766	
Hall Environ	Analytical Reported: 12           Lab Order: 201276           Date Reported: 12           HILCORP ENERGY         Lab Order:         201           Standard 1         2012766-004         Collection Date:         12/15/2020 12:01:0           approximate the transmission of transmissin of transmission of transmission of transmission of transmissi	ed: 12/23/2	020						
CLIENT: H	HILCORP ENERGY				I	.ab O	rder:	2012766	
Project:	Standard 1								
Lab ID:	2012766-004		C	ollecti	on Date	: 12/	/15/2020 1	2:01:00 PN	Л
<b>Client Sample ID:</b>	MW 05				Matrix	: GR	OUNDW	ATER	
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed I	Batch ID
EPA METHOD 802	21B: VOLATILES							Analy	st: NSB
Benzene		3300	100		µg/L	100	) 12/18/202	.0 12:44:32 F	PM A74138
Toluene		2800	100		μg/L	100	12/18/202	0 12:44:32	PM A74138
Ethylbenzene		370	100		μg/L	100	12/18/202	0 12:44:32	PM A74138
Xylenes, Total		9500	200		µg/L	100	12/18/202	0 12:44:32	PM A74138
Surr: 4-Bromoflu	orobenzene	106	80-120		%Rec	100	) 12/18/202	0 12:44:32	PM A74138
Lab ID:	2012766-005		C	ollecti	on Date	: 12/	/15/2020 1	1:00:00 Al	M
Client Sample ID:	MW 06				Matrix	: GR	OUNDW	ATER	
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed I	Batch ID
EPA METHOD 802	21B: VOLATILES							Analys	st: NSB
Benzene		15000	500		µg/L	500	12/18/202	0 1:08:10 P	M A74138
Toluene		21000	500		µg/L	500	12/18/202	0 1:08:10 P	M A74138
Ethylbenzene		1700	500		µg/L	500	12/18/202	0 1:08:10 P	M A74138
Xylenes, Total		21000	1000		µg/L	500	12/18/202	0 1:08:10 P	M A74138
Surr: 4-Bromoflu	orobenzene	107	80-120		%Rec	500	) 12/18/202	0 1:08:10 PI	M A74138
Lab ID:	2012766-006		C	ollecti	on Date	: 12/	/15/2020 1	:45:00 PM	
Client Sample ID:	MW 08				Matrix	: GR	OUNDW	ATER	
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed I	Batch ID
EPA METHOD 802	21B: VOLATILES							Analy	st: NSB
Benzene		ND	1.0		µg/L	1	12/18/202	0 1:31:50 P	M A74138
Toluene		ND	1.0		μg/L	1	12/18/202	0 1:31:50 P	M A74138
Ethylbenzene		ND	1.0		μg/L	1	12/18/202	0 1:31:50 P	M A74138
Xylenes, Total		ND	2.0		µg/L	1	12/18/202	0 1:31:50 P	M A74138
Surr: 4-Bromoflu	orobenzene	103	80-120		%Rec	1	12/18/202	0 1:31:50 P	M A74138

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

E Value above quantitation range

Analyte detected in the associated Method Blank

- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- P Sample pH Not In RL Reporting Limit

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		- <b>b t</b>	<b>T</b>			A L	Analytica Lab Order:	ll Report 2012766		
Hall Environ	mental Analysis L	aboratory,	Inc.			Ι	Date Repor	rted: 12/23	\$/202	0
CLIENT: H	HILCORP ENERGY				Ι	Lab C	Order:	20127	66	
Project: S	Standard 1									
Lab ID:	2012766-007		С	ollecti	on Date	e: 12	/15/2020	12:10:00	PM	
<b>Client Sample ID:</b>	MW 11				Matrix	: GF	ROUNDW	VATER		
Analyses		Result	RL	Qual	Units	DF	Date Ar	nalyzed	Ba	tch ID
EPA METHOD 802	21B: VOLATILES							Ana	lyst:	NSB
Benzene		5.5	1.0		µg/L	1	12/18/20	)20 1:55:24	PM	A74138
Toluene		ND	1.0		µg/L	1	12/18/20	020 1:55:24	PM	A74138
Ethylbenzene		ND	1.0		μg/L	1	12/18/20	)20 1:55:24	PM	A74138
Xylenes, Total		ND	2.0		μg/L	1	12/18/20	)20 1:55:24	PM	A74138
Surr: 4-Bromoflu	orobenzene	104	80-120		%Rec	1	12/18/20	)20 1:55:24	ΡM	A74138
Lab ID:	2012766-008		С	ollecti	on Date	e: 12	/15/2020	11:30:00	AM	
<b>Client Sample ID:</b>	MW 12				Matrix	: GF	ROUNDW	VATER		
Analyses		Result	RL	Qual	Units	DF	Date Ar	nalyzed	Ba	tch ID
EPA METHOD 802	21B: VOLATILES							Ana	lyst:	NSB
Benzene		720	20		µg/L	20	12/18/20	)20 3:06:08	PM	A74138
Toluene		37	20		µg/L	20	12/18/20	020 3:06:08	PM	A74138
Ethylbenzene		140	20		μg/L	20	12/18/20	020 3:06:08	PM	A74138
Xylenes, Total		50	40		μg/L	20	12/18/20	020 3:06:08	PM	A74138
Surr: 4-Bromoflu	orobenzene	109	80-120		%Rec	20	12/18/20	)20 3:06:08	ΡM	A74138
Lab ID:	2012766-009		C	ollecti	on Date	e: 12	/15/2020	11:10:00	AM	
Client Sample ID:	MW 14				Matrix	: GF	ROUNDW	VATER		
Analyses		Result	RL	Qual	Units	DF	Date Ar	nalyzed	Ba	tch ID
EPA METHOD 802	21B: VOLATILES							Ana	lyst:	NSB
Benzene	-	9100	200		ua/L	200	) 12/18/20	)20 3:29:46	PM	A74138
Toluene		13000	200		µg/L	200	) 12/18/20	)20 3:29:46	PM	A74138
Ethylbenzene		1400	200		µg/L	200	) 12/18/20	)20 3:29:46	PM	A74138
Xylenes, Total		19000	400		µg/L	200	0 12/18/20	)20 3:29:46	PM	A74138
Surr: 4-Bromoflu	orobenzene	107	80-120		%Rec	200	12/18/20	120 3.29.46	РМ	A74138

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
- % Recovery outside of range due to dilution or matrix s

- Analyte detected in the associated Method Blank Е Value above quantitation range
- Analyte detected below quantitation limits J
- Sample pH Not In Range Р
- RL Reporting Limit

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Hall Environ	mental Analysis L	aboratory,	Inc.			Ai La Da	nalytical ab Order: 2 ate Reporte	<b>Report</b> 2012766 ed: 12/23/	202(	0
CLIENT: H Project: S	HILCORP ENERGY Standard 1				I	Lab Oi	rder:	201276	6	
Lab ID:	2012766-010		С	ollecti	on Date	e: 12/1	15/2020 1	0:27:00 A	М	
<b>Client Sample ID:</b>	MW 15				Matrix	K: GR	OUNDW	ATER		
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed	Bat	ch ID
EPA METHOD 802	21B: VOLATILES							Analy	/st:	NSB
Benzene		22000	500		µg/L	500	12/18/202	0 3:53:23 F	РΜ	A74138
Toluene		930	500		μg/L	500	12/18/202	0 3:53:23 F	РΜ	A74138
Ethylbenzene		620	500		μg/L	500	12/18/202	0 3:53:23 F	РΜ	A74138
Xylenes, Total		8300	1000		μg/L	500	12/18/202	0 3:53:23 F	РΜ	A74138
Surr: 4-Bromoflu	lorobenzene	104	80-120		%Rec	500	12/18/202	0 3:53:23 F	۶M	A74138
Lab ID:	2012766-011		C	ollecti	on Date	e: 12/1	15/2020 1	0:20:00 A	М	
Client Sample ID:	MW 16				Matrix	K: GR	OUNDW	ATER		
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed	Bat	ch ID
EPA METHOD 802	21B: VOLATILES							Analy	/st:	NSB
Benzene		1000	50		µg/L	50	12/18/202	0 4:16:54 F	РΜ	A74138
Toluene		74	50		μg/L	50	12/18/202	0 4:16:54 F	РΜ	A74138
Ethylbenzene		46	25		µg/L	50	12/18/202	0 4:16:54 F	РΜ	A74138
Xylenes, Total		2100	100		µg/L	50	12/18/202	0 4:16:54 F	РΜ	A74138
Surr: 4-Bromoflu	orobenzene	105	80-120		%Rec	50	12/18/202	0 4:16:54 F	۶M	A74138
Lab ID:	2012766-012		C	ollecti	on Date	e: 12/1	15/2020 1	2:45:00 P	Μ	
Client Sample ID:	MW 18				Matrix	K: GR	OUNDW	ATER		
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed	Bat	ch ID
EPA METHOD 802	21B: VOLATILES							Analy	/st:	NSB
Benzene		11000	500	Р	µg/L	500	12/18/202	0 4:40:31 F	РМ	A74138
Toluene		ND	50	Р	µg/L	50	12/18/202	0 5:04:04 F	РΜ	A74138
Ethylbenzene		430	50	Р	μg/L	50	12/18/202	0 5:04:04 F	۶М	A74138
Xylenes, Total		6300	100	Р	μg/L	50	12/18/202	0 5:04:04 F	РΜ	A74138
Surr: 4-Bromoflu	orobenzene	109	80-120	Р	%Rec	50	12/18/202	0 5:04:04 F	РΜ	A74138

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
- % Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

- Analyte detected below quantitation limits J
- Sample pH Not In Range Р
- RL Reporting Limit

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	Analytical Report           Lab Order: 2012766           Die 2012766-013         Collection Date: 12/15/2020 2:50:00 PM           Sample ID: MW 19         Matrix: GROUNDWATER           yes         Result         RL Qual Units         DF Date Analyzed           METHOD 8021B: VOLATILES         Sample ID: MW 19         Matrix: GROUNDWATER           yes         Result         RL Qual Units         DF Date Analyzed           METHOD 8021B: VOLATILES         Sample ID: MW 19         Matrix: GROUNDWATER           gene         13000         200         µg/L         200         12/18/2020 5:50:58 F           gene         100         200         µg/L         200         12/18/2020 5:50:58 F           gene         107         80-120         %Rec         200         12/18/2020 5:50:58 F           gene         107         80-120         %Rec         200         12/18/2020 5:50:58 F           gene         ND         1.0         µg/L         1         12/18/2020 5:50:58 F           gene         ND         1.0         µg/L         1         12/18/2020 6:14:25 F	A Li	nalytical	Report 2012766						
Hall Environ		202	0							
CLIENT:	HILCORP ENERGY				L	.ab O	rder:	201276	6	
Project:	Standard 1									
Lab ID:	2012766-013		C	ollecti	on Date	<b>e:</b> 12/	15/2020 2	:50:00 PN	Л	
Client Sample ID:	MW 19				Matrix	: GR	OUNDW	ATER		
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed	Baf	tch ID
EPA METHOD 802	21B: VOLATILES							Analy	/st:	NSB
Benzene		13000	200		µg/L	200	12/18/202	0 5:50:58 F	РΜ	A74138
Toluene		5200	200		µg/L	200	12/18/202	0 5:50:58 F	۶M	A74138
Ethylbenzene		910	200		µg/L	200	12/18/202	0 5:50:58 F	РΜ	A74138
Xylenes, Total		3000	400		µg/L	200	12/18/202	0 5:50:58 F	۶M	A74138
Surr: 4-Bromoflu	iorobenzene	107	80-120		%Rec	200	12/18/202	0 5:50:58 F	۶M	A74138
Lab ID:	2012766-014		C	ollecti	on Date	<b>e:</b> 12/	15/2020 1	1:45:00 A	М	
Client Sample ID:	MW 22				Matrix	: GR	OUNDW	ATER		
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed	Bat	tch ID
EPA METHOD 802	21B: VOLATILES							Analy	/st:	NSB
Benzene		ND	1.0		µg/L	1	12/18/202	0 6:14:25 F	РМ	A74138
Toluene		ND	1.0		µg/L	1	12/18/202	0 6:14:25 F	۶M	A74138
Ethylbenzene		ND	1.0		µg/L	1	12/18/202	0 6:14:25 F	۶M	A74138
Xylenes, Total		ND	2.0		µg/L	1	12/18/202	0 6:14:25 F	۶M	A74138
Surr: 4-Bromoflu	iorobenzene	101	80-120		%Rec	1	12/18/202	0 6:14:25 F	۶M	A74138
Lab ID:	2012766-015		C	ollecti	on Date	<b>e:</b> 12/	15/2020 2	:10:00 PN	Л	
Client Sample ID:	MW 23				Matrix	: GR	OUNDW	ATER		
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed	Bat	tch ID
EPA METHOD 802	21B: VOLATILES							Analy	/st:	NSB
Benzene		ND	1.0		µg/L	1	12/18/202	0 6:37:54 F	РΜ	A74138
Toluene		ND	1.0		μg/L	1	12/18/202	0 6:37:54 F	РΜ	A74138
Ethylbenzene		ND	1.0		μg/L	1	12/18/202	0 6:37:54 F	РΜ	A74138
Xylenes, Total		ND	2.0		μg/L	1	12/18/202	0 6:37:54 F	РМ	A74138
Surr: 4-Bromoflu	iorobenzene	102	80-120		%Rec	1	12/18/202	0 6:37:54 F	РΜ	A74138

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

E Value above quantitation range

Analyte detected in the associated Method Blank

- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Toluene

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

#### **Analytical Report** Lab Order: 2012766 Hall Environmental Analysis Laboratory, Inc. Date Reported: 12/23/2020 **CLIENT:** HILCORP ENERGY Lab Order: 2012766 **Project:** Standard 1 Lab ID: 2012766-016 Collection Date: 12/15/2020 1:20:00 PM Client Sample ID: MW 26 Matrix: GROUNDWATER **RL Qual Units DF Date Analyzed** Analyses Result **Batch ID EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 1.0 µg/L 12/18/2020 7:01:25 PM A74138 1

ND

ND

ND

105

1.0

1.0

2.0

80-120

µg/L

µg/L

µg/L

%Rec

1

1

1

1

12/18/2020 7:01:25 PM A74138

12/18/2020 7:01:25 PM A74138

12/18/2020 7:01:25 PM A74138

12/18/2020 7:01:25 PM A74138

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

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

E Value above quantitation range

Analyte detected in the associated Method Blank

- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

В

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Released to Imaging: 1/17/2023 1:49:55 PM

Client:	HILCORI	P ENERG	θY								
Project:	Standard	1									
Sample ID: n	nb1	Samp	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: P	PBW	Batc	h ID: <b>A7</b>	4138	F	RunNo: 7	4138				
Prep Date:		Analysis [	Date: 12	2/18/2020	S	SeqNo: 2	616093	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bromof	fluorobenzene	21		20.00		104	80	120			
Sample ID: 1	00ng btex Ics	Samp	Type: LC	S	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: L	CSW	Batc	h ID: <b>A7</b>	4138	F	RunNo: <b>7</b>	4138				
Prep Date:		Analysis [	Date: 12	2/18/2020	5	SeqNo: 2	616094	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		19	1.0	20.00	0	93.7	80	120			
Toluene		19	1.0	20.00	0	96.6	80	120			
Ethylbenzene		19	1.0	20.00	0	95.6	80	120			
Xylenes, Total		58	2.0	60.00	0	97.0	80	120			
Surr: 4-Bromof	fluorobenzene	21		20.00		106	80	120			
Sample ID: 2	012766-001ams	Samp	Гуре: М	6	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: N	/W 02	Batc	h ID: <b>A7</b>	4138	F	RunNo: <b>7</b>	4138				
Prep Date:		Analysis [	Date: 12	2/18/2020	S	SeqNo: 2	616096	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		21000	200	4000	17260	93.5	80	120			E
Toluene		15000	200	4000	11640	95.6	80	120			
Ethylbenzene		5800	200	4000	1938	95.4	80	120			
Xylenes, Total		30000	400	12000	19300	90.4	80	120			
Surr: 4-Bromof	fluorobenzene	4600		4000		114	80	120			
Sample ID: 2	012766-001amsd	Samp	Гуре: <b>М</b>	SD	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: N	/W 02	Batc	h ID: <b>A7</b>	4138	F	RunNo: 7	4138				
Prep Date:		Analysis [	Date: 12	2/18/2020	S	SeqNo: 2	616097	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		21000	200	4000	17260	87.7	80	120	1.10	20	Е
Toluene		15000	200	4000	11640	91.0	80	120	1.19	20	
Ethylbenzene		5700	200	4000	1938	93.7	80	120	1.13	20	
Xylenes, Total		30000	400	12000	19300	86.9	80	120	1.38	20	
Surr: 4-Bromof	fluorobenzene	4600		4000		114	80	120	0	0	

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 7 of 8

2012766

23-Dec-20

WO#:

Client: HIL Project: Stan	CORP ENERGY dard 1							
Sample ID: mb-II	SampType	BLK	TestCod	EPA Method	8021B: Volat	iles		
Client ID: PBW	Batch ID:	B74138	RunN	): <b>74138</b>				
Prep Date:	Analysis Date:	12/18/2020	SeqN	): <b>2616115</b>	Units: %Red	;		
Analyte	Result P	QL SPK value	SPK Ref Val %R	EC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	20	20.00		01 80	120			
Sample ID: 100ng btex l	cs-II SampType	LCS	TestCod	EPA Method	8021B: Volat	iles		
Client ID: LCSW	Batch ID:	B74138	RunN	): <b>74138</b>				
Prep Date:	Analysis Date:	12/18/2020	SeqN	): <b>2616116</b>	Units: %Red	;		
Analyte	Result P	QL SPK value	SPK Ref Val %R	EC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	21	20.00		04 80	120			

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level. \*
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J
- Р Sample pH Not In Range

Page 8 of 8

2012766

23-Dec-20

WO#:

Analyte detected below quantitation limits

RL Reporting Limit

•

HALL ENVIRONME ANALYSIS LABORATOR	ENTAL RY	Hall Environmen TEL: 505-345-39 Website: clients	ntal Analysi 4901 Albuquerqu 975 FAX: 5 s.hallenviro	s Laborator Hawkins N. e, NM 8710 05-345-410 nmental.com	<sup>9</sup> 9 <b>San</b> 7	nple Log-In C	heck Lis
Client Name: HILCC	RP ENERGY	Work Order Numb	ber: 20127	766		RcptNo	1
Received By: Desir	ee Dominguez	12/16/2020 8:00:00	AM	-	EP2		
Completed By: Desir	ee Dominguez	12/16/2020 8:19:56	AM	-	TPS		
Reviewed By: JP	12/16/20	7					
Chain of Custody							
1. Is Chain of Custody of	complete?		Yes	$\checkmark$	No 🗌	Not Present	
2. How was the sample	delivered?		Courie	er			
<u>Log In</u>							
3. Was an attempt made	e to cool the sample	s?	Yes	$\checkmark$	No 🗌	NA 🗌	
4. Were all samples reco	eived at a temperatu	re of >0° C to 6.0°C	Yes	✓	No 🗌		
5. Sample(s) in proper c	ontainer(s)?		Yes	$\checkmark$	No 🗌		
6. Sufficient sample volu	me for indicated tes	t(s)?	Yes		No 🗌		
7. Are samples (except)	/OA and ONG) prop	erly preserved?	Yes		No 🗌		
8. Was preservative add	ed to bottles?		Yes		No 🗸	NA 🗌	
9. Received at least 1 via	al with headspace <	1/4" for AQ VOA?	Yes	/	No 🗌	NA	
10. Were any sample cor	tainers received bro	ken?	Yes [		No 🗹	# of preserved	/
11. Does paperwork matc (Note discrepancies o	h bottle labels? n chain of custody)		Yes		No 🗌	bottles checked for pH: (<2 or	>12 unless no
12. Are matrices correctly	identified on Chain	of Custody?	Yes		No 🗌	Adjusted?	
13. Is it clear what analyse	es were requested?		Yes		No 🗌		1
14. Were all holding times (If no, notify customer	able to be met? for authorization.)		Yes		No 🗌	Checked by: S	GL 12/16
Special Handling (if	applicable)						
15. Was client notified of	all discrepancies wi	th this order?	Yes		No 🗌	NA 🗹	
Person Notified By Whom: Regarding: Client Instructio	ns:	Date: Via:	eMai	I 🗌 Phor	ne 🗌 Fax	In Person	
16. Additional remarks:							
17 Cooler Information							
Cooler No Tem	p °C Condition	Seal Intact Seal No	Seal Dat	te Sig	gned By		

Page 1 of 1

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Recei	ANALYSTS LABORATORY	www.hallenvironmental.com	awkins NE - Albuquerque, NM 87109	5-345-3975 Fax 505-345-4107	Analysis Request	()u	SMIS	0 <sup>5</sup> , 32770	04.6 01 8 3 3 3 3 4 ) 4 0 3 4 ) 5 4 3 3 4 3 3 4 3 3 4 3 3 5 3 5 4 3 3 3 3	-\C -\C -\C -\C -\C -\C -\C -\C -\C -\C	etho y 83 h Mé ht, 1 ht OA) h fo h fo h fo h fo h	EDB (M PAHs b CI, F, B 8260 (V 8270 (S 70tal Co 70tal Co											Pag	<del>e 158</del>	o-contracted data will be clearly notated on the analytical report.
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Turn-Around	Standard	Project Nam	Stau	Project #:		Project Mana	16M	Sampler:	On Ice:	# of Coolers:	Cooler Temp	Container Type and #	3-40 mL	)		A	(					Received by:	/ Wrust	Received by:	contracted to other a
Chain-of-Custody Record	Client: Hilcord Evenavi Lo.	Jennifer Deal	Mailing Address:		Phone #:	email or Fax#:	QA/QC Package:	Accreditation:   Accreditation:  Accompliance	□ NELAC □ Other	EDD (Type)		Date Time Matrix Sample Name	12-1520 (450 G-W MM 19	1 1145 1 MW 22	1416 MW 23	V 1320 V MW 26						Date: Time: Relinquished by:	15-12-50 1000 M	Date: Time: Relinquished by:	If necessary, samples submitted to Hall Environmental may be subc



April 13, 2021

Jennifer Deal HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com

RE: Standard 1

OrderNo.: 2104009

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 16 sample(s) on 4/1/2021 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2104009

Date Reported: 4/13/2021

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 02
Project:	Standard 1	Collection Date: 3/31/2021 12:50:00 PM
Lab ID:	2104009-001	Matrix: GROUNDWA Received Date: 4/1/2021 8:00:00 AM
Analyza		Begult DI Quel Unite DE Dete Analyzed

Analyses	Result	RL Qua	I Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	16000	1000	µg/L	1000	4/9/2021 1:08:07 PM
Toluene	12000	1000	µg/L	1000	4/9/2021 1:08:07 PM
Ethylbenzene	2000	100	µg/L	100	4/8/2021 3:04:23 PM
Xylenes, Total	20000	150	µg/L	100	4/8/2021 3:04:23 PM
Surr: 1,2-Dichloroethane-d4	101	70-130	%Rec	100	4/8/2021 3:04:23 PM
Surr: Dibromofluoromethane	97.2	70-130	%Rec	100	4/8/2021 3:04:23 PM
Surr: Toluene-d8	101	70-130	%Rec	100	4/8/2021 3:04:23 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 1 of 19

**Analytical Report** Lab Order 2104009

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/13/2021

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 03
<b>Project:</b>	Standard 1	Collection Date: 3/31/2021 12:05:00 PM
Lab ID:	2104009-002	Matrix: GROUNDWA Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	13000	1000	µg/L	1000	4/9/2021 1:35:21 PM
Toluene	1300	100	µg/L	100	4/8/2021 3:31:36 PM
Ethylbenzene	480	100	µg/L	100	4/8/2021 3:31:36 PM
Xylenes, Total	1700	150	µg/L	100	4/8/2021 3:31:36 PM
Surr: 1,2-Dichloroethane-d4	104	70-130	%Rec	100	4/8/2021 3:31:36 PM
Surr: Dibromofluoromethane	99.5	70-130	%Rec	100	4/8/2021 3:31:36 PM
Surr: Toluene-d8	101	70-130	%Rec	100	4/8/2021 3:31:36 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 2 of 19

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2104009

Date Reported: 4/13/2021

CLIENT: H	IILCORP ENERGY			Client Sample ID: MW 04
Project: St	tandard 1			Collection Date: 3/31/2021 1:10:00 PM
<b>Lab ID:</b> 21	104009-003	Matrix: (	GROUNDWA	Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	1100	100	µg/L	100	4/9/2021 2:02:30 PM
Toluene	ND	2.0	µg/L	2	4/9/2021 2:29:35 PM
Ethylbenzene	95	2.0	µg/L	2	4/9/2021 2:29:35 PM
Xylenes, Total	18	3.0	µg/L	2	4/9/2021 2:29:35 PM
Surr: 1,2-Dichloroethane-d4	102	70-130	%Rec	2	4/9/2021 2:29:35 PM
Surr: Dibromofluoromethane	103	70-130	%Rec	2	4/9/2021 2:29:35 PM
Surr: Toluene-d8	98.1	70-130	%Rec	2	4/9/2021 2:29:35 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2104009

Date Reported: 4/13/2021

CLIENT: HILC	CORP ENERGY	Client Sample ID: MW 05				
Project: Stand	ard 1	Collection Date: 3/31/2021 12:30:00 PM				
Lab ID: 2104	009-004 Matrix: G	GROUNDWA Received Date: 4/1/2021 8:00:00 AM				

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	2500	50	µg/L	50	4/8/2021 4:25:58 PM
Toluene	6000	500	µg/L	500	4/9/2021 3:23:50 PM
Ethylbenzene	730	50	µg/L	50	4/8/2021 4:25:58 PM
Xylenes, Total	15000	750	µg/L	500	4/9/2021 3:23:50 PM
Surr: 1,2-Dichloroethane-d4	102	70-130	%Rec	50	4/8/2021 4:25:58 PM
Surr: Dibromofluoromethane	100	70-130	%Rec	50	4/8/2021 4:25:58 PM
Surr: Toluene-d8	104	70-130	%Rec	50	4/8/2021 4:25:58 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2104009

Date Reported: 4/13/2021

CLIENT:	HILCORP ENERGY			Client Sample ID: MW 06
<b>Project:</b>	Standard 1			Collection Date: 3/31/2021 1:30:00 PM
Lab ID:	2104009-005	Matrix:	GROUNDWA	Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: BRM
Benzene	16000	500	Р	µg/L	500	4/9/2021 3:51:02 PM
Toluene	21000	500	Ρ	µg/L	500	4/9/2021 3:51:02 PM
Ethylbenzene	1700	500	Ρ	µg/L	500	4/9/2021 3:51:02 PM
Xylenes, Total	21000	750	Ρ	µg/L	500	4/9/2021 3:51:02 PM
Surr: 1,2-Dichloroethane-d4	108	70-130	Ρ	%Rec	500	4/9/2021 3:51:02 PM
Surr: Dibromofluoromethane	108	70-130	Ρ	%Rec	500	4/9/2021 3:51:02 PM
Surr: Toluene-d8	103	70-130	Ρ	%Rec	500	4/9/2021 3:51:02 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2104009

Date Reported: 4/13/2021

CLIENT	HILCORP ENERGY	Client Sample ID: MW 08
<b>Project:</b>	Standard 1	Collection Date: 3/31/2021 10:50:00 AM
Lab ID:	2104009-006	Matrix: GROUNDWA Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	ND	1.0	µg/L	1	4/8/2021 5:20:19 PM
Toluene	ND	1.0	µg/L	1	4/8/2021 5:20:19 PM
Ethylbenzene	ND	1.0	μg/L	1	4/8/2021 5:20:19 PM
Xylenes, Total	ND	1.5	μg/L	1	4/8/2021 5:20:19 PM
Surr: 1,2-Dichloroethane-d4	101	70-130	%Rec	1	4/8/2021 5:20:19 PM
Surr: Dibromofluoromethane	102	70-130	%Rec	1	4/8/2021 5:20:19 PM
Surr: Toluene-d8	102	70-130	%Rec	1	4/8/2021 5:20:19 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2104009

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/13/2021

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 11
<b>Project:</b>	Standard 1	Collection Date: 3/31/2021 4:15:00 PM
Lab ID:	2104009-007	Matrix: GROUNDWA Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed	
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM	
Benzene	ND	1.0	μg/L	1	4/8/2021 5:47:28 PM	
Toluene	ND	1.0	µg/L	1	4/8/2021 5:47:28 PM	
Ethylbenzene	ND	1.0	µg/L	1	4/8/2021 5:47:28 PM	
Xylenes, Total	ND	1.5	µg/L	1	4/8/2021 5:47:28 PM	
Surr: 1,2-Dichloroethane-d4	105	70-130	%Rec	1	4/8/2021 5:47:28 PM	
Surr: Dibromofluoromethane	105	70-130	%Rec	1	4/8/2021 5:47:28 PM	
Surr: Toluene-d8	99.4	70-130	%Rec	1	4/8/2021 5:47:28 PM	

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2104009

#### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/13/2021

Project: Standard 1 Collection Date: 3/31/2021 3:	
	45:00 PM
Lab ID:         2104009-008         Matrix:         GROUNDWA         Received Date: 4/1/2021 8:00	0:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	690	10	µg/L	10	4/8/2021 6:14:33 PM
Toluene	51	10	µg/L	10	4/8/2021 6:14:33 PM
Ethylbenzene	140	10	µg/L	10	4/8/2021 6:14:33 PM
Xylenes, Total	54	15	µg/L	10	4/8/2021 6:14:33 PM
Surr: 1,2-Dichloroethane-d4	105	70-130	%Rec	10	4/8/2021 6:14:33 PM
Surr: Dibromofluoromethane	107	70-130	%Rec	10	4/8/2021 6:14:33 PM
Surr: Toluene-d8	103	70-130	%Rec	10	4/8/2021 6:14:33 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2104009

Date Reported: 4/13/2021

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 14
<b>Project:</b>	Standard 1	Collection Date: 3/31/2021 3:30:00 PM
Lab ID:	2104009-009	Matrix: GROUNDWA Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	9400	100	µg/L	100	4/8/2021 6:41:52 PM
Toluene	17000	1000	µg/L	1000	4/9/2021 4:18:11 PM
Ethylbenzene	1500	100	µg/L	100	4/8/2021 6:41:52 PM
Xylenes, Total	18000	150	µg/L	100	4/8/2021 6:41:52 PM
Surr: 1,2-Dichloroethane-d4	98.9	70-130	%Rec	100	4/8/2021 6:41:52 PM
Surr: Dibromofluoromethane	99.6	70-130	%Rec	100	4/8/2021 6:41:52 PM
Surr: Toluene-d8	101	70-130	%Rec	100	4/8/2021 6:41:52 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2104009

Date Reported: 4/13/2021

CLIENT:	HILCORP ENERGY			Client Sample ID: MW 15
<b>Project:</b>	Standard 1			Collection Date: 3/31/2021 2:10:00 PM
Lab ID:	2104009-010	Matrix:	GROUNDWA	Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	25000	1000	µg/L	1000	4/9/2021 4:45:20 PM
Toluene	560	100	µg/L	100	4/8/2021 7:08:55 PM
Ethylbenzene	690	100	µg/L	100	4/8/2021 7:08:55 PM
Xylenes, Total	8500	150	µg/L	100	4/8/2021 7:08:55 PM
Surr: 1,2-Dichloroethane-d4	104	70-130	%Rec	100	4/8/2021 7:08:55 PM
Surr: Dibromofluoromethane	104	70-130	%Rec	100	4/8/2021 7:08:55 PM
Surr: Toluene-d8	102	70-130	%Rec	100	4/8/2021 7:08:55 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 2104009

Date Reported: 4/13/2021

CLIENT	HILCORP ENERGY	Client Sample ID: MW 18
Project:	Standard 1	Collection Date: 3/31/2021 11:45:00 AM
Lab ID:	2104009-011	Matrix: GROUNDWA Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	11000	1000	µg/L	1000	4/9/2021 5:12:24 PM
Toluene	11	10	µg/L	10	4/9/2021 5:39:27 PM
Ethylbenzene	310	10	µg/L	10	4/9/2021 5:39:27 PM
Xylenes, Total	1700	15	µg/L	10	4/9/2021 5:39:27 PM
Surr: 1,2-Dichloroethane-d4	93.8	70-130	%Rec	10	4/9/2021 5:39:27 PM
Surr: Dibromofluoromethane	92.5	70-130	%Rec	10	4/9/2021 5:39:27 PM
Surr: Toluene-d8	101	70-130	%Rec	10	4/9/2021 5:39:27 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D
- Sample Diluted Due to Matrix Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2104009

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/13/2021

CLIENT:	HILCORP ENERGY			Client Sample ID: MW 19
<b>Project:</b>	Standard 1			Collection Date: 3/31/2021 2:40:00 PM
Lab ID:	2104009-012	Matrix:	GROUNDWA	Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	16000	1000	µg/L	1000	4/12/2021 12:10:53 PM
Toluene	8500	100	µg/L	100	4/9/2021 6:33:34 PM
Ethylbenzene	1100	100	µg/L	100	4/9/2021 6:33:34 PM
Xylenes, Total	4700	150	µg/L	100	4/9/2021 6:33:34 PM
Surr: 1,2-Dichloroethane-d4	107	70-130	%Rec	100	4/9/2021 6:33:34 PM
Surr: Dibromofluoromethane	106	70-130	%Rec	100	4/9/2021 6:33:34 PM
Surr: Toluene-d8	101	70-130	%Rec	100	4/9/2021 6:33:34 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2104009

#### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/13/2021

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 22
<b>Project:</b>	Standard 1	Collection Date: 3/31/2021 4:00:00 PM
Lab ID:	2104009-013	Matrix: GROUNDWA Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	ND	1.0	µg/L	1	4/8/2021 8:30:09 PM
Toluene	ND	1.0	µg/L	1	4/8/2021 8:30:09 PM
Ethylbenzene	ND	1.0	µg/L	1	4/8/2021 8:30:09 PM
Xylenes, Total	ND	1.5	µg/L	1	4/8/2021 8:30:09 PM
Surr: 1,2-Dichloroethane-d4	109	70-130	%Rec	1	4/8/2021 8:30:09 PM
Surr: Dibromofluoromethane	109	70-130	%Rec	1	4/8/2021 8:30:09 PM
Surr: Toluene-d8	99.3	70-130	%Rec	1	4/8/2021 8:30:09 PM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2104009

Date Reported: 4/13/2021

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 23
Project:	Standard 1	Collection Date: 3/31/2021 10:30:00 AM
Lab ID:	2104009-014	Matrix: GROUNDWA Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	ND	1.0	µg/L	1	4/9/2021 1:00:50 AM
Toluene	ND	1.0	µg/L	1	4/9/2021 1:00:50 AM
Ethylbenzene	ND	1.0	µg/L	1	4/9/2021 1:00:50 AM
Xylenes, Total	ND	1.5	µg/L	1	4/9/2021 1:00:50 AM
Surr: 1,2-Dichloroethane-d4	107	70-130	%Rec	1	4/9/2021 1:00:50 AM
Surr: Dibromofluoromethane	107	70-130	%Rec	1	4/9/2021 1:00:50 AM
Surr: Toluene-d8	102	70-130	%Rec	1	4/9/2021 1:00:50 AM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2104009

Date Reported: 4/13/2021

Project:Standard 1Collection Date: 3/31/2021	11:15:00 AM
Lab ID:         2104009-015         Matrix:         GROUNDWA         Received Date: 4/1/2021 8:	:00:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	ND	1.0	µg/L	1	4/9/2021 1:28:04 AM
Toluene	ND	1.0	µg/L	1	4/9/2021 1:28:04 AM
Ethylbenzene	ND	1.0	µg/L	1	4/9/2021 1:28:04 AM
Xylenes, Total	ND	1.5	µg/L	1	4/9/2021 1:28:04 AM
Surr: 1,2-Dichloroethane-d4	108	70-130	%Rec	1	4/9/2021 1:28:04 AM
Surr: Dibromofluoromethane	109	70-130	%Rec	1	4/9/2021 1:28:04 AM
Surr: Toluene-d8	97.9	70-130	%Rec	1	4/9/2021 1:28:04 AM

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Analytical Report Lab Order 2104009

## Hall Environmental Analysis Laboratory, Inc.

Lab Order 2104009 Date Reported: 4/13/2021

Client Sample	<b>ID:</b> Trip Blank

**CLIENT:** HILCORP ENERGY **Project:** Standard 1

Lab ID: 2104009-016

Collection Date: Matrix: GROUNDWA Received Date: 4/1/2021 8:00:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	ND	1.0	µg/L	1	4/9/2021 2:22:06 AM
Toluene	ND	1.0	µg/L	1	4/9/2021 2:22:06 AM
Ethylbenzene	ND	1.0	µg/L	1	4/9/2021 2:22:06 AM
Xylenes, Total	ND	1.5	µg/L	1	4/9/2021 2:22:06 AM
Surr: 1,2-Dichloroethane-d4	105	70-130	%Rec	1	4/9/2021 2:22:06 AM
Surr: Dibromofluoromethane	110	70-130	%Rec	1	4/9/2021 2:22:06 AM
Surr: Toluene-d8	104	70-130	%Rec	1	4/9/2021 2:22:06 AM

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

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level.
   D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Chent: Hilcor	RP ENERC	θY								
Project: Standard	11									
Sample ID: 100ng Ics	Samp	Туре: <b>LC</b>	s	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW	Batc	h ID: <b>R7</b>	6562	RunNo: 76562						
Prep Date:	Analysis [	Date: 4/	8/2021	5	SeqNo: 2712446 Units: µg/I					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	108	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	9.5		10.00		95.5	70	130			
Sample ID: 2104009-006a ms	s Samp	Гуре: <b>МS</b>	5	Tes	tCode: El	PA Method	8260: Volatile	es Short L	ist	
Client ID: MW 08	Batc	h ID: <b>R7</b>	6562	F	RunNo: 7	6562				
Prep Date:	Analysis [	Date: 4/	9/2021	5	SeqNo: 2	712459	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	108	70	130			
Toluene	20	1.0	20.00	0.4858	97.6	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		99.9	70	130			
				_					ist	
Sample ID: 2104009-006a ms	sd Samp	Туре: <b>МS</b>	D	Tes	tCode: El	PA Method	8260: Volatile	es Short L		
Sample ID: 2104009-006a ms Client ID: MW 08	sd Samp <sup>-</sup> Batc	Type: <b>MS</b> h ID: <b>R7</b>	6562	Tes F	tCode: <b>El</b> RunNo: <b>7</b> (	PA Method 6562	8260: Volatile	es Short L		
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date:	sd Samp <sup>-</sup> Batc Analysis [	Type: <b>MS</b> h ID: <b>R7</b> Date: <b>4</b> /	6562 9/2021	Tes F	tCode: <b>El</b> RunNo: <b>7</b> SeqNo: <b>2</b>	PA Method 6562 712460	8260: Volatile Units: μg/L	es Short L		
Sample ID: <b>2104009-006a ms</b> Client ID: <b>MW 08</b> Prep Date: Analyte	<b>sd</b> Samp <sup>-</sup> Batc Analysis I Result	Type: <b>M\$</b> h ID: <b>R7</b> Date: <b>4/</b> PQL	5D 6562 9/2021 SPK value	Tes F SPK Ref Val	tCode: El RunNo: 70 SeqNo: 2 %REC	PA Method 6562 712460 LowLimit	8260: Volatile Units: μg/L HighLimit	%RPD	RPDLimit	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene	sd Samp Batc Analysis I Result 22	Type: <b>M\$</b> h ID: <b>R7</b> Date: <b>4</b> / PQL 1.0	6562 9/2021 SPK value 20.00	Tes F SPK Ref Val 0	tCode: Ef RunNo: 7 SeqNo: 2 %REC 109	PA Method 6562 712460 LowLimit 70	8260: Volatile Units: µg/L HighLimit 130	%RPD 0.816	RPDLimit 20	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene	sd Samp Batc Analysis I Result 22 20	Type: <b>M\$</b> h ID: <b>R7</b> Date: <b>4/</b> <u>PQL</u> 1.0 1.0	6562 9/2021 SPK value 20.00 20.00	Tes F SPK Ref Val 0 0.4858	tCode: <b>Ef</b> RunNo: <b>7</b> 0 SeqNo: <b>2</b> <u>%REC</u> 109 95.4	PA Method 6562 712460 LowLimit 70 70	8260: Volatile Units: μg/L HighLimit 130 130	%RPD 0.816 2.16	RPDLimit 20 20	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4	d Samp Batc Analysis I <u>Result</u> 22 20 11	Type: <b>M\$</b> h ID: <b>R7</b> Date: <b>4/</b> <u>PQL</u> 1.0 1.0	6562 9/2021 SPK value 20.00 20.00 10.00	Tes F SPK Ref Val 0 0.4858	tCode: <b>El</b> RunNo: <b>7</b> 0 SeqNo: <b>2</b> %REC 109 95.4 112	PA Method 6562 712460 LowLimit 70 70 70 70	8260: Volatile Units: µg/L HighLimit 130 130 130	%RPD 0.816 2.16 0	RPDLimit 20 20 0	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene	d Samp Batc Analysis I <u>Result</u> 22 20 11 10	Type: <b>M\$</b> h ID: <b>R7</b> Date: <b>4/</b> <u>PQL</u> 1.0 1.0	6562 9/2021 SPK value 20.00 20.00 10.00 10.00	Tes F SPK Ref Val 0 0.4858	tCode: <b>El</b> RunNo: <b>7</b> SeqNo: <b>2</b> %REC 109 95.4 112 103	PA Method 6562 712460 LowLimit 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130	%RPD 0.816 2.16 0 0	RPDLimit 20 20 0 0	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane	sd Samp Batc Analysis I Result 22 20 11 10 11	Type: <b>M\$</b> h ID: <b>R7</b> Date: <b>4/</b> <u>PQL</u> 1.0 1.0	6562 9/2021 SPK value 20.00 20.00 10.00 10.00 10.00	Tes F SPK Ref Val 0 0.4858	tCode: El RunNo: 7 SeqNo: 2 %REC 109 95.4 112 103 111	PA Method 6562 712460 LowLimit 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 130	%RPD 0.816 2.16 0 0	RPDLimit 20 20 0 0 0	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8	sd Samp <sup>-</sup> Batc Analysis I <u>Result</u> 22 20 11 10 11 9.9	Type: <b>M\$</b> h ID: <b>R7</b> Date: <b>4/</b> <u>PQL</u> 1.0 1.0	6562 9/2021 SPK value 20.00 20.00 10.00 10.00 10.00 10.00	Tes F SPK Ref Val 0 0.4858	tCode: <b>El</b> RunNo: <b>7</b> SeqNo: <b>2</b> <u>%REC</u> 109 95.4 112 103 111 99.2	PA Method 6562 712460 LowLimit 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 130 130	%RPD 0.816 2.16 0 0 0 0	RPDLimit 20 20 0 0 0 0 0	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8	ad Samp Batc Analysis I Result 22 20 11 10 11 9.9 Samp	Type: <b>MS</b> h ID: <b>R7</b> Date: <b>4/</b> <u>PQL</u> 1.0 1.0 1.0	50 6562 9/2021 20.00 20.00 10.00 10.00 10.00 10.00 3LK	Tes F SPK Ref Val 0 0.4858	tCode: El RunNo: 7 SeqNo: 2 %REC 109 95.4 112 103 111 99.2 tCode: El	PA Method 6562 712460 LowLimit 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 130 130 130 8260: Volatile	%RPD 0.816 2.16 0 0 0 0 0	RPDLimit 20 20 0 0 0 0 0 0	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: mb Client ID: PBW	sd Samp Batc Analysis I Result 22 20 11 10 11 9.9 Samp Batc	Туре: <b>М</b> h ID: <b>R7</b> Date: <b>4/</b> PQL 1.0 1.0 Туре: <b>МЕ</b> h ID: <b>R7</b>	6562 9/2021 SPK value 20.00 20.00 10.00 10.00 10.00 3LK 6562	Tes F SPK Ref Val 0 0.4858 Tes F	tCode: <b>El</b> RunNo: <b>7</b> SeqNo: <b>2</b> %REC 109 95.4 112 103 111 99.2 tCode: <b>El</b> RunNo: <b>7</b>	PA Method 6562 712460 LowLimit 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 130 130 130 8260: Volatile	%RPD 0.816 2.16 0 0 0 0	RPDLimit 20 20 0 0 0 0 0	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: mb Client ID: PBW Prep Date:	sd Samp Batc Analysis I Result 22 20 11 10 11 9.9 Samp Batc Analysis I	Type: <b>MS</b> h ID: <b>R7</b> Date: <b>4</b> / PQL 1.0 1.0 Type: <b>ME</b> h ID: <b>R7</b> Date: <b>4</b> /	6562 9/2021 SPK value 20.00 20.00 10.00 10.00 10.00 8LK 6562 8/2021	Tes F SPK Ref Val 0 0.4858 Tes F	tCode: El RunNo: 7 SeqNo: 2 %REC 109 95.4 112 103 111 99.2 tCode: El RunNo: 7 SeqNo: 2	PA Method 6562 712460 LowLimit 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 130 130 130 8260: Volatile Units: μg/L	%RPD 0.816 2.16 0 0 0 0	RPDLimit 20 20 0 0 0 0 0	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: mb Client ID: PBW Prep Date: Analyte	sd Samp Batc Analysis I Result 22 20 11 10 11 9.9 Samp Batc Analysis I Result	Type: MS h ID: R7 Date: 4/ PQL 1.0 1.0 Type: ME h ID: R7 Date: 4/ PQL	50 6562 9/2021 SPK value 20.00 20.00 10.00 10.00 10.00 3LK 6562 8/2021 SPK value	Tes F SPK Ref Val 0 0.4858 Tes F SPK Ref Val	tCode: El RunNo: 7 SeqNo: 2 %REC 109 95.4 112 103 111 99.2 tCode: El RunNo: 7 SeqNo: 2 %REC	PA Method 6562 712460 LowLimit 70 70 70 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 130 130 30 8260: Volatile Units: μg/L HighLimit	%RPD 0.816 2.16 0 0 0 0 0 8 Short L	RPDLimit           20           20           0           0           0           0           0           0           0           0           0           0	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: mb Client ID: PBW Prep Date: Analyte Benzene	sd Samp Batc Analysis I Result 22 20 11 10 11 9.9 Samp Batc Analysis I Result ND	Type: MS h ID: R7 Date: 4/ PQL 1.0 1.0 1.0 Type: ME h ID: R7 Date: 4/ PQL 1.0	50 6562 9/2021 SPK value 20.00 20.00 10.00 10.00 10.00 10.00 3LK 6562 8/2021 SPK value	Tes F SPK Ref Val 0 0.4858 Tes F SPK Ref Val	tCode: El RunNo: 7 SeqNo: 2 %REC 109 95.4 112 103 111 99.2 tCode: El RunNo: 7 SeqNo: 2 %REC	PA Method 6562 712460 LowLimit 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 130 130 8260: Volatile Units: μg/L HighLimit	%RPD 0.816 2.16 0 0 0 0 0 0 0 8 Short L	RPDLimit 20 20 0 0 0 0 0 0 0 <b>ist</b>	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: mb Client ID: PBW Prep Date: Analyte Benzene Toluene	sd Samp Batc Analysis I Result 22 20 11 10 11 9.9 Samp Batc Analysis I Result ND ND	Type: MS h ID: R7 Date: 4/ PQL 1.0 1.0 1.0 Type: ME h ID: R7 Date: 4/ PQL 1.0 1.0 1.0	50 6562 9/2021 20.00 20.00 10.00 10.00 10.00 10.00 3LK 6562 8/2021 SPK value	Tes F SPK Ref Val 0 0.4858 Tes F SPK Ref Val	tCode: El RunNo: 7 SeqNo: 2 %REC 109 95.4 112 103 111 99.2 tCode: El RunNo: 7 SeqNo: 2 %REC	PA Method 6562 712460 LowLimit 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 130 30 8260: Volatile Units: μg/L HighLimit	%RPD 0.816 2.16 0 0 0 0 s Short L %RPD	RPDLimit 20 20 0 0 0 0 0 0 0 <b>ist</b>	Qual
Sample ID: 2104009-006a ms Client ID: MW 08 Prep Date: Analyte Benzene Toluene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: mb Client ID: PBW Prep Date: Analyte Benzene Toluene Ethylbenzene	sd Samp Batc Analysis I Result 22 20 11 10 11 9.9 Samp Batc Analysis I Result ND ND	Type: MS h ID: R7 Date: 4/ PQL 1.0 1.0 1.0 1.0 Note: 4/ PQL 1.0 1.0 1.0 1.0	50 65562 9/2021 20.00 20.00 10.00 10.00 10.00 10.00 3LK 65562 8/2021 SPK value	Tes F SPK Ref Val 0 0.4858 Tes F SPK Ref Val	tCode: El RunNo: 7 SeqNo: 2 %REC 109 95.4 112 103 111 99.2 tCode: El RunNo: 7 SeqNo: 2 %REC	PA Method 6562 712460 LowLimit 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 130 130 130 0 130 130 1	%RPD 0.816 2.16 0 0 0 0 2es Short L %RPD	RPDLimit 20 20 0 0 0 0 0 0 0 0	Qual

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

.

WO#:	2104009
	12 4 21

13-Apr-21

Project: Standar	rd 1	1									
Sample ID: mb	SampT	ype: ME	BLK	TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW	Batch	h ID: <b>R7</b>	6562	RunNo: 76562							
Prep Date:	Analysis D	Date: 4/	8/2021	S	SeqNo: 2712477 Units: μg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130				
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130				
Surr: Dibromofluoromethane	11		10.00		106	70	130				
Surr: Toluene-d8	10		10.00		102	70	130				
Sample ID: 100ng Ics	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8260: Volatile	es Short L	ist		
Client ID: LCSW	Batch	n ID: <b>A7</b>	6574	F	RunNo: 7	6574					
Prep Date:	Analysis D	Date: 4/	9/2021	5	SeqNo: 27	714019	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	21	1.0	20.00	0	107	70	130				
Toluene	19	1.0	20.00	0	94.6	70	130				
Surr: 1,2-Dichloroethane-d4	11		10.00		112	70	130				
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130				
Surr: Dibromofluoromethane	11		10.00		113	70	130				
Surr: Toluene-d8	9.8		10.00		97.9	70	130				
	TestCode: EPA Method 8260: Volatiles Short List										
Sample ID: mb	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	8260: Volatile	es Short L	.ist		
Sample ID: <b>mb</b> Client ID: <b>PBW</b>	SampT Batcl	<sup>-</sup> ype: <b>ME</b> h ID: <b>A7</b>	3LK 6574	Tes F	tCode: EF	PA Method 6574	8260: Volatile	es Short L	ist		
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date:	SampT Batch Analysis D	<sup>-</sup> ype: <b>ME</b> h ID: <b>A7</b> Date: <b>4</b> /	BLK 6574 9/2021	Tes F S	tCode: EF RunNo: 70 SeqNo: 27	PA Method 6574 714055	8260: Volatile Units: μg/L	es Short L	ist		
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte	SampT Batch Analysis D Result	Type: <b>ME</b> In ID: <b>A7</b> Date: <b>4/</b> PQL	BLK 6574 9/2021 SPK value	Tes F S SPK Ref Val	tCode: EF RunNo: 7( SeqNo: 27 %REC	PA Method 6574 714055 LowLimit	<b>8260: Volatile</b> Units: μ <b>g/L</b> HighLimit	es Short L %RPD	. <b>ist</b> RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene	SampT Batcl Analysis D Result ND	<sup>-</sup> ype: <b>ME</b> n ID: <b>A7</b> Date: <b>4/</b> PQL 1.0	BLK 6574 9/2021 SPK value	Tes F SPK Ref Val	tCode: EF RunNo: 70 SeqNo: 27 %REC	PA Method 6574 714055 LowLimit	8260: Volatile Units: μg/L HighLimit	es Short L %RPD	<b>ist</b> RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene	SampT Batcl Analysis D Result ND ND	Type: <b>ME</b> n ID: <b>A7</b> Date: <b>4/</b> <u>PQL</u> 1.0 1.0	BLK 6574 9/2021 SPK value	Tes F SPK Ref Val	tCode: EF RunNo: 7( SeqNo: 27 %REC	PA Method 6574 714055 LowLimit	8260: Volatik Units: μg/L HighLimit	es Short L %RPD	<b>ist</b> RPDLimit	Qual	
Sample ID: mb Client ID: PBW Prep Date: Analyte Benzene Toluene Ethylbenzene	SampT Batcl Analysis D Result ND ND ND	Type: <b>ME</b> n ID: <b>A7</b> Date: <b>4/</b> PQL 1.0 1.0 1.0	8LK 6574 9/2021 SPK value	Tes F SPK Ref Val	tCode: EF RunNo: 7( SeqNo: 2 %REC	PA Method 6574 714055 LowLimit	8260: Volatile Units: μg/L HighLimit	es Short L %RPD	<b>ist</b> RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	SampT Batch Analysis D Result ND ND ND ND	Type: <b>ME</b> In ID: <b>A7</b> Date: <b>4/</b> PQL 1.0 1.0 1.0 1.0 1.5	8LK 6574 9/2021 SPK value	Tes F SPK Ref Val	tCode: EF RunNo: 7 GeqNo: 2 %REC	PA Method 6574 714055 LowLimit	8260: Volatile Units: μg/L HighLimit	es Short L %RPD	<b>ist</b> RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4	SampT Batch Analysis D Result ND ND ND ND 10	Type: <b>ME</b> In ID: <b>A7</b> Date: <b>4/</b> PQL 1.0 1.0 1.0 1.0 1.5	BLK 6574 9/2021 SPK value 10.00	Tes F SPK Ref Val	tCode: EF RunNo: 7( SeqNo: 27 %REC 103	PA Method 6574 714055 LowLimit 70	8260: Volatile Units: μg/L HighLimit 130	%RPD	<b>ist</b> RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene	SampT Batch Analysis D Result ND ND ND 10 10	Type: <b>ME</b> In ID: <b>A7</b> Date: <b>4</b> / PQL 1.0 1.0 1.0 1.5	BLK 6574 9/2021 SPK value 10.00 10.00	Tes F SPK Ref Val	tCode: EF RunNo: 7( SeqNo: 27 %REC 103 103	<b>PA Method</b> <b>6574</b> <b>714055</b> LowLimit 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130	%RPD	<b>ist</b> RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane	SampT Batch Analysis D Result ND ND ND 10 10 10	Type: <b>ME</b> In ID: <b>A7</b> Date: <b>4</b> / PQL 1.0 1.0 1.0 1.5	BLK 6574 9/2021 SPK value 10.00 10.00 10.00	Tes F SPK Ref Val	tCode: EF RunNo: 70 SeqNo: 2 %REC 103 103 104	<b>PA Method</b> <b>6574</b> <b>714055</b> LowLimit 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130	%RPD	<b>ist</b> RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8	SampT Batch Analysis D ND ND ND ND 10 10 10 10	Type: <b>ME</b> ID: <b>A7</b> Date: <b>4/</b> PQL 1.0 1.0 1.0 1.5	BLK 6574 9/2021 SPK value 10.00 10.00 10.00 10.00	Tes F SPK Ref Val	tCode: EF RunNo: 7( SeqNo: 2: %REC 103 103 104 103	PA Method 6574 714055 LowLimit 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130	%RPD	<b>IST</b> RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8	SampT Batch Analysis D Result ND ND ND 10 10 10 10 10 10	Type: <b>ME</b> In ID: <b>A7</b> Date: <b>4/</b> PQL 1.0 1.0 1.0 1.5	BLK 6574 9/2021 SPK value 10.00 10.00 10.00 10.00 S	Tes F SPK Ref Val	tCode: EF RunNo: 7 SeqNo: 2 %REC 103 103 104 103 tCode: EF	<b>PA Method</b> <b>6574</b> <b>714055</b> LowLimit 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 130	98 Short L %RPD	ist RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: <b>100ng Ics</b> Client ID: <b>LCSW</b>	SampT Batch Analysis D ND ND ND 10 10 10 10 10 10 8ampT Batch	Type: ME n ID: A7 Date: 4/ PQL 1.0 1.0 1.0 1.5	BLK 6574 9/2021 SPK value 10.00 10.00 10.00 S 6616	Tes F SPK Ref Val Tes F	tCode: EF RunNo: 7( SeqNo: 2: %REC 103 103 104 103 tCode: EF RunNo: 7(	PA Method 6574 714055 LowLimit 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 8260: Volatile	es Short L	ist RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: <b>100ng Ics</b> Client ID: <b>LCSW</b> Prep Date:	SampT Batch Analysis D ND ND ND 10 10 10 10 10 10 10 10 10 10 10	Type: ME n ID: A7 Date: 4/ PQL 1.0 1.0 1.0 1.0 1.5	BLK 6574 9/2021 SPK value 10.00 10.00 10.00 10.00 5 6616 12/2021	Tes F SPK Ref Val Tes F S	tCode: EF RunNo: 7( SeqNo: 2: %REC 103 103 104 103 104 103 tCode: EF RunNo: 7( SeqNo: 2;	PA Method 5574 714055 LowLimit 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 8260: Volatile Units: μg/L	98 Short L %RPD	ist RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: <b>100ng Ics</b> Client ID: <b>LCSW</b> Prep Date: Analyte	SampT Batch Analysis D ND ND ND 10 10 10 10 10 10 20 8ampT Batch Analysis D Result	Type: ME n ID: A7 Date: 4/ PQL 1.0 1.0 1.0 1.0 1.5	BLK 6574 9/2021 SPK value 10.00 10.00 10.00 S 6616 12/2021 SPK value	Tes SPK Ref Val	tCode: EF RunNo: 7( SeqNo: 2: %REC 103 103 104 103 104 103 tCode: EF RunNo: 7( SeqNo: 2: %REC	PA Method 5574 714055 LowLimit 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 8260: Volatile Units: μg/L HighLimit	%RPD	ist RPDLimit ist RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluorobenzene Surr: Toluene-d8 Sample ID: <b>100ng Ics</b> Client ID: <b>LCSW</b> Prep Date: Analyte Benzene	SampT Batch Analysis D Result ND ND ND 10 10 10 10 10 10 10 10 10 20	Type: ME n ID: A7 Date: 4/ PQL 1.0 1.0 1.0 1.0 1.5	BLK 6574 9/2021 SPK value 10.00 10.00 10.00 10.00 S 6616 12/2021 SPK value 20.00	Tes SPK Ref Val	tCode: EF RunNo: 7( SeqNo: 2: %REC 103 103 104 103 104 103 tCode: EF RunNo: 7( SeqNo: 2: %REC 98.8	PA Method 6574 714055 LowLimit 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 8260: Volatile Units: μg/L HighLimit 130	%RPD	ist RPDLimit ist RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 2-Dichloroethane-d4 Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: <b>100ng Ics</b> Client ID: <b>LCSW</b> Prep Date: Analyte Benzene Surr: 1,2-Dichloroethane-d4	SampT Batch Analysis D Result ND ND ND 10 10 10 10 10 10 10 10 10 10 20 10 Kesult 20 10	Type: ME in ID: A7 Date: 4/ PQL 1.0 1.0 1.0 1.0 1.5	BLK 6574 9/2021 SPK value 10.00 10.00 10.00 10.00 S 6616 12/2021 SPK value 20.00 10.00	Tes F SPK Ref Val	tCode: EF RunNo: 7 SeqNo: 23 %REC 103 103 103 104 104 103 104 104 103 104 103 104 104 103 104 104 104 104 104 104 104 104 104 104	PA Method 5574 714055 LowLimit 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 130 Units: μg/L HighLimit 130 130 130	es Short L %RPD es Short L %RPD	ist RPDLimit ist RPDLimit	Qual	
Sample ID: <b>mb</b> Client ID: <b>PBW</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 2-Dichloroethane-d4 Surr: Dibromofluoromethane Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: <b>100ng Ics</b> Client ID: <b>LCSW</b> Prep Date: Analyte Benzene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene	SampT Batch Analysis D Result ND ND ND 10 10 10 10 10 10 10 10 20 Analysis D Result 20 10 10	Type: ME in ID: A7 Date: 4/ PQL 1.0 1.0 1.0 1.5 Type: LC in ID: D7 Date: 4/ PQL 1.0	BLK 6574 9/2021 SPK value 10.00 10.00 10.00 10.00 S 6616 12/2021 SPK value 20.00 10.00 10.00 10.00	Tes F SPK Ref Val	tCode: EF RunNo: 7( SeqNo: 2: %REC 103 103 104 103 104 103 tCode: EF RunNo: 7( SeqNo: 2: %REC 98.8 101 102	PA Method 5574 714055 LowLimit 70 70 70 70 70 70 70 70 70 70	8260: Volatile Units: μg/L HighLimit 130 130 130 130 8260: Volatile Units: μg/L HighLimit 130 130 130	es Short L %RPD es Short L %RPD	ist RPDLimit ist RPDLimit	Qual	

#### **Qualifiers:**

Value exceeds Maximum Contaminant Level. \*

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix S

Analyte detected in the associated Method Blank в

Е Value above quantitation range

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit

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WO#:

Client: I Project:	HILCORP E Standard 1	NERGY									
Sample ID: 100ng lcs SampType: LCS					Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW		Batch ID: D76616			F	RunNo: <b>76616</b>					
Prep Date:	An	alysis Da	te: 4/	12/2021	S	eqNo: 2	2714997	Units: µg/L			
Analyte	R	esult	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Toluene-d8		9.8		10.00		98.5	70	130			
Sample ID: mb SampType: MBLK				BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW		Batch I	D: <b>D7</b>	6616	RunNo: 76616						
Prep Date:	An	alysis Da	te: 4/	12/2021	SeqNo: 2714999			Units: µg/L			
Analyte	R	esult	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Surr: 1,2-Dichloroethane	e-d4	10		10.00		101	70	130			
Surr: 4-Bromofluoroben	zene	10		10.00		103	70	130			
Surr: Dibromofluoromet	hane	10		10.00		105	70	130			
Surr: Toluene-d8		10		10.00		99.8	70	130			

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level. \*
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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WO#:

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmenta All TEL: 505-345-397. Website: clients.h	l Analy 490 puquerg 5 FAX: allenvii	sis Labo I Hawki ue, NM 505-345 conmenta	ratory ins NE 87109 5-4107 al.com	Sample Log-In Check List							
Client Name: HILCORP ENERGY	Work Order Number	: 2104	4009			RcptNo: 1						
Received By: Desiree Dominguez	4/1/2021 8:00:00 AM			Ð	M							
Completed By: Desiree Dominguez	4/1/2021 8:42:56 AM			TP	>							
Reviewed By: JR 4/1/21												
Chain of Custody												
1. Is Chain of Custody complete?		Yes	~	No		Not Present						
2. How was the sample delivered?		Cou	rier									
<u>Log In</u>												
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								
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" f	or AQ VOA?	Yes		No		DAD UIIDI NA						
0. Were any sample containers received broken?		Yes		No		# of preserved						
1. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes		No		for pH: (<2 or >12 unless noted)						
2. Are matrices correctly identified on Chain of Cu	istody?	Yes	~	No		Adjusted?						
3. Is it clear what analyses were requested?		Yes	V	No								
4. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes	~	No		Checked by: DAD 4/1/21						
pecial Handling (if applicable)												
15. Was client notified of all discrepancies with thi	s order?	Yes		No		NA 🗹						
Person Notified:	Date:			-	- 44							
By Whom: Regarding: Client Instructions:	Via: [	_ eMa	ail 🗌	Phone 🗌	] Fax	In Person						
16. Additional remarks: All yoas had	headsprace.	-01	AD 4	11/21								
17. <u>Cooler Information</u> Cooler No Temp ⁰C Condition Sea	Intact Seal No	Seal D	ate	Signed	Ву	1						

Page 1 of 1

OIL-LUSIDODY RECORD     Mathematical All Rush       Orf Cheray Company     A Standard Rush       Project Name:     Project Name:       Az Compliance     Project Manager:       D Level 4 (Full Validation)     WS P. Dawny Burns       Az Compliance     On lee:     R Ves       Az MW 03     3-40 Alt     HC I       Amw 03     3-40 Alt     HC I       Amw 03     3-40 Alt     HC I       Amw 04     Anw 03	HALL ENVIRON		4901 Hawkins NF - Albiniaria NM 8	Tel. 505-345-3975 Fax 505-345-410	Analysis Request	(O) 50₄	t/Abse 204, 5 201MS 201MS 201MS	2570 22, 1) МВ МВ	Н / Н 201/ 2018 204. ° 204. °	.m ( 103 103 103 103 103 103 103 103 103 103	0.6       (0)         0.1 5 D       0.4 10         0.1 5 D       0.8 3         0.8 10       0.8 3         0.9 83       0.9 10         0.9 83       0.9 10         0.9 83       0.9 10         0.9 83       0.9 10         0.9 83       0.9 10         0.9 83       0.9 10         0.9 83       0.9 10         0.9 10       0.9 10         0.9 10       0.9 10         0.9 10       0.9 10         0.9 10       0.9 10	AL No. AL No. BTEX. BTEX. BOB1 F RCRA CI, F, RCRA CI, F, RCRA (I, F, R260 ( R260 ( R260 ( R270 (		03 1 South	503	hoc	50	00	tox	NOS 005	P00		011	012 1	ITIME Remarks:	Time	1 8.00
Ort-Custody Kecord       Ort-Custody Kecord       Mitter       Data       Compliance       Data       CW       Multer       Data       CW       Multer       Multer	Standard <b>Rush</b> oject Name: Standard #1 oject #:		roject Manager:	WSP-Banny Burns	ampler 0 Butons	n Ice: NYes No	of Coolers:	ooler Temp(including cF): 0. \$ - 0. 3 =	ontainer Preservative 21040	3-40 ACI -0	-		0,	-0		0-	0				V V - C	MANIT I AIF 3/21/2	sceived by: Via: Date	Des counir 4/1/2			
	-of-Custody Record		<u>L</u>	□ Level 4 (Full Validation)	□ Az Compliance		#		latrix Sample Name	GW MW02 3	1 MW 03	HOMW	MMOS	MWOE	MW 08	IIMW	21MW	HIMM	MWIS	1, MW18	MM 19	Reinduished by:	Reinquished by Rei	Must Walt 7			

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	X Standard	Project Name	Stowed	Project #:			Project Mana	-ysm		Sampler:	On Ice:	# of Coolers:	Cooler Temp	Container Type and #	3-40mL		>		C	/	/		)				Received by:	Received by:
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n10-	Orp E	Temmi								□ Az Con	Uther			Matrix	GW	J	7										Relinquished	
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ן	Client:	1	Mailing		7	Phone:	email o	QA/QC		Accredi		D EDD		Date	331-21	1	>										Date: 35121	Date:



June 28, 2021

Danny Burns HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com

RE: Standard 1A

OrderNo.: 2106911

Dear Danny Burns:

Hall Environmental Analysis Laboratory received 13 sample(s) on 6/17/2021 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Ethylbenzene

Xylenes, Total

Surr: Toluene-d8

Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

**Analytical Report** Lab Order 2106911

Hall Environment	tal Analysis	Laboratory, Inc.
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Date Reported: 6/28/2021

200 6/21/2021 11:52:01 PM B79248

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 03								
Project:	Standard 1A		Co	llection Dat	<b>e:</b> 6/14	4/2021 4:2	0:00 PM			
Lab ID:	2106911-001	Matrix: GROUNI	DWA R	eceived Dat	<b>e:</b> 6/1′	7/2021 8:0	0:00 AM			
Analyses		Result	RL Q	ual Units	DF	Date Ana	lyzed	Batch		
EPA MET	HOD 8260: VOLATILES SHO	ORT LIST					Analyst:	JMR		
Benzene		12000	200	µg/L	200	6/21/2021	11:52:01 PM	B79248		
Toluene		1800	200	µg/L	200	6/21/2021	11:52:01 PM	B79248		

370

4900

111

95.7

110

200

300

70-130

70-130

70-130

µg/L

µg/L

%Rec

%Rec

%Rec

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 1 of 17

Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

Surr: Toluene-d8

**Analytical Report** Lab Order 2106911

6/23/2021 1:27:27 PM

6/23/2021 1:27:27 PM

6/23/2021 1:27:27 PM

S79322

S79322

S79322

2

2

2

%Rec

%Rec

%Rec

Date Reported: 6/28/2021

CLIENT: Project: Lab ID:	HILCORP ENERGY Standard 1A 2106911-002	Client Sample ID: MW 04 Collection Date: 6/14/2021 4:00:00 PM Matrix: GROUNDWA Received Date: 6/17/2021 8:00:00 AM					
Analyses		Result	RL	Qual Units	s DF	Date Analyzed	Batch
EPA MET	HOD 8260: VOLATILES SHO					Analys	t: JMR
Benzene		1700	20	µg/L	20	6/23/2021 12:58:50 PM	1 S79322
Toluene		3.5	2.0	µg/L	2	6/23/2021 1:27:27 PM	S79322
Ethylben	zene	110	2.0	µg/L	2	6/23/2021 1:27:27 PM	S79322
Xylenes,	Total	20	3.0	µg/L	2	6/23/2021 1:27:27 PM	S79322

109

101

110

70-130

70-130

70-130

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 2 of 17

Toluene

Ethylbenzene

Xylenes, Total

Surr: Toluene-d8

Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

B79248

B79248

B79248

B79248

B79248

B79248

**Analytical Report** Lab Order 2106911

### Hall Environmental Analysis Laboratory, Inc.

100 6/22/2021 3:12:00 AM

Date Reported: 6/28/2021

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 05									
<b>Project:</b>	Standard 1A		Coll	ection Dat	<b>e:</b> 6/14	4/2021 4:3	30:00 PM				
Lab ID:	2106911-003	Matrix: GROUNE	WA Re	ceived Dat	<b>e:</b> 6/1′	7/2021 8:0	00:00 AM				
Analyses		Result	RL Qu	al Units	DF	Date Ana	lyzed	Batch			
EPA MET	HOD 8260: VOLATILES SHORT	LIST					Analyst:	JMR			
Benzene		4400	100	µg/L	100	6/22/2021	3:12:00 AM	B79248			

100

100

150

70-130

70-130

70-130

µg/L

µg/L

µg/L

%Rec

%Rec

%Rec

1800

550

117

97.5

110

18000

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit PQL
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 3 of 17

Xylenes, Total

Surr: Toluene-d8

Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

Analytical Report
Lab Order 2106911

6/22/2021 3:40:31 AM

6/22/2021 3:40:31 AM

6/22/2021 3:40:31 AM

6/22/2021 3:40:31 AM

B79248

B79248

B79248

B79248

Hall Environmental Analysis Laboratory, Inc. Date Reported: 6/28/2021

CLIENT:	HILCORP ENERGY		Client Sample ID: MW 08								
Project:         Standard 1A         Collection Date: 6/14/2021 11:40:00 AM						:40:00 AM					
Lab ID:	2106911-004	Matrix: GROU	INDWA	Received I	<b>)ate:</b> 6/	17/2021 8:	00:00 AM				
Analyses		Result	RL	Qual Uni	ts DF	<b>F</b> Date Ana	alyzed	Batch			
EPA MET	THOD 8260: VOLATILES SH	ORT LIST					Analyst	JMR			
Benzene	9	ND	1.0	µg/L	. 1	6/22/2021	3:40:31 AM	B79248			
Toluene		ND	1.0	µg/L	. 1	6/22/2021	3:40:31 AM	B79248			
Ethylben	izene	ND	1.0	µg/L	. 1	6/22/2021	3:40:31 AM	B79248			

ND

121

99.5

107

1.5

70-130

70-130

70-130

µg/L

%Rec

%Rec

%Rec

1

1

1

1

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 4 of 17

Ethylbenzene

Xylenes, Total

Surr: Toluene-d8

Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

**Analytical Report** Lab Order 2106911

6/22/2021 4:09:04 AM

B79248

B79248

B79248

B79248

B79248

Hall	Environmental	l Analysis	Laboratory,	Inc.
		•		

Date Reported: 6/28/202	1
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<b>CLIENT:</b>	HILCORP ENERGY	Client Sample ID: MW 11								
Project:	Standard 1A		(	Collection Dat	t <b>e:</b> 6/	14/2021 1:15:00 PM				
Lab ID:	2106911-005	Matrix: GROUN	NDWA	Received Dat	t <b>e:</b> 6/	17/2021 8:00:00 AM				
Analyses		Result	RL	Qual Units	DF	<b>Date Analyzed</b>	Batch			
EPA MET	HOD 8260: VOLATILES SHORT L	IST				Analys	t: JMR			
Benzene		ND	1.0	µg/L	1	6/22/2021 4:09:04 AM	B79248			
Toluene		ND	1.0	µg/L	1	6/22/2021 4:09:04 AM	B79248			

ND

ND

102

98.5

102

1.0

1.5

70-130

70-130

70-130

µg/L

µg/L

%Rec

%Rec

%Rec

1

1

1

1

1

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 5 of 17

Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

Surr: Toluene-d8

**Analytical Report** Lab Order 2106911

Hall Environmental	l Analysis	Laboratory,	Inc.
	•		

Date Reported: 6/28/2021

6/22/2021 3:01:37 PM

6/22/2021 3:01:37 PM

6/22/2021 3:01:37 PM

R79278

R79278

R79278

CLIENT: HILCORP ENERGY	Client Sample ID: MW 12								
Project: Standard 1A		Coll	ection Dat	<b>te:</b> 6/1	4/2021 1:35:00 PM				
Lab ID: 2106911-006	Matrix: GROUN	DWA <b>R</b> e	ceived Dat	te: 6/1	7/2021 8:00:00 AM				
Analyses	Result	RL Qu	ial Units	DF	Date Analyzed	Batch			
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst	JMR			
Benzene	370	10	µg/L	10	6/22/2021 4:37:40 AM	B79248			
Toluene	5.2	1.0	µg/L	1	6/22/2021 3:01:37 PM	R79278			
Ethylbenzene	72	1.0	µg/L	1	6/22/2021 3:01:37 PM	R79278			
Xylenes, Total	12	1.5	µg/L	1	6/22/2021 3:01:37 PM	R79278			

135

99.3

109

70-130

70-130

70-130

S

%Rec

%Rec

%Rec

1

1

1

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 6 of 17

Toluene

Ethylbenzene

C79248

C79248

**Analytical Report** Lab Order 2106911

Hall Environmental Analys	sis Laboratory, Inc.
---------------------------	----------------------

500 6/22/2021 5:06:20 AM

500 6/22/2021 5:06:20 AM

Date Reported: 6/28/2021

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 15						
<b>Project:</b>	Standard 1A	Collection Date: 6/14/2021 3:35:00 PM						
Lab ID:	2106911-007	Matrix: GROUNE	OWA Re	ceived Dat	<b>e:</b> 6/1′	7/2021 8:0	00:00 AM	
Analyses		Result	RL Q	ual Units	DF	Date Ana	lyzed	Batch
EPA MET	THOD 8260: VOLATILES SHOR	T LIST					Analyst:	JMR
Benzene		26000	500	µg/L	500	6/22/2021	5:06:20 AM	C79248

420

600

8900	750	µg/L	500 6/22/2021 5:06:20 AM	C79248
117	70-130	%Rec	500 6/22/2021 5:06:20 AM	C79248
96.8	70-130	%Rec	500 6/22/2021 5:06:20 AM	C79248
111	70-130	%Rec	500 6/22/2021 5:06:20 AM	C79248
	8900 117 96.8 111	890075011770-13096.870-13011170-130	8900750μg/L11770-130%Rec96.870-130%Rec11170-130%Rec	8900750μg/L5006/22/20215:06:20 AM11770-130%Rec5006/22/20215:06:20 AM96.870-130%Rec5006/22/20215:06:20 AM11170-130%Rec5006/22/20215:06:20 AM

250

500

µg/L

µg/L

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 7 of 17

Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

Surr: Toluene-d8

C79248

C79248

C79248

**Analytical Report** Lab Order 2106911

20 6/22/2021 7:00:30 AM

20 6/22/2021 7:00:30 AM

6/22/2021 7:00:30 AM

Date Reported: 6/28/2021

CLIENT: HILCORP ENERGY	Client Sample ID: MW 18						
Project: Standard 1A		C	ollection Dat	<b>e:</b> 6/14	4/2021 12:3	30:00 PM	
Lab ID: 2106911-008	Matrix: GROU	NDWA I	Received Dat	<b>e:</b> 6/17	7/2021 8:00	0:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Anal	yzed	Batch
EPA METHOD 8260: VOLATILES SHOP						Analyst:	JMR
Benzene	8500	200	µg/L	200	6/22/2021 6	6:31:55 AM	C79248
Toluene	ND	10	µg/L	20	6/22/2021 7	7:00:30 AM	C79248
Ethylbenzene	280	20	µg/L	20	6/22/2021 7	7:00:30 AM	C79248
Xylenes, Total	620	30	µg/L	20	6/22/2021 7	7:00:30 AM	C79248

124

101

111

70-130

70-130

70-130

%Rec

%Rec

%Rec

20

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 8 of 17

Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

Surr: Toluene-d8

C79248

C79248

C79248

**Analytical Report** Lab Order 2106911

500 6/22/2021 7:29:05 AM

500 6/22/2021 7:29:05 AM

500 6/22/2021 7:29:05 AM

Date Reported: 6/28/2021

CLIENT: Project: Lab ID:	HILCORP ENERGY Standard 1A 2106911-009	Client Sample ID: MW 19 Collection Date: 6/14/2021 2:40:00 PM Matrix: GROUNDWA Received Date: 6/17/2021 8:00:00 AM						
Analyses		Result	RL	Qual	Units	DF Date A	nalyzed	Batch
EPA MET	HOD 8260: VOLATILES SHO	RT LIST					Analyst	JMR
Benzene		15000	500	Р	µg/L	500 6/22/20	)21 7:29:05 AM	C79248
Toluene		10000	500	Р	µg/L	500 6/22/20	)21 7:29:05 AM	C79248
Ethylben	zene	1000	500	Р	µg/L	500 6/22/20	)21 7:29:05 AM	C79248
Xylenes,	Total	5100	750	Р	µg/L	500 6/22/20	)21 7:29:05 AM	C79248

115

94.1

109

Ρ

Ρ

Ρ

%Rec

%Rec

%Rec

70-130

70-130

70-130

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 9 of 17

Xylenes, Total

Surr: Toluene-d8

Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

**Analytical Report** Lab Order 2106911

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/28/2021

6/22/2021 7:57:37 AM

6/22/2021 7:57:37 AM

6/22/2021 7:57:37 AM

6/22/2021 7:57:37 AM

C79248

C79248

C79248

C79248

CLIENT:	HILCORP ENERGY		Client Sample ID: MW 22						
Project:	Standard 1A		<b>Collection Date:</b> 6/14/2021 12:50:00 PM					50:00 PM	
Lab ID:	2106911-010	Matrix: (	GROUNDWA	Rec	eived Dat	e: 6/1	7/2021 8:0	0:00 AM	
Analyses		Res	sult I	RL Qu	al Units	DF	Date Ana	lyzed	Batch
EPA MET	THOD 8260: VOLATILES SH	ORT LIST						Analyst	JMR
Benzene	)		ND	1.0	µg/L	1	6/22/2021	7:57:37 AM	C79248
Toluene			ND	1.0	µg/L	1	6/22/2021	7:57:37 AM	C79248
Ethylben	izene		ND	1.0	µg/L	1	6/22/2021	7:57:37 AM	C79248

ND

122

106

108

1.5

70-130

70-130

70-130

µg/L

%Rec

%Rec

%Rec

1

1

1

1

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

Surr: Toluene-d8

**Analytical Report** Lab Order 2106911

Hall	Environmenta	al Anal	ysis L	aboratory	, Inc.
					/

Date Reported: 6/28/2021

6/22/2021 8:26:12 AM

6/22/2021 8:26:12 AM

6/22/2021 8:26:12 AM

C79248

C79248

C79248

CLIENT: HILCORP ENERGY	Client Sample ID: MW 23						
Project: Standard 1A	Collection Date: 6/14/2021 11:20:00 AM						
Lab ID: 2106911-011	Matrix: GROUN	DWA <b>Re</b>	ceived Da	te: 6/	17/2021 8:00:00 AM		
Analyses	Result	RL Qu	ual Units	DF	Date Analyzed	Batch	
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst	JMR	
Benzene	ND	1.0	µg/L	1	6/22/2021 8:26:12 AM	C79248	
Toluene	ND	1.0	µg/L	1	6/22/2021 8:26:12 AM	C79248	
Ethylbenzene	ND	1.0	µg/L	1	6/22/2021 8:26:12 AM	C79248	
Xylenes, Total	ND	1.5	µg/L	1	6/22/2021 8:26:12 AM	C79248	

117

104

107

70-130

70-130

70-130

%Rec

%Rec

%Rec

1

1

1

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Ethylbenzene

Xylenes, Total

Surr: Toluene-d8

Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 2106911

6/22/2021 8:54:45 AM

C79248

C79248

C79248

C79248

C79248

Date Reported: 6/28/2021

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 26						
Project:	Standard 1A	Collection Date: 6/14/2021 12:05:00 PM						
Lab ID:	2106911-012	Matrix: GROU	NDWA	Received Da	<b>te:</b> 6/	17/2021 8:00:00 AM		
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch	
ΕΡΑ ΜΕΊ	HOD 8260: VOLATILES SHORT	LIST				Analyst	: JMR	
Benzene	•	ND	1.0	µg/L	1	6/22/2021 8:54:45 AM	C79248	
Toluene		ND	1.0	µg/L	1	6/22/2021 8:54:45 AM	C79248	

ND

ND

116

99.3

108

1.0

1.5

70-130

70-130

70-130

µg/L

µg/L

%Rec

%Rec

%Rec

1

1

1

1

1

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

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Surr: 1,2-Dichloroethane-d4

Surr: Dibromofluoromethane

Surr: Toluene-d8

Hall Environmental Analysis Laboratory, Inc.

# Analytical Report Lab Order 2106911

Date Reported: 6/28/2021

6/22/2021 9:23:18 AM

6/22/2021 9:23:18 AM

6/22/2021 9:23:18 AM

C79248

C79248

C79248

CLIENT: HILCORP ENERGY	DRP ENERGY Client Sample ID: Trip Blank				ip Blank	
Project: Standard 1A	Collection Date:Matrix: GROUNDWAReceived Date: 6/17/2021 8:00:00 AM					
Lab ID: 2106911-013						
Analyses	Result	RL Qu	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst	JMR
Benzene	ND	1.0	µg/L	1	6/22/2021 9:23:18 AM	C79248
Toluene	ND	1.0	µg/L	1	6/22/2021 9:23:18 AM	C79248
Ethylbenzene	ND	1.0	µg/L	1	6/22/2021 9:23:18 AM	C79248
Xylenes, Total	ND	1.5	µg/L	1	6/22/2021 9:23:18 AM	C79248

114

102

109

70-130

70-130

70-130

%Rec

%Rec

%Rec

1

1

1

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Client: HIL Project: Star	CORP ENERG	θY								
Sample ID: 100ng Ics	Samp	Гуре: <b>LC</b>	S	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
Client ID: LCSW	Batc	h ID: <b>B7</b>	9248	F	RunNo: <b>7</b>	9248				
Prep Date:	Analysis [	Date: 6/	21/2021	5	SeqNo: 2	783054	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.7	70	130			
Toluene	22	1.0	20.00	0	111	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.7	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			
Sample ID: 100ng lcs2	Samp	Type: LC	S	Tes	tCode: E	PA Method	8260: Volatile	es Short L	_ist	
Client ID: LCSW	Batc	h ID: <b>C7</b>	9248	F	RunNo: <b>7</b>	9248				
Prep Date:	Analysis [	Date: 6/	22/2021	S	SeqNo: 2	783055	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	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		115	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.2	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			
Sample ID: mb	Samp	Type: ME	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	_ist	
Client ID: PBW	Batc	h ID: <b>B7</b>	9248	F	RunNo: <b>7</b>	9248				
Prep Date:	Analysis I	Date: 6/	21/2021	5	SeqNo: 2	783056	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	12		10.00		120	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.2	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			
Sample ID: mb2	Samp	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
Client ID: PBW	Batc	h ID: <b>C7</b>	9248	F	RunNo: <b>7</b>	9248				
Prep Date:	Analysis [	Date: 6/	22/2021	5	SeqNo: 2	783057	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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WO#: **2106911** 

28-Jun-21

Client: HILCO Project: Standar	RP ENERG	θY								
Sample ID: mb2	Samo	Type: MF		Tes	tCode: <b>F</b> I	PA Method	8260: Volatile	es Short I	ist	
Client ID: <b>DBW</b>	Boto	ыр. <b>ст</b>	0240	103		0240	0200. Volatik			
Prep Date:	Analvsis [	Date: 6/3	9240 22/2021	ſ	SeaNo: 2	9240 783057	Units: ua/L			
Analyte	Result	POI	SPK value	SPK Rof Val	%REC	Lowl imit	Highl imit	%RPD	RPDI imit	Qual
Fthylbenzene	ND	1.0			/01120	LOWEININ	riigneiniit	701 CT D		Quui
Xvlenes. Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	12	-	10.00		118	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		99.8	70	130			
Surr: Toluene-d8	11		10.00		106	70	130			
Sample ID: 2106911-007am	s Samp <sup>-</sup>	Гуре: <b>МS</b>	5	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: MW 15	Batc	h ID: <b>C7</b>	9248	F	RunNo: 7	9248				
Prep Date:	Analysis [	Date: 6/2	22/2021	S	SeqNo: <b>2</b>	783087	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	37000	500	10000	25660	118	70	130			
Toluene	11000	500	10000	421.7	106	70	130			
Surr: 1,2-Dichloroethane-d4	5400		5000		107	70	130			
Surr: 4-Bromofluorobenzene	5100		5000		102	70	130			
Surr: Dibromofluoromethane	5000		5000		100	70	130			
Surr: Toluene-d8	5100		5000		102	70	130			
Sample ID: 2106911-007am	sd Samp <sup>-</sup>	Туре: <b>МS</b>	D	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: MW 15	Batc	h ID: <b>C7</b>	9248	F	RunNo: 7	9248				
Prep Date:	Analysis [	Date: 6/2	22/2021	S	SeqNo: 2	783088	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	34000	500	10000	25660	86.4	70	130	8.85	20	
Toluene	10000	500	10000	421.7	95.7	70	130	9.72	20	
Surr: 1,2-Dichloroethane-d4	6300		5000		127	70	130	0	0	
Surr: 4-Bromofluorobenzene	5400		5000		107	70	130	0	0	
Surr: Dibromofluoromethane	5200		5000		103	70	130	0	0	
Surr: Toluene-d8	5200		5000		104	70	130	0	0	
Sample ID: 100ng lcs	Samp <sup>-</sup>	Туре: <b>LC</b>	S	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW	Batc	h ID: <b>R7</b>	9278	F	RunNo: 7	9278				
Prep Date:	Analysis [	Date: 6/2	22/2021	S	SeqNo: 2	784590	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	22	1.0	20.00	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.0	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

NDNot Detected at the Reporting LimitPQLPractical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

WO#:	210	5911
	20.7	

Client: Project:	HILCORP ENERG	Y								
Sample ID: 100ng	I <b>cs</b> SampT	ype: LC	S	Test	Code: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW	Batch	ID: <b>R7</b>	9278	R	unNo: 7	9278				
Prep Date:	Analysis D	ate: 6/	22/2021	S	eqNo: 2	784590	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Toluene-d8	10		10.00		102	70	130			
Sample ID: 100ng	Ics2 SampT	ype: LC	S	Test	Code: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW	Batch	ID: <b>B7</b>	9278	R	unNo: 7	9278				
Prep Date:	Analysis D	ate: 6/	23/2021	S	eqNo: 2	784591	Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroetha	ne-d4 11		10.00		107	70	130			
Surr: 4-Bromofluorobe	nzene 9.9		10.00		98.7	70	130			
Surr: Dibromofluorom	ethane 9.8		10.00		98.2	70	130			
Surr: Toluene-d8	11		10.00		108	70	130			
Sample ID: mb	SampT	ype: ME	BLK	Test	Code: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW	Batch	ID: <b>R7</b>	9278	R	unNo: 7	9278				
Prep Date:	Analysis D	ate: 6/	22/2021	S	eqNo: 2	784592	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroetha	ne-d4 12		10.00		122	70	130			
Surr: 4-Bromofluorobe	nzene 10		10.00		102	70	130			
Surr: Dibromofluorom	ethane 10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			
Sample ID: mb2	SampT	ype: ME	BLK	Test	Code: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW	Batch	ID: <b>B7</b>	9278	R	unNo: 7	9278				
Prep Date:	Analysis D	ate: 6/	23/2021	S	eqNo: 2	784593	Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroetha	ne-d4 11		10.00		106	70	130			
Surr: 4-Bromofluorobe	nzene 10		10.00		100	70	130			
Surr: Dibromofluorom	ethane 9.4		10.00		94.5	70	130			
Surr: Toluene-d8	11		10.00		107	70	130			
Sample ID: 100ng	l <b>cs</b> SampT	ype: LC	S	Test	Code: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW	Batch	ID: <b>S7</b>	9322	R	unNo: 7	9322				
Prep Date:	Analysis D	ate: 6/	23/2021	S	eqNo: 2	786189	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- Reporting Limit RL

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2106911

28-Jun-21

WO#:

**Client:** 

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

HILCORP ENERGY

Project: Standa	rd 1A									
Sample ID: 100ng Ics	SampT	ype: LC	S	Tes	tCode: El	PA Method	8260: Volatile	es Short L	ist	
Client ID: LCSW	Batch	h ID: <b>S7</b>	9322	F	RunNo: 7	9322				
Prep Date:	Analysis D	Date: 6/	23/2021	S	SeqNo: 2	786189	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	22	1.0	20.00	0	108	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		105	70	130			
Sample ID: mb	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW	Batch	h ID: <b>S7</b>	9322	F	RunNo: 7	9322				
Prep Date:	Analysis D	Date: 6/	23/2021	S	SeqNo: 2	786190	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.9	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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WO#: **2106911** 

Page 200 01 300	Page	200	of 300
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ENVIRONMENTAL ANALYSIS LABORATORY	TEL: 505-345-3 Website: client	4901 Hawkin Albuquerque, NM 8 975 FAX: 505-345- s.hallenvironmental	ns NE 7109 <b>Sai</b> 4107 1.com	mple Log-In Check List
Client Name: HILCORP ENERGY	Work Order Num	per: 2106911		RcptNo: 1
Received By: Tracy Casanchias	6/17/2021 8:00:00 /			
Completed By: Desiree Dominguez	6/17/2021 9:24:37 /	M	THE	
Reviewed By: Cel G/1	7/27		17 -X	
Chain of Custody				
1. Is Chain of Custody complete?		Yes 🔽	No 🗌	Not Present
2. How was the sample delivered?		Courier		
Log In				
5. Was an attempt made to cool the samples?		Yes 🔽	No 🗌	NA 🗌
4. Were all samples received at a temperature of	of >0° C to 6.0°C	Yes 🗹	No 🗌	
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗔	
<ol><li>Sufficient sample volume for indicated test(s)</li></ol>	?	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 🗌	
0. Were any sample containers received broken	?	Yes	No 🗹	# of preserved
1. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗌	bottles checked for pH:
2. Are matrices correctly identified on Chain of C	ustody?	Yes 🗸	No 🗌	Adjusted?
3. Is it clear what analyses were requested?		Yes 🔽	No 🗌	
<ol> <li>Were all holding times able to be met? (If no, notify customer for authorization.)</li> </ol>		Yes 🗹	No 🗌	Checked by: SPA 6.1
pecial Handling (if applicable)				
5. Was client notified of all discrepancies with th	is order?	Yes	No 🗌	NA 🔽
Person Notified:	Date:			
By Whom:	Via:	eMail Ph	one 🗌 Eav	
Regarding:				
Client Instructions:				
6. Additional remarks:				
7. <u>Cooler Information</u> Cooler No Temp <sup>o</sup> C Condition Sea	I Intact Seal No	Seal Date S	Signed By	

Page 1 of 1

Client         H.I.Ler, P.         Restand         Run Large		Chain	-of-CI	ustody Record	Turn-Around	d Time:						i		0		
Maing Address:         Multiple Address:         Project Name:         Project Nam:         Project Nam:         Proj	Client	HI	C012		🗹 Standar	d 🗆 Rusl	Ę				I A L			NON.	UMENTA OPATO	
Walling Actives:         Scondard         #1A           Willing Actives:         Stondard         #1A           Propert #:         Propert #:         Automation Mission           Analysis Restand         Propert #:         Automation           Analysis Restand         Danky Sursy - ws P           Analysis Restands         Danky Sursy - ws P           Analysis Restands         Danky Restands           Analysis Restands         Danky Restands           Analysis Restands         Danky Restands           Analysis Restands         Danky Restands           Analysis Restands         Restands <td></td> <td>Mitch</td> <td>rilling and</td> <td>0 1.</td> <td>Project Nam</td> <td>le:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>OINNO</td> <td>Z</td>		Mitch	rilling and	0 1.	Project Nam	le:									OINNO	Z
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Phone #:         Anti-Sis Request           Email of Fack*         Mr. (Ind.)         Donny         Burris         Level 4 (Full Validation)         Donny         Burris         Manager         Anti-Sis Request           Element of Fack*         I Level 4 (Full Validation)         Donny         Burris         Donny         Burris         Burris<					Project #:			-	Le L	505-34	5-397		ax 50	15-345-4	107	
email of Fact:         morilian, Exiting, E	Phone	:#:										Analy	sis R	equest		
QACC Faclege:         Donny Burns - ws P         Donny Burns - ws P         Donny Burns - ws P           REStandard:         □ Level 4 (Full Validation)         Donny Burns - ws P         Donne         Exceeding (Full Validation)           Accredition:         □ Az Compliance         Donne         Sampler: France         Donne         Exceeding (Full Validation)           Discredition:         □ Az Compliance         Donne         Exceeding (Full Validation)         Donne         Exceeding (Full Validation)           Date         Time         Markix         Sampler: France         Donne         Exceeding (Full Validation)           Date         Time         Markix         Sampler         Donne         Exceeding (Full Validation)           Date         Time         Markix         Sampler         Donne         Donne         Exceeding (Full Validation)           Date         Time         Markix         Sampler         Donne         Donne         Exceeding (Full Validation)           Date         Time         Markix         Sampler         Time         Donne         Donne         Donne           Date         Time         Markix         Sampler         Time         Donne         Done         Done         Done           Date         Time	email (	or Fax#:	mrillou	tob @ hilcorp.com	Project Man	ager:		()	(0		-	¢C	-	(fi		
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Accreditation:         DA. Complete         Sampler:         L. Correl           0 NELAC         00tes         # 705         #	図 Sta	ndard		Level 4 (Full Validation)				) 5,8			IS0	Ъ		\. A\Jr		
Lanchol         Onlisit         Arres         No           Lanchol         Lorent         Mained	Accred	ditation:		ompliance	Sampler:	5. Carrol		3MT	707 7808	(1.4	728	' <sup>7</sup> ON		iəsə. (		
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Date         Time         Matrix         Sample Name         Cooler Temperatures         HEAL No.         Matrix         Matrix         Sample Name         Cooler Temperatures         HEAL No.         Matrix         Sample Name         Container         Preservative         Matrix         Sample Name         Container         Preservative         Matrix         Sample Name         Container         Preservative         Matrix         Matrix<		D (Type)			# of Coolers.	1 .		38	HD) abi	g po	01	103		) Ш.		
Date         Time         Matrix         Sample Name         Container         Preservative         HEAL NO.         HEAL NO		1			Cooler Tem	D(including CF): 0 .	() 1-0-0-	TM-	15D	oqtə	58 Y	3t' V	(AO	-inne olifor		
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	DID6911	BTEXI	08:H9T	EDB (M	d eHA9	CI' E' E	A) 0928	c) 0120 Total Co		
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$ \begin{bmatrix} 16.37 \\ 11:40 \\ 13:15 \\ 13:15 \\ 13:15 \\ 14.11 \\ 13:15 \\ 14.12 \\ 14.12 \\ 15:15 \\ 14.12 \\ 14.16 \\ 14.16 \\ 14.16 \\ 14.16 \\ 14.16 \\ 14.12 \\ 14.16 \\ 14.12 \\ 14.16 \\ 14.12 \\ 1$	-	1600	-	MWOH	1		-002				-		-			
1:40  $Muu 08$ $-004$ $1006$ </td <td></td> <td>1636</td> <td></td> <td>MW 05</td> <td></td> <td></td> <td>- 003</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		1636		MW 05			- 003									
$13.15$ $M_W 11$ $-205$ $  1 \cdot 15$ $-205$ $  1 \cdot 15$ $  1 \cdot 15$ $15:35$ $M_W 13$ $-006$ $  1 \cdot 15$ $-007$ $  1 \cdot 15$ $  1 \cdot 15$ $12:36$ $M_W 16$ $-007$ $  0 \cdot 15$ $  0 \cdot 15$ $  0 \cdot 15$ $  0 \cdot 15$ $12:36$ $M_W 19$ $-007$ $  0 \cdot 15$ $  0 \cdot 15$ $  0 \cdot 15$ $  0 \cdot 15$ $12:55$ $M_W 13$ $-007$ $-007$ $  0 \cdot 15$ $  0 \cdot 15$ $  0 \cdot 15$ $11:26$ $M_W 22$ $M_W 22$ $-010$ $-011$ $  1 \cdot 12$ $  1 \cdot 126$ $  1 \cdot $	-	04:11	_	MW 08			400-		_				-			
13:35 $Mw$ 13 $-006$ $-007$ $-001$ $-010$ $-010$ $-010$ $-010$ $-011$ $-010$ $-011$ <td></td> <td>13:15</td> <td></td> <td>MW11</td> <td>-</td> <td></td> <td>-005</td> <td></td> <td>-</td> <td></td> <td>7</td> <td>•</td> <td></td> <td></td> <td></td> <td></td>		13:15		MW11	-		-005		-		7	•				
15:35 $Mu$ 15 $-corr$	-	13:35		RI WW			-006									
12:36 $mu$ 15 $mu$ 15 $mu$ 15 $-003$ $10$ $1$	-	15:35		ML 15			£00 -		-				-			
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Date:     Time:     Relinquished by:     Pace     Date     Time     Remarks:       C-1L     1330     Excellence     CC:     eric.carroll @ usp.com       Coll     1330     Excellence     Date     Time       Date:     Time:     Relinquished by:     Via:     Nate       Date:     Time:     Relinquished by:     Via:     Date       Date:     Time:     Relinquished by:     Via:     Date       Date:     Time:     Relinquished by:     Nate     Date	)	12:05	71	MW 20	K	>1	- 012				-					
6-16 1330 Erec carrol @ usp.com Date: Time: Relinquished by: Received by: Via: No Date Time Date Time Daniel. Burns @ WSp.com Will 100 NDVD/MARK - 013 SPA 6.17.21	Date:	Time:	Relinquish	ed by:	Received by:	Via:	Date Time	Rema	rks:							
Date: Time: Relinquished by: Received by: Via: No Date Time Daniel. Burns @ W5P.Com W/10 1000 MD00 MAC SPA 6.17.21 Bio MTRiP Blank - 013 SPA 6.17.21	6-16	1330	Ede	i carcell	( ) Other	NON CALO	12/11/12/1330		20	2	2-21	arroll	8	152.00	W	- "8
Who Was Notonnew K - amon longer (A) TRIP Blank - 013 SPA 6.17.21	Date:	Time:	Relinquish		Received by:	Via: NO	Date Time	1		Da	niel.	SUNN	00	052.00	5	
	UNIQ	1200	1 DOU	XIMPANA	1/m	CONTEN	(0.13.7.1 B.W	K	12	AR	A~K		0,	M	5. 71.3 Kgs	-



October 06, 2021

Mitch Killough HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com

OrderNo.: 2109E91

Dear Mitch Killough:

RE: Standard 1

Hall Environmental Analysis Laboratory received 16 sample(s) on 9/25/2021 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

						Analytical Report	
Hall Environ	nmental Analysis L	aboratory,	Inc.			Date Reported: 10/6	5/2021
CLIENT:	HILCORP ENERGY				Ι	Lab Order: 21091	 E91
Project:	Standard 1						
Lab ID:	2109E91-001		C	ollecti	on Date	e: 9/20/2021 12:00:00 I	PM
<b>Client Sample ID:</b>	MW01				Matrix	K: GROUNDWATER	
Analyses		Result	RL	Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 80	21B: VOLATILES					Ana	alyst: CCM
Benzene		27000	1000		µg/L	1E+ 9/30/2021 3:20:00	PM R81727
Toluene		39000	1000		μg/L	1E+ 9/30/2021 3:20:00	PM R81727
Ethylbenzene		1300	50		µg/L	50 9/28/2021 4:37:00	PM R81641
Xylenes, Total		15000	1000		µg/L	500 9/29/2021 11:28:00	0 AM R81652
Surr: 4-Bromofle	uorobenzene	92.3	70-130		%Rec	50 9/28/2021 4:37:00	PM R81641
Lab ID:	2109E91-002		C	ollecti	on Date	e: 9/20/2021 11:35:00 A	AM
Client Sample ID:	MW02				Matrix	<b>k:</b> GROUNDWATER	
Analyses		Result	RL	Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 80	21B: VOLATILES					Ana	alyst: <b>RAA</b>
Benzene		15000	1000	Р	µg/L	1E+ 9/28/2021 5:36:00	PM R81641
Toluene		7300	1000	Р	μg/L	1E+ 9/28/2021 5:36:00	PM R81641
Ethylbenzene		1600	100	Р	µg/L	100 9/28/2021 5:56:00	PM R81641
Xylenes, Total		20000	2000	Р	µg/L	1E+ 9/28/2021 5:36:00	PM R81641
Surr: 4-Bromofle	uorobenzene	101	70-130	Ρ	%Rec	100 9/28/2021 5:56:00	PM R81641
Lab ID:	2109E91-003		C	ollecti	on Date	e: 9/23/2021 12:35:00 I	PM
Client Sample ID:	MW03				Matrix	<b>x:</b> GROUNDWATER	
Analyses		Result	RL	Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 80	21B: VOLATILES					Ana	alyst: RAA
Benzene		13000	1000		µg/L	1E+ 9/28/2021 6:15:00	PM R81641
Toluene		4200	100		μg/L	100 9/28/2021 6:35:00	PM R81641
Ethylbenzene		340	100		μg/L	100 9/28/2021 6:35:00	PM R81641
Xylenes, Total		8200	200		µg/L	100 9/28/2021 6:35:00	PM R81641
Surr: 4-Bromofle	uorobenzene	86.8	70-130		%Rec	100 9/28/2021 6:35:00	PM R81641

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

E Value above quantitation range

Analyte detected in the associated Method Blank

- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Page 1 of 9

Hall Environ	mental Analysis L	aboratory,	Inc.			A L L	Analytical Lab Order: 2 Date Report	Report 2109E91 ed: 10/6	/2021	
CLIENT: H Project: S	HILCORP ENERGY Standard 1				Ι	.ab C	)rder:	2109E	E91	
Lab ID:	2109E91-004		C	ollecti	on Date	e: 9/2	20/2021 2:	15:00 PI	М	
Client Sample ID:	MW04				Matrix	: GI	ROUNDW	ATER		
Analyses		Result	RL	Qual	Units	DF	Date Ana	alyzed	Ba	tch ID
EPA METHOD 802	21B: VOLATILES							Ana	alyst:	RAA
Benzene		830	50		µg/L	50	9/28/2021	6:54:00	PM	R81641
Toluene		45	5.0		μg/L	5	9/28/2021	7:14:00	PM	R81641
Ethylbenzene		51	5.0		μg/L	5	9/28/2021	7:14:00	PM	R81641
Xylenes, Total		140	10		µg/L	5	9/28/2021	7:14:00	PM	R81641
Surr: 4-Bromoflu	orobenzene	88.8	70-130		%Rec	5	9/28/2021	7:14:00	PM	R81641
Lab ID:	2109E91-005		С	ollecti	on Date	: 9/2	20/2021 2:	25:00 PI	М	
Client Sample ID:	MW05				Matrix	: GI	ROUNDW	ATER		
Analyses		Result	RL	Qual	Units	DF	Date Ana	alyzed	Ba	tch ID
EPA METHOD 802	21B: VOLATILES							Ana	alyst:	ССМ
Benzene		3500	500		µg/L	50	0 9/29/2021	11:48:00	MA C	R81652
Toluene		4000	500		µg/L	50	0 9/29/2021	11:48:00	D AM	R81652
Ethylbenzene		800	50		µg/L	50	9/28/2021	7:34:00	PM	R81641
Xylenes, Total		20000	1000		µg/L	50	0 9/29/2021	11:48:00	) AM	R81652
Surr: 4-Bromoflu	orobenzene	96.0	70-130		%Rec	50	9/28/2021	7:34:00	РМ	R81641
Lab ID:	2109E91-006		C	ollecti	on Date	: 9/2	20/2021 2:	45:00 PI	М	
Client Sample ID:	MW06				Matrix	: GI	ROUNDW	ATER		
Analyses		Result	RL	Qual	Units	DF	Date Ana	alyzed	Ba	tch ID
EPA METHOD 802	21B: VOLATILES							Ana	alyst:	ССМ
Benzene		14000	500		ua/L	50	0 9/29/2021	12:08:00	D PM	R81652
Toluene		19000	500		µg/L	50	0 9/29/2021	12:08:00	) PM	R81652
Ethylbenzene		1300	500		µg/L	50	0 9/29/2021	12:08:00	) PM	R81652
Xylenes, Total		16000	1000		μg/L	50	0 9/29/2021	12:08:00	) PM	R81652
Surr: 4-Bromoflu	orobenzene	92.1	70-130		%Rec	50	0 9/29/2021	12:08:00	) PM	R81652

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
- % Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

- Analyte detected below quantitation limits J
- Sample pH Not In Range Р
- RL Reporting Limit

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Page 2 of 9

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						A L	Analytical Rep Lab Order: 2109	ort E91	
Hall Environ	mental Analysis L	aboratory,	Inc.			Ι	Date Reported:	10/6/202	1
CLIENT: H	HILCORP ENERGY				Ι	Lab C	<b>Drder:</b> 21	09E91	
Project: S	Standard 1								
Lab ID:	2109E91-007		C	ollecti	on Date	e: 9/2	23/2021 12:15:	00 PM	
Client Sample ID:	MW08				Matrix	: GI	ROUNDWATE	ER	
Analyses		Result	RL	Qual	Units	DF	Date Analyze	ed B	atch ID
EPA METHOD 802	21B: VOLATILES							Analyst	CCM
Benzene		ND	1.0		µg/L	1	9/29/2021 1:06	3:00 PM	R81652
Toluene		ND	1.0		μg/L	1	9/29/2021 1:06	3:00 PM	R81652
Ethylbenzene		ND	1.0		µg/L	1	9/29/2021 1:06	3:00 PM	R81652
Xylenes, Total		ND	2.0		µg/L	1	9/29/2021 1:06	3:00 PM	R81652
Surr: 4-Bromoflu	orobenzene	87.6	70-130		%Rec	1	9/29/2021 1:06	3:00 PM	R81652
Lab ID:	2109E91-008		C	ollecti	on Date	e: 9/2	23/2021 10:30:	00 AM	
<b>Client Sample ID:</b>	MW10				Matrix	K: GH	ROUNDWATE	ER	
Analyses		Result	RL	Qual	Units	DF	Date Analyze	ed B	atch ID
EPA METHOD 802	21B: VOLATILES							Analyst	CCM
Benzene		19000	500		µg/L	50	0 9/30/2021 2:2 <sup>2</sup>	1:00 PM	R81727
Toluene		4800	500		μg/L	50	0 9/30/2021 2:2 <sup>,</sup>	1:00 PM	R81727
Ethylbenzene		1400	50		µg/L	50	9/29/2021 1:26	3:00 PM	R81652
Xylenes, Total		15000	1000		µg/L	50	0 9/30/2021 2:2 <sup>2</sup>	I:00 PM	R81727
Surr: 4-Bromoflu	orobenzene	97.3	70-130		%Rec	50	9/29/2021 1:26	3:00 PM	R81652
Lab ID:	2109E91-009		С	ollecti	on Date	e: 9/2	23/2021 5:46:0	0 PM	
Client Sample ID:	MW11				Matrix	: GI	ROUNDWATE	ER	
Analyses		Result	RL	Qual	Units	DF	Date Analyze	ed B	atch ID
EPA METHOD 802	21B: VOLATILES							Analyst	CCM
Benzene		ND	1.0		µq/L	1	9/29/2021 1:46	3:00 PM	R81652
Toluene		ND	1.0		μg/L	1	9/29/2021 1:46	3:00 PM	R81652
Ethylbenzene		ND	1.0		μg/L	1	9/29/2021 1:46	3:00 PM	R81652
Xylenes, Total		ND	2.0		μg/L	1	9/29/2021 1:46	3:00 PM	R81652
Surr: 4-Bromoflu	orobenzene	86.0	70-130		%Rec	1	9/29/2021 1:46	3:00 PM	R81652

**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
- % Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

- Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- P Sample pH Not RL Reporting Limit

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Hall Environ	mental Analysis L	aboratory,	Inc.			Analytical Repor Lab Order: 2109E9 Date Reported: 10/	t 1 6/2021	
CLIENT: H Project: S	HILCORP ENERGY Standard 1				Ι	Lab Order: 2109	)E91	
Lab ID:	2109E91-010		С	ollecti	on Date	e: 9/24/2021 11:05:00	AM	
Client Sample ID:	MW14				Matrix	<b>K:</b> GROUNDWATER		
Analyses		Result	RL	Qual	Units	DF Date Analyzed	Batch I	ID
EPA METHOD 802	21B: VOLATILES					Ar	nalyst: CC	м
Benzene		7100	500		µg/L	500 9/29/2021 2:05:00	) PM R81	652
Toluene		9200	500		µg/L	500 9/29/2021 2:05:00	) PM R81	652
Ethylbenzene		800	50		µg/L	50 9/29/2021 2:25:00	) PM R81	652
Xylenes, Total		14000	1000		µg/L	500 9/29/2021 2:05:00	) PM R81	652
Surr: 4-Bromoflue	orobenzene	91.8	70-130		%Rec	50 9/29/2021 2:25:00	) PM R81	652
Lab ID:	2109E91-011		C	ollecti	on Date	e: 9/23/2021 12:04:00	PM	
Client Sample ID:	MW15				Matrix	<b>K:</b> GROUNDWATER		
Analyses		Result	RL	Qual	Units	DF Date Analyzed	Batch 3	ID
EPA METHOD 802	21B: VOLATILES					Ar	nalyst: <b>CC</b> I	М
Benzene		22000	500		µg/L	500 9/29/2021 2:45:00	) PM R81	652
Toluene		820	50		μg/L	50 9/29/2021 3:04:00	) PM R81	652
Ethylbenzene		570	50		μg/L	50 9/29/2021 3:04:00	) PM R81	652
Xylenes, Total		6600	1000		μg/L	500 9/29/2021 2:45:00	) PM R81	652
Surr: 4-Bromoflue	orobenzene	92.5	70-130		%Rec	50 9/29/2021 3:04:00	) PM R81	652
Lab ID:	2109E91-012		C	ollecti	on Date	e: 9/23/2021 5:00:00 H	РМ	
Client Sample ID:	MW16				Matrix	K: GROUNDWATER		
Analyses		Result	RL	Qual	Units	DF Date Analyzed	Batch ]	ID
EPA METHOD 802	21B: VOLATILES					Ar	nalyst: <b>CC</b> I	м
Benzene		320	50		ua/L	50 9/29/2021 3:44:00	) PM R81	652
Toluene		620	50		µg/L	50 9/29/2021 3:44:00	) PM R81	652
Ethylbenzene		710	50		µg/L	50 9/29/2021 3:44:00	) PM R81	652
Xylenes, Total		17000	1000		μg/L	500 9/30/2021 2:41:00	2 PM R81	727
Surr: 4-Bromoflue	orobenzene	94.6	70-130		%Rec	50 9/29/2021 3:44:00	) PM R81	652

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
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank Е Value above quantitation range
- Analyte detected below quantitation limits J
- Sample pH Not In Range Р
- P Sample pH Not RL Reporting Limit

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Released to Imaging: 1/17/2023 1:49:55 PM

Hall Environmental Analysis Laboratory, Inc.							Analytical ReportLab Order: 2109E91Date Reported: 10/6/2021							
CLIENT: H Project: S	HILCORP ENERGY				Ι	Lab C	)rder:	2109E9	<del>9</del> 1					
Troject.														
Lab ID:	2109E91-013		C	ollecti	on Date	e: 9/2	24/2021 11	:52:00 Al	Μ					
Client Sample ID:	MW18				Matrix	K: GI	ROUNDW	ATER						
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed	Ba	tch ID				
EPA METHOD 802	21B: VOLATILES							Anal	yst:	ССМ				
Benzene		5300	500	Р	µg/L	50	0 9/29/2021	4:03:00 P	M	R81652				
Toluene		ND	50	Р	μg/L	50	9/29/2021	4:23:00 P	M	R81652				
Ethylbenzene		370	50	Р	μg/L	50	9/29/2021	4:23:00 P	M	R81652				
Xylenes, Total		ND	100	Р	µg/L	50	9/29/2021	4:23:00 P	ıM	R81652				
Surr: 4-Bromoflu	orobenzene	84.9	70-130	Ρ	%Rec	50	9/29/2021	4:23:00 P	M	R81652				
Lab ID:	2109E91-014		C	ollecti	on Date	e: 9/2	23/2021 3:5	57:00 PM	ſ					
<b>Client Sample ID:</b>	MW19				Matrix	k: GI	ROUNDW	ATER						
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed	Ba	tch ID				
EPA METHOD 802	21B: VOLATILES							Anal	yst:	ССМ				
Benzene		14000	500		µg/L	50	0 9/29/2021	4:43:00 P	M	R81652				
Toluene		9900	500		µg/L	50	0 9/29/2021	4:43:00 P	ıM	R81652				
Ethylbenzene		1100	50		µg/L	50	9/29/2021	5:02:00 P	ıM	R81652				
Xylenes, Total		4800	100		µg/L	50	9/29/2021	5:02:00 P	Μ	R81652				
Surr: 4-Bromoflu	orobenzene	89.8	70-130		%Rec	50	9/29/2021	5:02:00 P	M	R81652				
Lab ID:	2109E91-015		C	ollecti	on Date	e: 9/2	23/2021 5:2	20:00 PM	ſ					
<b>Client Sample ID:</b>	MW22				Matrix	k: GI	ROUNDW	ATER						
Analyses		Result	RL	Qual	Units	DF	Date Ana	lyzed	Ba	tch ID				
EPA METHOD 802	21B: VOLATILES							Anal	yst:	ССМ				
Benzene		ND	1.0		ua/I	1	9/29/2021	5:22:00 P	M	R81652				
Toluene		ND	1.0		ua/L	1	9/29/2021	5:22:00 P	M	R81652				
Ethylbenzene		ND	1.0		µg/L	1	9/29/2021	5:22:00 P	M	R81652				
Xylenes, Total		ND	2.0		µg/L	1	9/29/2021	5:22:00 P	M	R81652				
Surr: 4-Bromoflu	orobenzene	86.5	70-130		%Rec	1	9/29/2021	5:22:00 P	'M	R81652				

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.
  - D Sample Diluted Due to Matrix
  - Holding times for preparation or analysis exceeded Н
  - ND Not Detected at the Reporting Limit
  - PQL Practical Quanitative Limit
  - % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank Е Value above quantitation range
- Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: 4-Bromofluorobenzene

### Hall Environmental Analysis Laboratory Inc.

**Analytical Report** Lab Order: 2109E91

9/29/2021 5:41:00 PM R81652

Hall Envi	ronmental Analysis L		Date Reported: 10/6/2021						
CLIENT: Project:	HILCORP ENERGY Standard 1			Ι	.ab (	<b>Order:</b> 2109	E91		
Lab ID: Client Sample	2109E91-016 e ID: MW26		Collect	ion Date Matrix	e: 9/2 c: Gl	24/2021 12:50:00 ROUNDWATER	PM		
Analyses		Result	RL Qual	Units	DF	Date Analyzed	Ba	tch ID	
EPA METHO	D 8021B: VOLATILES					An	alyst:	ССМ	
Benzene		ND	1.0	µg/L	1	9/29/2021 5:41:00	PM	R81652	
Toluene		ND	1.0	µg/L	1	9/29/2021 5:41:00	PM	R81652	
Ethylbenzene	9	ND	1.0	µg/L	1	9/29/2021 5:41:00	PM	R81652	
Xylenes, Tota	al	ND	2.0	µg/L	1	9/29/2021 5:41:00	PM	R81652	

89.0

70-130

%Rec 1

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

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix s

Value above quantitation range Е

Analyte detected in the associated Method Blank

- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Client:** 

### QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

HILCORP ENERGY

Project:	Standard	1									
Sample ID:	100ng btex lcs	SampTy	pe: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batch	ID: <b>R8</b>	1641	F	RunNo: <b>8</b>	1641				
Prep Date:		Analysis Da	ite: 9/	28/2021	5	SeqNo: 2	885639	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		19	1.0	20.00	0	93.5	80	120			
Toluene		19	1.0	20.00	0	94.7	80	120			
Ethylbenzene		19	1.0	20.00	0	97.4	80	120			
Xylenes, Total		59	2.0	60.00	0	98.5	80	120			
Surr: 4-Brom	ofluorobenzene	18		20.00		89.1	70	130			
Sample ID:	ample ID: mb SampType: MBLK TestCode: EPA Method 8021B: Volatiles										
Client ID:	PBW	Batch	ID: <b>R8</b>	1641	F	RunNo: <b>8</b>	1641				
Prep Date:		Analysis Da	ite: 9/	28/2021	S	SeqNo: 2	885640	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Brom	ofluorobenzene	15		20.00		76.7	70	130			
Sample ID:	2109e91-001a ms	SampTy	pe: <b>M</b> \$	6	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	MW01	Batch	ID: <b>R8</b>	1641	F	RunNo: <b>8</b>	1641				
Prep Date:		Analysis Da	ite: 9/	28/2021	S	SeqNo: 2	885642	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		27000	50	1000	25140	181	80	120			ES
Toluene		38000	50	1000	34940	271	80	120			ES
Ethylbenzene		2400	50	1000	1311	109	80	120			
Xylenes, Total		17000	100	3000	13630	129	80	120			ES
Surr: 4-Brom	ofluorobenzene	940		1000		93.6	70	130			
Sample ID:	2109E91-001A MS	D SampTy	pe: <b>M</b> \$	SD	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	MW01	Batch	ID: <b>R8</b>	1641	F	RunNo: <b>8</b>	1641				
Prep Date:		Analysis Da	ite: <b>9/</b>	28/2021	S	SeqNo: 2	885643	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		25000	50	1000	25140	19.9	80	120	6.15	20	ES
Toluene		35000	50	1000	34940	24.6	80	120	6.77	20	ES
Ethylbenzene		2200	50	1000	1311	92.6	80	120	6.96	20	
Xylenes, Total		16000	100	3000	13630	90.4	80	120	6.77	20	E
Surr: 4-Brom	ofluorobenzene	900		1000		89.5	70	130	0	0	

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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WO#: **2109E91** 

06-Oct-21

Client:	HILCORE	PENERG	Y								
Project:	Standard	1									
Sample ID: 10	0ng btex lcs	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LC	CSW	Batch	n ID: <b>R8</b>	1652	F	RunNo: 8	1652				
Prep Date:		Analysis D	ate: 9/	29/2021	S	SeqNo: 2	886199	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	80	120			
Toluene		21	1.0	20.00	0	106	80	120			
Ethylbenzene		22	1.0	20.00	0	110	80	120			
Xylenes, Total		66	2.0	60.00	0	110	80	120			
Surr: 4-Bromoflu	uorobenzene	18		20.00		90.2	70	130			
Sample ID: m	b	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PE	BW	Batch	n ID: R8	1652	F	RunNo: 8	1652				
Prep Date:		Analysis D	ate: 9/	29/2021	S	SeqNo: 2	886203	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bromoflu	uorobenzene	17		20.00		84.4	70	130			
Sample ID: 21	09E91-006ams	SampT	ype: MS	6	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: M	W06	Batch	n ID: R8	1652	F	RunNo: 8	1652				
Prep Date:		Analysis D	ate: 9/	29/2021	S	SeqNo: 2	887861	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		23000	500	10000	13600	91.5	80	120			
Toluene		28000	500	10000	19250	90.6	80	120			
Ethylbenzene		11000	500	10000	1264	97.3	80	120			
Xylenes, Total		46000	1000	30000	16490	97.9	80	120			
Surr: 4-Bromoflu	Jorobenzene	8500		10000		85.2	70	130			
Sample ID: 21	09E91-006amsd	SampT	уре: <b>М</b>	SD	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: M	W06	Batch	n ID: <b>R8</b>	1652	F	RunNo: 8	1652				
Prep Date:		Analysis D	ate: 9/	29/2021	S	SeqNo: 2	887862	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		22000	500	10000	13600	86.2	80	120	2.38	20	
Toluene		28000	500	10000	19250	85.0	80	120	1.98	20	
Ethylbenzene		11000	500	10000	1264	95.2	80	120	1.90	20	
Xylenes, Total		45000	1000	30000	16490	95.8	80	120	1.42	20	
Surr: 4-Bromoflu	Jorobenzene	8500		10000		84.8	70	130	0	0	

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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WO#: **2109E91** 

Client:	HILCOR	P ENERG	Y								
Project:	Standard	1									
Sample ID: 100ng	btex lcs	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSW		Batch	n ID: <b>R8</b>	1727	F	RunNo: <b>8</b>	1727				
Prep Date:		Analysis D	)ate: <b>9/</b>	30/2021	S	SeqNo: 2	889432	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		20	1.0	20.00	0	102	80	120			
Toluene		21	1.0	20.00	0	104	80	120			
Xylenes, Total		65	2.0	60.00	0	108	80	120			
Surr: 4-Bromofluorob	enzene	18		20.00		89.0	70	130			
Sample ID: mb		SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBW		Batch	n ID: <b>R8</b>	1727	F	RunNo: <b>8</b>	1727				
Prep Date:		Analysis D	)ate: <b>9/</b>	30/2021	S	SeqNo: 2	889433	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								
Xylenes, Total		ND	2.0								
Surr: 4-Bromofluorobe	enzene	18		20.00		87.8	70	130			

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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WO#: **2109E91** 

06-Oct-21

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Analysis A 4901 H Albuquerque, TEL: 505-345-3975 FAX: 505 Website: clients.hallenvironi	Laboratory Tawkins NE NM 87109 Sa 5-345-4107 mental.com	mple Log-In Check List
Client Name: Hilcorp Energy V	Vork Order Number: 2109E9	1	RcptNo: 1
Received By: Tracy Casarrubias 9/2	5/2021 8:48:00 AM		
Completed By: Juan Rojas 9/2	5/2021 10:36:42 AM	quan Eng	1_
Reviewed By: KPG 9/27/2	.1		
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 🗌	
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 pre-	served? Yes 🗹	No 🗌	
3. Was preservative added to bottles?	Yes 🗌	No 🔽	NA 🗌
9. Received at least 1 vial with headspace <1/4" for A	AQ VOA? Yes	No 🗌	NA 🗹
0, Were any sample containers received broken?	Yes	No 🗹	# of preserved
1. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No 🗌	for pH: (<2 or >12 unless noted)
2. Are matrices correctly identified on Chain of Custo	dy? Yes 🗹	No 🗌	Adjusted?
3. Is it clear what analyses were requested?	Yes 🗹	No 🗌	
4. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🔽	No 🗌	Checked by: JR 9 27 2
pecial Handling (if applicable)			
15. Was client notified of all discrepancies with this or	der? Yes	No 🗋	NA 😒
Person Notified:	Date		
By Whom:	Via: 🗌 eMail	Phone Fax	In Person
Regarding:			
Client Instructions:			
6. Additional remarks:			
17. <u>Cooler Information</u> Cooler No Temp ⁰C Condition Seal Int 1 5.3 Good 2 8.4 Good	act Seal No Seal Date	Signed By	

Page 1 of 1

Received by OCD: 11/20/2022 1:44:15 PM

Client: Hillorg Ath. Mithual Rush Address: Mailing Address: Project Name: Standard Rush Mailing Address: Project Manage: フanny Addres: Danny. Buny, Buny Danny. Buny Contres: Danny. Currs Of Danny. Currs Of Danns Danne Currs Of Danne Danne Currs Of Danne Danne Dan	1 41		HALL	ENV	I N N ON I	
H. M. Hel Nell on Standard Aailing Address: hone #: mail or Fax#: A/QC Package: Standard 」 Level 4 (Full Validation) Standard 」 Zevel 4 (Full Validation) Contres: のther A Danse: のther Contres: のther	177		ANAI	VCTC	ABODA	TODV
Aailing Address: Aailing Address: Project #: 7E 01 7006 Project Manager: フゕハリ MA/QC Package: Standard 」 Level 4 (Full Validation) Standard 」 Az Compliance Sampler: (Ceve Hersen / N	トレン		www.hal	lenvironn	nental.com	
Project #: 7E 01 7006 Phone #: mail or Fax#: Project Manager: <i>门 の</i> かり AA/QC Package: DAN 9.13 urn5 の Standard Level 4 (Full Validation) Sampler: <b>(</b> eve. Heren / N NFLAC. D Other On Ice: 可 Vac. I		4901 Hav	vkins NE -	Albuque	erque, NM 87109	
Phone #:     Project Manager: ハー・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・		Tel. 505-	-345-3975	Fax	505-345-4107	
imail or Fax#: Project Manager: ファルハ 2A/QC Package: ファルソ・パラルーン の 3 Standard □ Level 4 (Full Validation) Sampler: <i>Rever Herser</i> N NFLAC □ Other On Ice: Type			A	nalysis I	Request	a shell be a set
Danny.(Furns C) Standard □ Level 4 (Full Validation) Standard □ Az Compliance Sampler: (Ceve Hージン) NFI AC □ Other	, Burns	(0) (T		<sup>⊅</sup> O	(ţu	
Accreditation:   Accreditation:  Az Compliance  NFI AC.  On Ice:  Net Ac.	meg. dem	СВ, <sup>2</sup> \	SMI	S '⁺O	əsdA	
ccreditation: コ Az Compliance Sampler: (イー・レート・ Area I		2 P 2 P	502	с <sup>у,</sup> Б	Дue	
	lat Paulica	MT 808\ 808\	(1.40) r 82	ON	orese 7)	
D EDD (Type) # of Coolers: 7		Seb Ser B SE/	sls:	' <sup>8</sup> O	4) m	
Cooler Temp(including CF): S 0.0	e Remounds (°C)	<del>MTI</del> 5D( stici	68 v	И , , (AC	-ime Inoîil	
ate Time Matrix Sample Name Type and # Type	HEAL No.	- VX JTB 108:H9T 8081 Pe	NN) add (d sHA9 8 AADA	8560 (VG CI, F, B	82) 0728 Total Co	
-20-21 1200 Gaw MW301 3 VOA 144	100-					
20-21 1135 1 MW02	-002					
23-21 43-56 M M 03	2007					
-zord 1415 Musch	100-	1				
1425 MW 05	SNO-					
× 1445 NWO6	206					
-23 1215 / MWOB & HCI	F00-					
1030 MW10 1100 140C1	-008-					
* 1746 MWIL 3 VOA 14CI	-009		1 			
1+21 1105 1 WW14 14 11 VOA 1461	010-					
1204 MWIS 340A H9Cl	MQ-					
23-21 1700 2 MW16 1 HC1	210-	V I				
ate: Time: Relinquished by: 14-2-1 1545 Reginance by: Via: And	Date Time	Remarks: Codur 1 :	5.3	5:0	3	
ate: Time: Relinquished by: Via:	Date Time	Cooler 2:	- x - h B	1.2		

Released to Imaging: 1/17/2023 1:49:55 PM



December 14, 2021

Danny Burns HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com

RE: Standard 1

OrderNo.: 2112300

Dear Danny Burns:

Hall Environmental Analysis Laboratory received 17 sample(s) on 12/4/2021 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 2112300

Date Reported: 12/14/2021

12/7/2021 10:49:56 AM

CLIENT: HILCORP ENERGY		Client S	ample ID	: MW-1	9				
Project: Standard 1		Collection Date: 12/2/2021 12:23:00 PM							
Lab ID: 2112300-001	Matrix: GROUND	WA Recei	ived Date	:12/4/20	021 9:45:00 AM				
Analyses	Result	RL Qua	al Units	DF	Date Analyzed				
EPA METHOD 8021B: VOLATILES					Analyst: NSB				
Benzene	15000	200	µg/L	200	12/7/2021 10:49:56 AM				
Toluene	10000	10000 200 μg/L 200 12/7/2021							
Ethylbenzene	1100	200	µg/L	200	12/7/2021 10:49:56 AM				
Xylenes, Total	5200	400	µg/L	200	12/7/2021 10:49:56 AM				

108

70-130

%Rec

200

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2112300

Hall	Environme	ntal Ana	lysis La	boratory,	Inc.

Date Reported: 12/14/2021

12/7/2021 12:01:15 PM

CLIENT: HILCORP ENERGY		Client S	Sample ID	: MW-1	1
Project: Standard 1		Collec	ction Date	:12/2/2	021 12:58:00 PM
Lab ID: 2112300-002	Matrix: GROUND	WA Rece	ived Date	:12/4/2	021 9:45:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	1.0	µg/L	1	12/7/2021 12:01:15 PM
Toluene	ND	1.0	µg/L	1	12/7/2021 12:01:15 PM
Ethylbenzene	ND	1.0	µg/L	1	12/7/2021 12:01:15 PM
Xylenes, Total	ND	2.0	µg/L	1	12/7/2021 12:01:15 PM

110

70-130

%Rec

1

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

**Qualifiers:** 

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

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Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

**Analytical Report** Lab Order 2112300

# Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/14/2021

12/7/2021 12:25:04 PM

12/7/2021 12:25:04 PM

12/7/2021 12:25:04 PM

CLIENT:	HILCORP ENERGY		Clie	ent Sa	mple ID	: MW-2	22
Project:	Standard 1		С	ollecti	on Date	: 12/2/2	2021 1:15:00 PM
Lab ID:	2112300-003	Matrix: GROUNDWA	A 1	Receiv	ed Date	:12/4/2	2021 9:45:00 AM
Analyses		Result	RL	Qual	Units	DF	Date Analyzed
EPA MET	HOD 8021B: VOLATILES						Analyst: NSB
Benzene		ND	1.0	Р	µg/L	1	12/7/2021 12:25:04 PM
Toluene		ND	1.0	Р	µg/L	1	12/7/2021 12:25:04 PM

ND

ND

107

1.0 Ρ

2.0

70-130

Ρ

Ρ

µg/L

µg/L

%Rec

1

1

1

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

**Qualifiers:** 

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

Page 3 of 19

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 2112300

12/7/2021 1:12:53 PM

12/7/2021 1:12:53 PM

12/7/2021 1:12:53 PM

Date Reported: 12/14/2021

CLIENT:	HILCORP ENERGY		Client S	Sample ID	: MW-1	8
Project:	Standard 1		Colle	ction Date	: 12/2/2	021 1:50:00 PM
Lab ID:	2112300-004	Matrix: GROUNDW	A Rece	eived Date	:12/4/2	021 9:45:00 AM
Analyses		Result	RL Qu	al Units	DF	Date Analyzed
EPA ME	THOD 8021B: VOLATILES					Analyst: NSB
Benzene	e	9900	200	µg/L	200	12/7/2021 12:49:02 PM
Toluene		ND	20	µg/L	20	12/7/2021 1:12:53 PM

610

ND

121

20

40

70-130

µg/L

µg/L

%Rec

20

20

20

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2112300

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/14/2021

12/7/2021 2:00:36 PM

CLIENT: HILCORP ENERGY		Client S	Sample ID	: MW-0	08
Project: Standard 1		Collec	ction Date	:12/2/2	021 2:05:00 PM
Lab ID: 2112300-005	Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM				
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	1.0	µg/L	1	12/7/2021 2:00:36 PM
Toluene	ND	1.0	µg/L	1	12/7/2021 2:00:36 PM
Ethylbenzene	ND	1.0	µg/L	1	12/7/2021 2:00:36 PM
Xylenes, Total	ND	2.0	µg/L	1	12/7/2021 2:00:36 PM

108

70-130

%Rec 1

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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# Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/14/2021

CLIENT: HILCORP ENERGY	Client Sample ID: MW-12					
Project: Standard 1		Collec	tion Date:	12/2/2	2021 12:43:00 PM	
Lab ID: 2112300-006	Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM					
Analyses	Result	RL Qua	al Units	DF	Date Analyzed	
EPA METHOD 8021B: VOLATILES					Analyst: NSB	
Benzene	370	5.0	µg/L	5	12/7/2021 2:24:27 PM	
Toluene	ND	5.0	µg/L	5	12/7/2021 2:24:27 PM	
Ethylbenzene	110	5.0	μg/L	5	12/7/2021 2:24:27 PM	
Xylenes, Total	ND	10	µg/L	5	12/7/2021 2:24:27 PM	
Surr: 4-Bromofluorobenzene	118	70-130	%Rec	5	12/7/2021 2:24:27 PM	

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

**Qualifiers:** 

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

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**Analytical Report** Lab Order 2112300

# Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/14/2021

12/7/2021 2:48:27 PM

CLIENT: HILCORP ENERGY	Client Sample ID: MW-23				
Project: Standard 1		Collec	ction Date	: 12/3/2	021 10:20:00 AM
Lab ID: 2112300-007	Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM				
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	1.0	μg/L	1	12/7/2021 2:48:27 PM
Toluene	ND	1.0	μg/L	1	12/7/2021 2:48:27 PM
Ethylbenzene	ND	1.0	μg/L	1	12/7/2021 2:48:27 PM
Xylenes, Total	ND	2.0	μg/L	1	12/7/2021 2:48:27 PM

108

70-130

%Rec 1

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

**Qualifiers:** 

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

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**Analytical Report** Lab Order 2112300

Hall	Environmenta	l Analysis	Laboratory,	Inc.

Date Reported: 12/14/2021

12/7/2021 3:12:24 PM

CLIENT: HILCORP ENERGY		Client S	Sample ID	: MW-2	26
<b>Project:</b> Standard 1	<b>Collection Date:</b> 12/3/2021 9:58:00 AM				
Lab ID: 2112300-008	Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM				
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	1.0	μg/L	1	12/7/2021 3:12:24 PM
Toluene	ND	1.0	µg/L	1	12/7/2021 3:12:24 PM
Ethylbenzene	ND	1.0	µg/L	1	12/7/2021 3:12:24 PM
Xylenes, Total	ND	2.0	µg/L	1	12/7/2021 3:12:24 PM

105

70-130

%Rec

1

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

**Qualifiers:** 

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

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Hall Environmental Analysis Laboratory, Inc.

Lab Order 2112300

Date Reported: 12/14/2021

<b>CLIENT:</b> HILCORP ENERGY <b>Project:</b> Standard 1	Client Sample ID: MW-02 Collection Date: 12/3/2021 11:27:00 AM				
Lab ID: 2112300-009	Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM				
Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	16000	200	µg/L	200	12/7/2021 5:35:54 PM
Toluene	6900	200	µg/L	200	12/7/2021 5:35:54 PM
Ethylbenzene	1800	200	µg/L	200	12/7/2021 5:35:54 PM
Xylenes, Total	21000	400	µg/L	200	12/7/2021 5:35:54 PM
Surr: 4-Bromofluorobenzene	114	70-130	%Rec	200	12/7/2021 5:35:54 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2112300

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/14/2021

12/7/2021 5:59:46 PM

CLIENT: HILCORP ENERGY		Client S	Sample ID	: MW-0	3
Project: Standard 1	Collection Date: 12/3/2021 11:13:00 AM				
Lab ID: 2112300-010	Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM				
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	16000	200	µg/L	200	12/7/2021 5:59:46 PM
Toluene	2300	200	µg/L	200	12/7/2021 5:59:46 PM
Ethylbenzene	540	200	µg/L	200	12/7/2021 5:59:46 PM
Xylenes, Total	5500	400	µg/L	200	12/7/2021 5:59:46 PM

110

70-130

%Rec

200

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

**Qualifiers:** 

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

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**Analytical Report** Lab Order 2112300

Hall	<b>Environmental</b>	Analysis	Laboratory,	Inc.
		•		

Date Reported: 12/14/2021

CLIENT:	HILCORP ENERGY	Client Sample ID: MW-15						
Project:	Standard 1	Collection Date: 12/3/2021 12:10:00 PM						
Lab ID:	2112300-011	Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM						
Analyses		Result RL Qual Units DF Date Analyzed						

č		ę			č
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	24000	500	µg/L	500	12/7/2021 6:23:39 PM
Toluene	1000	50	µg/L	50	12/7/2021 6:47:36 PM
Ethylbenzene	560	50	µg/L	50	12/7/2021 6:47:36 PM
Xylenes, Total	4100	100	µg/L	50	12/7/2021 6:47:36 PM
Surr: 4-Bromofluorobenzene	114	70-130	%Rec	50	12/7/2021 6:47:36 PM

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

**Qualifiers:** 

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

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Xylenes, Total

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 2112300

12/7/2021 7:35:22 PM

12/7/2021 7:35:22 PM

Date Reported: 12/14/2021

CLIENT: HILCORP ENERGY	Client Sample ID: MW-04 Collection Date: 12/3/2021 12:40:00 PM							
Project: Standard 1								
<b>Lab ID:</b> 2112300-012	Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM							
Analyses	Result	RL Qu	al Units	DF	Date Analyzed			
EPA METHOD 8021B: VOLATILES					Analyst: NSB			
Benzene	1300	50	µg/L	50	12/8/2021 9:09:37 AM			
Toluene	ND	10	µg/L	10	12/7/2021 7:35:22 PM			
Ethylbenzene	99	10	µg/L	10	12/7/2021 7:35:22 PM			

ND

111

20

70-130

µg/L

%Rec

10

10

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

- ND
- Not Detected at the Reporting Limit PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Analytical Report
Lab Order 2112300

Hall Environmental Analysis Laboratory, Inc.

Lab Order 2112300

Date Reported: 12/14/2021

12/7/2021 7:59:13 PM

CLIENT:HILCORP ENERGYProject:Standard 1Lab ID:2112300-013	Client Sample ID: MW-10 Collection Date: 12/3/2021 11:53:00 AM Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM							
Analyses	Result	RL Qu	<b>RL Qual Units</b>		Date Analyzed			
EPA METHOD 8021B: VOLATILES					Analyst: NSB			
Benzene	21000	500	µg/L	500	12/7/2021 7:59:13 PM			
Toluene	5800	500	µg/L	500	12/7/2021 7:59:13 PM			
Ethylbenzene	1400	500	µg/L	500	12/7/2021 7:59:13 PM			
Xylenes, Total	14000	1000	µg/L	500	12/7/2021 7:59:13 PM			

112

70-130

%Rec

500

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 1/17/2023 1:49:55 PM

**Analytical Report** Lab Order 2112300

Date Reported: 12/14/2021

12/7/2021 8:22:58 PM

CLIENT:HILCORP ENERGYProject:Standard 1Lab ID:2112300-014	Client Sample ID: MW-14 Collection Date: 12/3/2021 9:34:00 AM Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM							
Analyses	Result	RL Qu	al Units	DF	Date Analyzed			
EPA METHOD 8021B: VOLATILES					Analyst: NSB			
Benzene	6500	200	µg/L	200	12/7/2021 8:22:58 PM			
Toluene	7600	200	µg/L	200	12/7/2021 8:22:58 PM			
Ethylbenzene	1200	200	µg/L	200	12/7/2021 8:22:58 PM			
Xylenes, Total	15000	400	µg/L	200	12/7/2021 8:22:58 PM			

111

70-130

%Rec

200

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

**Qualifiers:** 

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

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 2112300

Date Reported: 12/14/2021

12/7/2021 8:46:48 PM

CLIENT: HILCORP ENERGY	Client Sample ID: MW-05							
Project: Standard 1	Collection Date: 12/3/2021 10:58:00 AM							
Lab ID: 2112300-015	Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM							
Analyses	Result	RL Qu	al Units	DF	Date Analyzed			
EPA METHOD 8021B: VOLATILES					Analyst: NSB			
Benzene	3600	200	μg/L	200	12/7/2021 8:46:48 PM			
Toluene	3500	200	µg/L	200	12/7/2021 8:46:48 PM			
Ethylbenzene	720	200	µg/L	200	12/7/2021 8:46:48 PM			
Xylenes, Total	19000	400	µg/L	200	12/7/2021 8:46:48 PM			

112

70-130

%Rec

200

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

**Qualifiers:** 

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

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 2112300

Date Reported: 12/14/2021

12/7/2021 9:10:34 PM

CLIENT: HILCORP ENERGY	Client Sample ID: MW-06							
Project: Standard 1	Collection Date: 12/3/2021 12:20:00 PM							
Lab ID: 2112300-016	Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM							
Analyses	Result	RL Qu	al Units	DF	Date Analyzed			
EPA METHOD 8021B: VOLATILES					Analyst: NSB			
Benzene	13000	500	µg/L	500	12/7/2021 9:10:34 PM			
Toluene	19000	500	µg/L	500	12/7/2021 9:10:34 PM			
Ethylbenzene	1300	500	μg/L	500	12/7/2021 9:10:34 PM			
Xylenes, Total	17000	1000	µg/L	500	12/7/2021 9:10:34 PM			

107

70-130

%Rec

500

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

**Qualifiers:** 

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

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**Analytical Report** Lab Order 2112300

Date Reported: 12/14/2021

12/7/2021 9:58:03 PM

CLIENT: HILCORP ENERGY	Client Sample ID: Trip Blank							
<b>Project:</b> Standard 1		Collect	ion Date	:				
Lab ID: 2112300-017	Matrix: GROUNDWA Received Date: 12/4/2021 9:45:00 AM							
Analyses	Result	RL Qua	l Units	DF	Date Analyzed			
EPA METHOD 8021B: VOLATILES					Analyst: NSB			
Benzene	ND	1.0	µg/L	1	12/7/2021 9:58:03 PM			
Toluene	ND	1.0	µg/L	1	12/7/2021 9:58:03 PM			
Ethylbenzene	ND	1.0	µg/L	1	12/7/2021 9:58:03 PM			
Xylenes, Total	ND	2.0	µg/L	1	12/7/2021 9:58:03 PM			

105

70-130

%Rec

1

# Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information. Value exceeds Maximum Contaminant Level. в Analyte detected in the associated Method Blank Sample Diluted Due to Matrix

- Е Value above quantitation range
  - J Analyte detected below quantitation limits
  - Р Sample pH Not In Range
  - RL Reporting Limit

Page 17 of 19

.

PQL Practical Quanitative Limit % Recovery outside of range due to dilution or matrix interference S

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

\*

D

н

ND

**Qualifiers:** 

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:	HILCORI	P ENERG	Y								
Project:	Standard	1									
Sample ID: mb		SampT	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBW	1	Batc	h ID: <b>B8</b>	4351	F	RunNo: 8	4351				
Prep Date:		Analysis E	Date: 12	2/7/2021	S	SeqNo: 2	963146	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bromofluoro	benzene	21		20.00		103	70	130			
Sample ID: 100n	g btex lcs	SampT	Гуре: <b>LC</b>	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCS	W	Batc	h ID: <b>B8</b>	4351	F	RunNo: <b>8</b>	4351				
Prep Date:		Analysis E	Date: 12	2/7/2021	S	SeqNo: 2	963147	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		20	1.0	20.00	0	98.7	80	120			
Toluene		20	1.0	20.00	0	97.9	80	120			
Ethylbenzene		19	1.0	20.00	0	96.7	80	120			
Xylenes, Total		58	2.0	60.00	0	97.0	80	120			
Surr: 4-Bromofluoro	benzene	22		20.00		108	70	130			
Sample ID: 2112	300-001ams	SampT	Гуре: МS	6	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: MW-	19	Batc	h ID: <b>B8</b>	4351	F	RunNo: <b>8</b>	4351				
Prep Date:		Analysis E	Date: 12	2/7/2021	Ş	SeqNo: 2	963149	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		19000	200	4000	14970	99.7	80	120			
Toluene		14000	200	4000	10050	98.4	80	120			
Ethylbenzene		5000	200	4000	1089	96.6	80	120			
Xylenes, Total		17000	400	12000	5181	96.9	80	120			
Surr: 4-Bromofluoro	benzene	4400		4000		110	70	130			
Sample ID: 2112	300-001amsd	SampT	Гуре: МS	SD	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: MW-	19	Batc	h ID: <b>B8</b>	4351	F	RunNo: <b>8</b>	4351				
Prep Date:		Analysis E	Date: 12	2/7/2021	5	SeqNo: 2	963150	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		19000	200	4000	14970	91.1	80	120	1.83	20	
Toluene		14000	200	4000	10050	94.8	80	120	1.03	20	
Ethylbenzene		4900	200	4000	1089	95.9	80	120	0.583	20	
Xylenes, Total		17000	400	12000	5181	95.8	80	120	0.783	20	
Surr: 4-Bromofluoro	obenzene	4400		4000		110	70	130	0	0	

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

2112300

14-Dec-21

WO#:

Released to Imaging: 1/17/2023 1:49:55 PM

Client:	HILCOR	P ENERG	Y								
Project:	Standard	1									
Sample ID: mb		SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	8021B: Volati	iles		
Client ID: PB	w	Batcl	n ID: <b>B8</b>	4376	F	RunNo: 84	4376				
Prep Date:		Analysis D	ate: 12	2/8/2021	S	SeqNo: 29	964081	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Surr: 4-Bromofluo	orobenzene	21		20.00		104	70	130			
Sample ID: 100	ng btex lcs	SampT	ype: LC	s	Tes	tCode: EF	PA Method	8021B: Volati	iles		
Client ID: LCS	SW	Batcl	n ID: <b>B8</b>	4376	F	RunNo: 84	4376				
Prep Date:		Analysis D	ate: 12	2/8/2021	S	SeqNo: 29	964082	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		19	1.0	20.00	0	95.7	80	120			
Surr: 4-Bromofluo	orobenzene	22		20.00		108	70	130			

Qualifiers:

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

Page 19 of 19

WO#: 2112300 14-Dec-21

Page	235	01	<sup>c</sup> 306	

Client Name:       HILCORP ENERGY       Work Order N         Received By:       Sean Livingston       12/4/2021 9:45:         Completed By:       Desiree Dominguez       12/6/2021 9:34:         Reviewed By:       WPCL       12/6/2021 9:34:         Chain of Custody       I. Is Chain of Custody complete?	Number: 2112300 :00 AM :47 AM Yes <b>V</b> <u>Courier</u>	S-L	RcptNo: 1
Received By:       Sean Livingston       12/4/2021 9:45:         Completed By:       Desiree Dominguez       12/6/2021 9:34:         Reviewed By:       WPA       12/00/24         Chain of Custody       1       1         I.       Is Chain of Custody complete?	:00 AM :47 AM Yes 🔽 <u>Courier</u>	S-L	not
Completed By: Desiree Dominguez 12/6/2021 9:34: Reviewed By: KPA 12/06/24 Chain of Custody I. Is Chain of Custody complete?	:47 AM Yes ☑ <u>Courier</u>	No 🗌	
Reviewed By: KPG 12[06/2] <u>Chain of Custody</u> 1. Is Chain of Custody complete?	Yes ☑ <u>Courier</u>	No 🗌	
<u>Chain of Custody</u> 1. Is Chain of Custody complete?	Yes <b>⊻</b> <u>Courier</u>	No 🗌	
1. Is Chain of Custody complete?	Yes <b>⊻</b> <u>Courier</u>	No 🗌	
	Courier		Not Present
2. How was the sample delivered?			
Log In			
Was an attempt made to cool the samples?	Yes 🗹	No 🗌	
↓. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗌	
5. Sample(s) in proper container(s)?	Yes 🔽	No 🗌	
5. Sufficient sample volume for indicated test(s)?	Yes 🔽	No 🗌	
' Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗌	
. Was preservative added to bottles?	Yes 🗌	No 🔽	NA 🗌
I. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes 🔽	No 🗌	
). Were any sample containers received broken?	Yes 🗆	No 🔽	# of preserved
1. Does paperwork match bottle labels?	Yes 🔽	No 🗌	for pH:
(Note discrepancies on chain of custody)			(<2 or >12 unless noted)
Are matrices correctly identified on Chain of Custody?	Yes 🗹	No 🗌	Adjusted?
1 Woro all holding times also to be mate	Yes 🗹	No 🗌	
(If no, notify customer for authorization.)	Yes ⊻	No 🗀	Checked by: Soc 1216(2)
pecial Handling (if applicable)			
5. Was client notified of all discrepancies with this order?	Yes 🗌	No 🗌	NA 🗹
Person Notified: Dr	ate:		
By Whom: Vi	ia: 🗌 eMail 🔲 F	hone 🗌 Fax	In Person
Regarding:			
Client Instructions:			
<ol><li>Additional remarks:</li></ol>			
7. <u>Cooler Information</u>		20.0000	
1 1.8 Good Yes	o Seal Date	Signed By	

		2-5-	ustoay kecora		-ille				I				ONMER	ITAI
Client:	Halcor	.00		Standard	I 🛛 Rust			1			N ST		ABORA <sup>-</sup>	TORY
A+1-4 : Mailing A	A: ddress	44	tell augh	Project Nam	e: muland #	-		901 He	ww	w.halle NF -	enviror Albuq	ment	al.com	
				Project #:				Tel. 505	-345-3	3975	Fax	505	345-4107	
Phone #:										Ar	ıalysis	s Req	uest	
email or I	Fax#:		(	Project Man	Iger: Danny	Burns	()	1-			*O	1.1	(tu	
QA/QC Pe	ackage: ard		Level 4 (Full Validation)	. Danny.	Bunse	mos.gs	208) s'	PCB's	SMISC		S '⁵Оd		ıəsdA\tr	
Accredita	tion:	D Az C	ompliance	Sampler:	cece H	wer		280	(1.		10 <sup>5°</sup>		IƏSƏ	
D NELA	0	□ Othe		On Ice:	⊠' Yes	ON D	L /	8/s	01 8	S	N ''	(AC	Pre)	
	Type)_			# of Coolers.	1		38. 195	əpi	018 3 pc	elete		-۸C	uu	
				Cooler Temp	(including CF): 1.4	() 8-1=10-6	TM	oitea	vletho	9M 8		imə2	ioțilo;	
Date T	ime	Matrix	Sample Name	Container Type and #	Preservative Type	2112 300	X 3TB	F 1808	I) 803 PAHs I	АЯЭЯ	8560 (J Cl' E'	) 0228	D listoT	
1 10/20/21	23	GU	MW - 101	3 104	モー	100-	>					01		
	258		MW-11			-C00 -			-					
-	315		te -mw			2003	-							
-	350		SI-MM			400-			$\vdash$		-			
1	405		NW- 03			-065								
7	242		MW-12	_		-006						11		
12/ce/c	1020		MW -23			100-								
0	3996		MW-26		7	-008			-					
	127		MW- 02		H-02	-009					_			
	113	1.1.1	CO-MM		12 E	010-								
-	012		MW-15			110-								
>	240	7	ho -nw	N	7	-210-	>		-					
Date: T	ime: 532	Relinquist	red by:	Received by:	A Via:	Date Time	Remar	Ks:		0	. how	30	- Jsm @ su	532
Date: T 12/3/2/1	ime: 743		hed by:	Received by:	Via:	Date Time 214121 9:45								

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		lame:	Amyler # ( 4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	lanager: Dur v Purrs 7: 0 = 0 = 1	4:15 a a a s s a a a s a a a a a a a a a a	ли 20) 21 20) 21 20) 21 20) 21 20) 21 20) 21 20) 21 20) 21 21 21 21 21 21 21 21 21 21 21 21 21	Zeece Harson 1022 1022 1022		ers: VC	amp(including cr): 1, 9 → 0 → 1, 8 4 (°C) MT 2 Mathematical Cr): 1, 9 → 0 → 1, 9 4 (°C) MT 2 Mathematical Cr): 1, 9 → 0 → 1, 9 4 (°C) MT 2 Mathematical Cr): 1, 9 → 0 → 1, 9 4 (°C) MT 2 Mathematical Cr): 1, 9 → 0 → 1, 9 4 (°C) MT 2 Mathematical Cr): 1, 9 → 0 → 1, 9 4 (°C) MT 2 Mathematical Cr): 1, 9 → 0 → 1, 9 4 (°C) MT 2 Mathematical Cr): 1, 9 → 0 → 1, 9 4 (°C) MT 2 Mathematical Cr): 1, 9 → 0 → 1, 9 4 (°C) MT 2 MT 2	т Preservative HEAL No. ВОВАТР ВОВАТР ВССКА ССТ, F, F ВССКА ССТ, F, F	Hacle -013 2	hi0- 17ti	Sio-	-010- X	1014				y: Via: Date Time Remarks:	e 237 روز این Date Time
Turn-Around Time:	K Standard	Project Name:	Handows	Project #:		Project Manager: Dun Av			Sampler: Reece Hen	On Ice: Q'Yes D	# of Coolers: 1	Cooler Temp(including CF): 1.9	Container Preservative Type and # Type	3 VUA Hacle	1741		~					Received by: Via:	Received by: Via:
F-Custody Record		4 Kellongh							Az Compliance	Other			trix Sample Name	in 141-10	pl - mhr	70. WA	90-MW 1	Trip Blank	824 12/6/21			nquished by:	Inquished by:
Chain-of	Client: H: 1 Corp	Atta: M: Fe	Mailing Address:		Phone #:	email or Fax#:	QA/QC Package:		Accreditation:	D NELAC D	EDD (Type)		Date Time Mat	2-03-21 1153 6	0934	1358	4 1220					Date: Time: Relit	Date: Time: Relir

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March 07, 2022

Mitch Killough HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com

RE: Standard 1

OrderNo.: 2203088

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 17 sample(s) on 3/2/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall	Environme	ental Analy	sis Labora	tory, Inc.
		•/		•/ /

Date Reported: 3/7/2022

<b>CLIENT:</b> HILCORP ENERGY <b>Project:</b> Standard 1		Client Sa Collect	ample ID: tion Date:	MW-0	2 22 2:25:00 PM
Lab ID: 2203088-001	Matrix: AQUEOUS	Recei	ved Date:	3/2/202	22 7:30:00 AM
Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	14000	200	µg/L	200	3/4/2022 2:11:34 AM
Toluene	4400	200	µg/L	200	3/4/2022 2:11:34 AM
Ethylbenzene	1300	200	µg/L	200	3/4/2022 2:11:34 AM
Xylenes, Total	15000	400	µg/L	200	3/4/2022 2:11:34 AM
Surr: 4-Bromofluorobenzene	106	70-130	%Rec	200	3/4/2022 2:11:34 AM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 1 of 19

Hall	Environmenta	l Analysis	Laboratory,	Inc.
		•		

Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY Project: Standard 1		Client Sa Collect	ample ID: tion Date:	: MW-0 : 3/1/202	3 22 2:00:00 PM
Lab ID: 2203088-002	Matrix: AQUEOUS	Recei	ved Date:	3/2/202	22 7:30:00 AM
Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	16000	200	µg/L	200	3/4/2022 3:22:00 AM
Toluene	2200	200	µg/L	200	3/4/2022 3:22:00 AM
Ethylbenzene	590	200	µg/L	200	3/4/2022 3:22:00 AM
Xylenes, Total	6000	400	µg/L	200	3/4/2022 3:22:00 AM
Surr: 4-Bromofluorobenzene	106	70-130	%Rec	200	3/4/2022 3:22:00 AM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 2 of 19

Hall	Environm	ental A	nalysis I	Laboratory	v. Inc.
				•	

Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY Project: Standard 1		Client S Colle	Sample ID: ction Date:	MW-0	)4 )22 2:02:00 PM
Lab ID: 2203088-003	Matrix: AQUEOUS	Reco	eived Date:	3/2/20	22 7:30:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	910	20	µg/L	20	3/4/2022 3:45:33 AM
Toluene	ND	20	µg/L	20	3/4/2022 3:45:33 AM
Ethylbenzene	66	20	µg/L	20	3/4/2022 3:45:33 AM
Xylenes, Total	ND	40	µg/L	20	3/4/2022 3:45:33 AM
Surr: 4-Bromofluorobenzene	107	70-130	%Rec	20	3/4/2022 3:45:33 AM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 3 of 19

Hall H	Environmental	Analysis	Laboratory,	Inc.
		•/	•/ /	

Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY Project: Standard 1		Client Sa Collect	ample ID: tion Date:	: MW-0	5 22 2:17:00 PM
Lab ID: 2203088-004	Matrix: AQUEOUS	Recei	ved Date:	3/2/202	22 7:30:00 AM
Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: <b>NSB</b>
Benzene	2900	200	µg/L	200	3/4/2022 4:09:05 AM
Toluene	810	200	µg/L	200	3/4/2022 4:09:05 AM
Ethylbenzene	620	200	µg/L	200	3/4/2022 4:09:05 AM
Xylenes, Total	13000	400	µg/L	200	3/4/2022 4:09:05 AM
Surr: 4-Bromofluorobenzene	106	70-130	%Rec	200	3/4/2022 4:09:05 AM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Hall	Environm	iental A	<b>nalysis</b> 1	Laborat	ory, I	nc.
			•/		• •	

Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY	Client Sample ID: MW-06					
Lab ID: 2203088-005	Matrix: AOUFOUS Received Date: 3/2/2022 7:30:00 AM					
Analyses	Result RL Qual Units DF Date Analyzed					
EPA METHOD 8021B: VOLATILES					Analyst: NSB	
Benzene	13000	500	µg/L	500	3/4/2022 4:32:30 AM	
Toluene	20000	500	µg/L	500	3/4/2022 4:32:30 AM	
Ethylbenzene	1300	500	µg/L	500	3/4/2022 4:32:30 AM	
Xylenes, Total	18000	1000	µg/L	500	3/4/2022 4:32:30 AM	
Surr: 4-Bromofluorobenzene	107	70-130	%Rec	500	3/4/2022 4:32:30 AM	

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

**Qualifiers:** 

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

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Hall	Environmental	Analysis	Laboratory,	Inc.
		•		

Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY	Client Sample ID: MW-08						
Project: Standard 1		Collection Date: 3/1/2022 12:47:00 PM					
Lab ID: 2203088-006	Matrix: AQUEOUS Received Date: 3/2/2022 7:30:00 AM						
Analyses	Result	RL Qual	Units	DF	Date Analyzed		
EPA METHOD 8021B: VOLATILES					Analyst: RAA		
Benzene	ND	1.0	µg/L	1	3/3/2022 3:27:00 PM		
Toluene	ND	1.0	µg/L	1	3/3/2022 3:27:00 PM		
Ethylbenzene	ND	1.0	µg/L	1	3/3/2022 3:27:00 PM		
Xylenes, Total	ND	2.0	µg/L	1	3/3/2022 3:27:00 PM		
Surr: 4-Bromofluorobenzene	88.6	70-130	%Rec	1	3/3/2022 3:27:00 PM		

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Hall	Environmental	Analysis	Laboratory,	Inc.
		•		

Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY	Client Sample ID: MW-10					
Project: Standard 1		Collection Date: 3/1/2022 2:40:00 PM				
Lab ID: 2203088-007	Matrix: AQUEOUS Received Date: 3/2/2022 7:30:00 AM					
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	
EPA METHOD 8021B: VOLATILES					Analyst: RAA	
Benzene	20000	500	µg/L	500	3/3/2022 3:47:00 PM	
Toluene	5600	500	µg/L	500	3/3/2022 3:47:00 PM	
Ethylbenzene	1400	500	µg/L	500	3/3/2022 3:47:00 PM	
Xylenes, Total	13000	1000	µg/L	500	3/3/2022 3:47:00 PM	
Surr: 4-Bromofluorobenzene	89.6	70-130	%Rec	500	3/3/2022 3:47:00 PM	

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

**Qualifiers:** 

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

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Toluene

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

RAA

3/3/2022 4:07:00 PM

3/3/2022 4:07:00 PM

3/3/2022 4:07:00 PM

3/3/2022 4:07:00 PM

**Analytical Report** Lab Order 2203088

Hall Environmental Analysis Laboratory, Inc.				Reported: 3/7/2022	
CLIENT: HILCORP ENERGY		Client Sa	mple ID	: MW-1	1
Project: Standard 1		Collecti	on Date	: 3/1/202	22 12:06:00 PM
Lab ID: 2203088-008	Matrix: AQUEOUS	Receiv	ed Date	: 3/2/202	22 7:30:00 AM
Analyses	Result	RL Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: RA
Benzene	ND	1.0	µg/L	1	3/3/2022 4:07:00 PM

ND

ND

ND

90.5

1.0

1.0

2.0

70-130

µg/L

µg/L

µg/L

%Rec

1

1

1

1

# Hall Environmental Analysis Laboratory Inc.

Not Detected at the Reporting Limit Practical Quanitative Limit

Value exceeds Maximum Contaminant Level.

Holding times for preparation or analysis exceeded

Sample Diluted Due to Matrix

- PQL % Recovery outside of range due to dilution or matrix interference S
- Estimated value J Analyte detected below quantitation limits Р Sample pH Not In Range

Analyte detected in the associated Method Blank

RL Reporting Limit

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

Page 8 of 19

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ND

**Qualifiers:** 

Hall	Environmenta	l Analysis	Laboratory,	Inc.

Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY Project: Standard 1	Client Sample ID: MW-12 Collection Date: 3/1/2022 11:40:00 AM					
Lab ID: 2203088-009	Matrix: AQUEOUSReceived Date: 3/2/2022 7:30:00 AM					
Analyses	Result	RL Qual	Units	DF	Date Analyzed	
EPA METHOD 8021B: VOLATILES					Analyst: RAA	
Benzene	240	2.0	µg/L	5	3/3/2022 4:27:00 PM	
Toluene	ND	2.0	µg/L	5	3/3/2022 4:27:00 PM	
Ethylbenzene	31	2.0	µg/L	5	3/3/2022 4:27:00 PM	
Xylenes, Total	ND	4.0	µg/L	5	3/3/2022 4:27:00 PM	
Surr: 4-Bromofluorobenzene	95.5	70-130	%Rec	5	3/3/2022 4:27:00 PM	

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

**Qualifiers:** 

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

Page 9 of 19

Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY	Client Sample ID: MW-14						
Project: Standard 1		Collection Date: 3/1/2022 11:37:00 AM					
Lab ID: 2203088-010	Matrix: AQUEOUS Received Date: 3/2/2022 7:30:00 AM						
Analyses	Result	RL Qual	Units	DF	Date Analyzed		
EPA METHOD 8021B: VOLATILES					Analyst: RAA		
Benzene	5300	200	µg/L	200	3/3/2022 4:46:00 PM		
Toluene	5700	200	µg/L	200	3/3/2022 4:46:00 PM		
Ethylbenzene	1200	200	µg/L	200	3/3/2022 4:46:00 PM		
Xylenes, Total	14000	400	µg/L	200	3/3/2022 4:46:00 PM		
Surr: 4-Bromofluorobenzene	88.9	70-130	%Rec	200	3/3/2022 4:46:00 PM		

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

**Qualifiers:** 

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

Page 10 of 19

Hall	Environmental	Analysis	Laboratory,	Inc.

Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY	Client Sample ID: MW-15				
Project: Standard 1		Collect	ion Date:	: 3/1/202	22 1:37:00 PM
Lab ID: 2203088-011	Matrix: AQUEOUS Received Date: 3/2/2022 7:30:00 AM				
Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	23000	500	µg/L	500	3/3/2022 6:24:00 PM
Toluene	3400	50	µg/L	50	3/3/2022 6:44:00 PM
Ethylbenzene	650	50	µg/L	50	3/3/2022 6:44:00 PM
Xylenes, Total	4400	100	µg/L	50	3/3/2022 6:44:00 PM
Surr: 4-Bromofluorobenzene	93.8	70-130	%Rec	50	3/3/2022 6:44:00 PM

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

**Qualifiers:** 

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

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Hall Environmental	l Analysis	Laboratory, Inc.
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Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY		Client S	ample ID:	MW-1	6		
Project: Standard 1		Collec	tion Date:	3/1/202	22 12:05:00 PM		
Lab ID: 2203088-012	Matrix: AQUEOUS	Matrix: AQUEOUS Received Date: 3/2/2022 7:30:00 AM					
Analyses	Result	RL Qua	l Units	DF	Date Analyzed		
EPA METHOD 8021B: VOLATILES					Analyst: RAA		
Benzene	560	20	µg/L	20	3/3/2022 7:43:00 PM		
Toluene	ND	20	µg/L	20	3/3/2022 7:43:00 PM		
Ethylbenzene	430	20	µg/L	20	3/3/2022 7:43:00 PM		
Xylenes, Total	6400	400	µg/L	200	3/3/2022 7:23:00 PM		
Surr: 4-Bromofluorobenzene	103	70-130	%Rec	20	3/3/2022 7:43:00 PM		

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

**Qualifiers:** 

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

Page 12 of 19

Hall	<b>Environmental</b>	Analysis	Laboratory,	Inc.
		•/		

Date Reported: 3/7/2022

<b>CLIENT:</b> HILCORP ENERGY		Client S	ample ID:	MW-1	8	
Project: Standard 1		Collection Date: 3/1/2022 12:25:00 PM				
Lab ID: 2203088-013	Matrix: AQUEOUS	Matrix: AQUEOUS Received Date: 3/2/2022 7:30:00 AM				
Analyses	Result	RL Qua	al Units	DF	Date Analyzed	
EPA METHOD 8021B: VOLATILES					Analyst: RAA	
Benzene	8000	200	µg/L	200	3/3/2022 8:22:00 PM	
Toluene	ND	8.0	µg/L	20	3/3/2022 8:41:00 PM	
Ethylbenzene	450	20	µg/L	20	3/3/2022 8:41:00 PM	
Xylenes, Total	ND	16	µg/L	20	3/3/2022 8:41:00 PM	
Surr: 4-Bromofluorobenzene	98.6	70-130	%Rec	20	3/3/2022 8:41:00 PM	

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

**Qualifiers:** 

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

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**Analytical Report** 

	Hall	Environn	nental A	<b>nalysis</b> 1	Laborate	ory, Inc.
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Lab Order 2203088

Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY		Client S	Sample ID:	: MW-1	9	
Project: Standard 1		Collec	ction Date:	3/1/202	22 1:15:00 PM	
Lab ID: 2203088-014	Matrix: AQUEOUS	Matrix: AQUEOUS Received Date: 3/2/2022 7:30:00 AM				
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	
EPA METHOD 8021B: VOLATILES					Analyst: <b>RAA</b>	
Benzene	13000	200	µg/L	200	3/3/2022 9:20:00 PM	
Toluene	9600	200	µg/L	200	3/3/2022 9:20:00 PM	
Ethylbenzene	1100	200	µg/L	200	3/3/2022 9:20:00 PM	
Xylenes, Total	5200	400	µg/L	200	3/3/2022 9:20:00 PM	
Surr: 4-Bromofluorobenzene	89.6	70-130	%Rec	200	3/3/2022 9:20:00 PM	

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 14 of 19
**Analytical Report** Lab Order 2203088

Date Reported: 3/7/2022

CLIENT: HILCORP ENERGY Project: Standard 1		Client S Collec	Sample ID: ction Date:	MW-2 3/1/20	22 22 12:28:00 PM
Lab ID: 2203088-015	Matrix: AQUEOUS	Rece	ived Date:	3/2/20	22 7:30:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	1.0	µg/L	1	3/3/2022 9:59:00 PM
Toluene	ND	1.0	µg/L	1	3/3/2022 9:59:00 PM
Ethylbenzene	ND	1.0	µg/L	1	3/3/2022 9:59:00 PM
Xylenes, Total	ND	2.0	µg/L	1	3/3/2022 9:59:00 PM
Surr: 4-Bromofluorobenzene	90.2	70-130	%Rec	1	3/3/2022 9:59:00 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Xylenes, Total

Surr: 4-Bromofluorobenzene

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**Analytical Report** Lab Order 2203088

3/3/2022 10:19:00 PM

3/3/2022 10:19:00 PM

Hall En	vironmental Analys	Date Reported: 3/7/2022								
CLIENT:	HILCORP ENERGY		Client Sa	mple ID	: MW-2	23				
Project:	Standard 1		Collecti	on Date	: 3/1/20	22 1:10:00 PM				
Lab ID:	2203088-016	Matrix: AQUEOUS	Receiv	ed Date	: 3/2/20	22 7:30:00 AM				
Analyses		Result	RL Qual	Units	DF	Date Analyzed				
EPA METI	HOD 8021B: VOLATILES					Analyst: RA				
Benzene		ND	1.0	µg/L	1	3/3/2022 10:19:00 PM				
Toluene		ND	1.0	µg/L	1	3/3/2022 10:19:00 PM				
Ethylbenz	ene	ND	1.0	µg/L	1	3/3/2022 10:19:00 PM				

ND

89.2

2.0

70-130

µg/L

%Rec

1

1

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

**Qualifiers:** 

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

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Benzene

Toluene

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

**Analytical Report** Lab Order 2203088

Hall	Environment	al Analy	sis Labo	ratory, ]	Inc.

3/3/2022 10:39:00 PM

Hall Ei	nvironmental Analys	Date Reported: 3/7/2022								
CLIENT:	HILCORP ENERGY		Client Sample ID: MW	-26						
Project:	Standard 1		Collection Date: 3/1/2	2022 12:46:00 PM						
Lab ID:	2203088-017	Matrix: AQUEOUS	Received Date: 3/2/2	2022 7:30:00 AM						
Analyses		Result	RL Qual Units DF	Date Analyzed						
EPA MET	HOD 8021B: VOLATILES			Analyst: RAA						

1.0

1.0

1.0

2.0

70-130

µg/L

µg/L

µg/L

µg/L

%Rec

1

1

1

1

1

ND

ND

ND

ND

88.1

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

**Qualifiers:** 

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

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## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	HILCORP Standard 1	ENERG	Y														
Sample ID: mb		SampT	vne: MF	RI K	Tes	tCode: <b>FI</b>	PA Method	8021B: Volat	iles								
		Botol	, ID: <b>D</b> 0	6024	RunNo: 86234												
				0234	Г		0234										
Prep Date:	ŀ	Analysis L	ate: 3/	3/2022	5	seqino: 3	039618	Units: µg/L									
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual						
Benzene		ND	1.0														
Toluene		ND	1.0														
Ethylbenzene		ND	1.0														
Xylenes, Total		ND	2.0														
Surr: 4-Bromofluorob	enzene	20		20.00		102	70	130									
Sample ID: 100ng	btex lcs	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles								
Client ID: LCSW	,	Batch	n ID: <b>B8</b>	6234	F	RunNo: <b>8</b>	6234										
Prep Date:	ŀ	Analysis D	)ate: 3/	3/2022	S	SeqNo: 3	039625	Units: µg/L									
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual						
Benzene		19	1.0	20.00	0	95.6	80	120									
Toluene		20	1.0	20.00	0	99.8	80	120									
Ethylbenzene		20	1.0	20.00	0	101	80	120									
Xylenes, Total		61	2.0	60.00	0	101	80	120									
Surr: 4-Bromofluorob	enzene	22		20.00		109	70	130									
Sample ID: 22030	88-001ams	SampT	ype: MS	6	Tes	tCode: El	PA Method	8021B: Volat	iles								
Client ID: MW-02	2	Batch	n ID: <b>B8</b>	6234	F	RunNo: <b>8</b>	6234										
Prep Date:	ŀ	Analysis D	Date: 3/	4/2022	5	SeqNo: 3	039638	Units: µg/L									
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual						
Benzene		20000	200	4000	14500	130	80	120			S						
Toluene		8900	200	4000	4398	114	80	120									
Ethylbenzene		5500	200	4000	1298	106	80	120									
Xylenes, Total		28000	400	12000	14630	112	80	120									
Surr: 4-Bromofluorob	enzene	4400		4000		111	70	130									
Sample ID: 22030	88-001amsd	SampT	ype: MS	SD.	Tes	tCode: El	PA Method	8021B: Volat	iles								
Client ID: MW-02	2	Batch	n ID: <b>B8</b>	6234	F	RunNo: <b>8</b>	6234										
Prep Date:	ŀ	Analysis D	Date: 3/	4/2022	S	SeqNo: 3	039642	Units: µg/L									
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual						
Benzene		20000	200	4000	14500	129	80	120	0.187	20	S						
Toluene		8900	200	4000	4398	114	80	120	0.0671	20							
Ethylbenzene		5500	200	4000	1298	106	80	120	0.224	20							
Xylenes, Total		28000	400	12000	14630	113	80	120	0.517	20							
Surr: 4-Bromofluorob	enzene	4500		4000		114	70	130	0	0							

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

WO#:	2203088

07-Mar-22

**Client:** 

**Project:** 

Client ID:

Prep Date:

Analyte

Ethylbenzene

Xylenes, Total

Client ID:

Prep Date:

Analyte

Ethylbenzene

Xylenes, Total

Benzene Toluene

Benzene

Toluene

Sample ID: 2203088-006ams

Surr: 4-Bromofluorobenzene

Sample ID: 100ng btex Ics

Surr: 4-Bromofluorobenzene

LCSW

MW-08

## **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Result

20

20

20

60

18

Result

19

19

20

58

18

SampType: MS

Batch ID: R86226

PQL

1.0

1.0

1.0

2.0

SampType: LCS

Batch ID: R86226

PQL

1.0

1.0

1.0

2.0

Analysis Date: 3/3/2022

SPK value SPK Ref Val

SPK value SPK Ref Val

20.00

20.00

20.00

60.00

20.00

20.00

20.00

20.00

60.00

20.00

Analysis Date: 3/3/2022

HILCORP ENERGY

Standard 1

*	Valua avaaada	Movimum	Contominant	I aval
	value exceeds	VIAXIIIIIII !!	v sonn an ninnann.	Level

**Qualifiers:** 

- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- в Analyte detected in the associated Method Blank

TestCode: EPA Method 8021B: Volatiles

LowLimit

80

80

80

80

70

TestCode: EPA Method 8021B: Volatiles

LowLimit

80

80

80

80

70

Units: µg/L

HighLimit

120

120

120

120

130

Units: µg/L

HighLimit

120

120

120

120

130

%RPD

%RPD

**RPDLimit** 

RPDLimit

RunNo: 86226

%REC

97.8

99.0

99.3

99.8

89.7

RunNo: 86226

%REC

95.4

97.1

97.6

97.5

88.4

SeqNo: 3040304

0

0

0

0

0

0

0

0

SeqNo: 3040190

- Е
- Analyte detected below quantitation limits J
- RL Reporting Limit

Page 19 of 19

Estimated value

Sample pH Not In Range Р

- Page 257 of 306

Qual

Qual

07-Mar-22

WO#: 2203088

# Received by OCD: 11/20/2022 1:44:15 PM

	VIRONMEN Alysis Boratory	TAL	T	EL: 505-345- Vebsite: clier	49 Albuquer 3975 FAX nts.hallenvi	mple Log-In Check List							
Client Nam	e: HILCORF	PENERGY	Wor	k Order Nur	mber: 220	3088			RcptNo: 1				
Received B	y: Tracy Ca	asarrubias	3/2/20	22 7:30:00	АМ								
Completed I	By: Tracy Ca	asarrubias	3/2/20	22 10:25:36	AM								
Reviewed B	v: Chre	-	3(2)2 one	22									
Chain of C	Custody		1.12	-									
1. Is Chain	of Custody com	plete?			Yes		No		Not Present				
2. How was	the sample del	ivered?			Cou	rier							
Login													
3. Was an a	ttempt made to	cool the sam	ples?		Yes	V	No						
4. Were all s	amples receive	d at a temper	ature of >0° C	to 6.0°C	Yes		No						
5. Sample(s	in proper cont	ainer(s)?			Yes		No						
C. Cufficient						-		_					
6. Sumicient	sample volume	for indicated	test(s)?		Yes		No						
7. Are sample	es (except VOA	and ONG) p	roperly preserv	ed?	Yes		No						
8. Was prese	rvative added t	o bottles?			Yes		No	~	NA 🗆				
9. Received a	at least 1 vial w	ith headspace	<1/4" for AQ	/OA?	Yes		No						
10. Were any	sample contain	ners received	broken?		Yes		No						
									# of preserved				
11. Does pape (Note disc	rwork match bo	ottle labels?	a)		Yes		No		for pH:				
12 Are matrice	epancies on ch	ntified on Cha	() in of Custody?		Vec		No		(<2 or >12 unless noted) Adjusted?				
3. Is it clear w	hat analyses w	/ere requester	17		Ves		No	H					
4. Were all ho	olding times abl	le to be met?			Yes		No		Checked by: TA 3/3/2				
(If no, notif	y customer for	authorization.	)		100								
Special Har	dling (if ap	plicable)						-					
15. Was client	notified of all d	liscrepancies	with this order	?	Yes		No		NA 🗹				
Pers	on Notified:	1		Date				_					
By V	Vhom:	1		Via:	□ eMa	ail 🗖	Phone 🗔	Fax					
Rega	arding:												
Clier	t Instructions:												
16. Additional	remarks:												
17. <u>Cooler In</u>	formation												
Cooler	No Temp °C	Condition	Seal Intact	Seal No	Seal Da	ate	Signed B	у					
1	1.9	Good	Yes			1.00							
2	2.3	Good	Yes										

Page 1 of 1

11/20/2022 1.44.15 PM n

MENTAL	DEATODY		37109	07																			,
	ABC		MN a	345-41 uest	(tr	nəsdA\	ļuə	SƏ1C	յ) և	itori	Total Col			-				-	-	-			
OL I		ment	erone	505- Requ				(∀	0/	-im	92) 0728		1									1	
Í.		viron	prior	Fax lysis				20		(40	00V) 0928												
1	_ ≥	aller	- A	5 Ana	10	S 'Oc		ON	03	N '	CI'E' B	-	1			-				_	_	-	
		A MM	s NE	-397	-	SMIS	0/3	78 J	0 01	.28				-	-	-		-		-	-		
I		5	wkin	5-345	-	orno	(	1.40	IS P	оц		-		-	-	-	-	-		-	-	1	
	1 Г	П	11 Ha	1. 50		S'BOC	1 28	808/	səp	ioite	eq 1808									-	+	1	
			490	Te	(C	NAM \ C	) И	3/0	ЗЭ	)D3	108:H9T											larks	
	ΪĽ				()	r208) a	B	NH /	138	IIN	BTEX	D	-	-		-						Rem	
d lime:	d 🗆 Rush	ne:	tandard #		nager: strent Hude			A Yes I No		D(including CF): 1. 1. 9-05- 1.9 (°C)	Z) 2.3 - ダェ Z.3 Preservative HEAL No. Type	Hel Dis	hio	015	010	710 1						Via: Date Time	Via: com Date Time \$12122 7:30
	the Standar	Project Nam	i I	Project #:	Project Man		-	Sampler: On Ice:	# of Coolers	Cooler Tem	Container Type and #	3 V04				>						Received by:	Received by:
Istody kecord		rugh				Level 4 (Full Validation)		mpilance			Sample Name	MU 18	61 mW	MW 22	MW 23	MU26						1 NM	ad by: Wet I Well
-01-10-	0.5	k killo									Matrix	GW				K						Relinquishe	Relinquishe
nain	1-116.	: Mite	Address	*	r Fax#:	Package: dard	totion.	AC	(Type)		Time	1225	3121	1228	1310	9/21						Time: \530	Time: 17SH
	Client:	Att	-Mailing	Phone 3	email o	QA/QC	"house h				Date	21/12		~		4						Date;	Date: 3/1/22



June 16, 2022

Stuart Hyde HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

RE: Standard 1

OrderNo.: 2206513

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 13 sample(s) on 6/9/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Toluene

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 2206513

Date Reported: 6/16/2022

6/15/2022 2:29:00 PM

6/14/2022 2:25:00 PM

6/15/2022 2:29:00 PM

6/14/2022 2:25:00 PM

-					
CLIENT: HILCORP ENERGY	Client Sample ID: MW03				
Project: Standard 1		Collec	tion Date	: 6/7/202	22 3:50:00 PM
Lab ID: 2206513-001	Matrix: GROUND	WA Rece	ived Date	:6/9/202	22 7:20:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	16000	500	µg/L	500	6/15/2022 2:29:00 PM

2600

700

6600

120

500

10

1000

70-130

µg/L

µg/L

µg/L

%Rec

500

10

500

10

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 14

Xylenes, Total

Surr: 4-Bromofluorobenzene

**Analytical Report** Lab Order 2206513

Date Reported: 6/16/2022

6/14/2022 3:24:00 PM

6/14/2022 3:24:00 PM

6/14/2022 3:24:00 PM

CLIENT:	HILCORP ENERGY		Client Sa	mple ID	: MW04	4
Project:	Standard 1		Collect	ion Date	: 6/7/20	22 3:45:00 PM
Lab ID:	2206513-002	Matrix: GROUNDWA	Receiv	ved Date	: 6/9/20	22 7:20:00 AM
Analyses		Result	RL Qua	Units	DF	Date Analyzed
EPA ME	THOD 8021B: VOLATILES					Analyst: BRN
Benzene	)	240	10	µg/L	10	6/15/2022 2:49:00 PM
Toluene		ND	1.0	µg/L	1	6/14/2022 3:24:00 PM

ND

ND

98.4

#### Hall Environmental Analysis Laboratory, Inc.

Value exceeds Maximum Contaminant Level. в

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

D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix interference S

Analyte detected in the associated Method Blank

Е Estimated value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

µg/L

µg/L

%Rec

1

1

1

1.0

2.0

70-130

RL Reporting Limit Page 2 of 14

.

\*

**Qualifiers:** 

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 2206513

Date Reported: 6/16/2022

6/15/2022 3:09:00 PM

CLIENT: HILCORP ENERGY	Client Sample ID: MW06				
Project: Standard 1	Collection Date: 6/7/2022 4:10:00 PM				
<b>Lab ID:</b> 2206513-003	Matrix: GROUND	WA Rece	ived Date	:6/9/202	22 7:20:00 AM
Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	11000	500	µg/L	500	6/15/2022 3:09:00 PM
Toluene	15000	500	µg/L	500	6/15/2022 3:09:00 PM
Ethylbenzene	1100	500	µg/L	500	6/15/2022 3:09:00 PM
Xylenes, Total	16000	1000	µg/L	500	6/15/2022 3:09:00 PM

96.2

70-130

µg/L

%Rec

500

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S

Analyte detected in the associated Method Blank в

Е Estimated value

- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 3 of 14

Xylenes, Total

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 2206513

Date Reported: 6/16/2022

6/14/2022 4:04:00 PM

6/14/2022 4:04:00 PM

CLIENT: HILCORP ENERGY	Client Sample ID: MW08				
Project: Standard 1		Colle	ction Date	: 6/7/20	022 1:30:00 PM
<b>Lab ID:</b> 2206513-004	Matrix: GROUND	WA Rece	eived Date	<b>:</b> 6/9/20	022 7:20:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	1.0	µg/L	1	6/14/2022 4:04:00 PM
Toluene	ND	1.0	µg/L	1	6/14/2022 4:04:00 PM
Ethylbenzene	ND	1.0	µg/L	1	6/14/2022 4:04:00 PM

ND

94.4

2.0

70-130

µg/L

%Rec

1

1

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

- ND
- Not Detected at the Reporting Limit PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S

Analyte detected in the associated Method Blank в

Е Estimated value

- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 4 of 14

Xylenes, Total

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 2206513

Date Reported: 6/16/2022

6/14/2022 4:24:00 PM

6/14/2022 4:24:00 PM

6/14/2022 4:24:00 PM

-						
CLIENT:	HILCORP ENERGY		Client Sa	ample ID	: MW1	1
Project:	Standard 1		Collect	tion Date	: 6/7/20	022 2:35:00 PM
Lab ID:	2206513-005	Matrix: GROUNDWA	Recei	ved Date	:6/9/20	022 7:20:00 AM
Analyses		Result	RL Qua	l Units	DF	Date Analyzed
EPA ME	THOD 8021B: VOLATILES					Analyst: BRN
Benzene	)	ND	1.0	µg/L	1	6/14/2022 4:24:00 PM
Toluene		ND	1.0	µg/L	1	6/14/2022 4:24:00 PM

ND

ND

95.6

1.0

2.0

70-130

µg/L

µg/L

%Rec

1

1

1

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference

- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 14

Xylenes, Total

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 2206513

Date Reported: 6/16/2022

6/14/2022 4:44:00 PM

6/14/2022 4:44:00 PM

CLIENT: HILCORP ENERGY	Client Sample ID: MW12				
Project: Standard 1		Collec	tion Date	: 6/7/20	022 2:45:00 PM
Lab ID: 2206513-006	Matrix: GROUND	WA Rece	ived Date	:6/9/20	022 7:20:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	110	5.0	µg/L	5	6/15/2022 3:29:00 PM
Toluene	ND	1.0	µg/L	1	6/14/2022 4:44:00 PM
Ethylbenzene	16	1.0	µg/L	1	6/14/2022 4:44:00 PM

3.0

119

2.0

70-130

µg/L

%Rec

1

1

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 Sample Diluted Due to Matrix

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

Page 6 of 14

**Analytical Report** Lab Order 2206513

Date Reported: 6/16/2022

Kesuit	RL Qual Units DF	Date Analyzeu
Docult	DI Quel Unite DE	Data Analyzad
Matrix: GROUNDW	A <b>Received Date:</b> 6/9/2	022 7:20:00 AM
	Collection Date: 6/7/2	022 4:15:00 PM
	Client Sample ID: MW	15
	Matrix: GROUNDW	Client Sample ID: MW Collection Date: 6/7/2 Matrix: GROUNDWA Received Date: 6/9/2 Result PL Quel Units DE

Benzene	22000	500	µg/L	500	6/15/2022 3:49:00 PM
Toluene	3900	50	µg/L	50	6/14/2022 5:04:00 PM
Ethylbenzene	500	50	µg/L	50	6/14/2022 5:04:00 PM
Xylenes, Total	2900	100	µg/L	50	6/14/2022 5:04:00 PM
Surr: 4-Bromofluorobenzene	98.0	70-130	%Rec	50	6/14/2022 5:04:00 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S

в Analyte detected in the associated Method Blank

Е Estimated value

- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 7 of 14

Toluene

Analytical Report
Lab Order 2206513

Date Reported: 6/16/2022

6/15/2022 4:09:00 PM

CLIENT: HILCORP ENERGY		Client S	Sample ID	: MW1	6
Project: Standard 1		Colle	ction Date	: 6/7/20	022 3:15:00 PM
Lab ID: 2206513-008	Matrix: GROUND	WA Rece	eived Date	<b>:</b> 6/9/20	022 7:20:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	290	10	µg/L	10	6/15/2022 4:09:00 PM

ND

10

µg/L

10

### Hall Environmental Analysis Laboratory, Inc.

Ethylbenzene	540	10	µg/L	10	6/15/2022 4:09:00 PM
Xylenes, Total	6500	200	µg/L	100	6/14/2022 5:24:00 PM
Surr: 4-Bromofluorobenzene	132	70-130 \$	S %Rec	10	6/15/2022 4:09:00 PM

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference

- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 8 of 14

Xylenes, Total

Surr: 4-Bromofluorobenzene

Analytical Report
Lab Order 2206513

Date Reported: 6/16/2022

6/14/2022 5:44:00 PM

6/14/2022 5:44:00 PM

6/14/2022 5:44:00 PM

CLIENT:	HILCORP ENERGY		Client S	ample ID	: MW18	;
Project:	Standard 1		Collec	tion Date	: 6/7/202	22 1:53:00 PM
Lab ID:	2206513-009	Matrix: GROUNDW	VA Rece	ived Date	: 6/9/202	22 7:20:00 AM
Analyses		Result	RL Qu	al Units	DF	Date Analyzed
EPA ME	THOD 8021B: VOLATILES					Analyst: BRN
Benzene		6600	100	µg/L	100	6/15/2022 4:29:00 PM
Toluene		ND	10	µg/L	10	6/14/2022 5:44:00 PM

380

ND

116

10

20

70-130

µg/L

µg/L

%Rec

10

10

10

#### Hall Environmental Analysis Laboratory, Inc.

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix

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

Page 9 of 14

Xylenes, Total

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 2206513

Date Reported: 6/16/2022

6/14/2022 6:04:00 PM

6/14/2022 6:04:00 PM

CLIENT: HILCORP ENERGY		Client S	ample ID	: MW19	)
Project: Standard 1		Collec	tion Date	: 6/7/202	22 3:25:00 PM
<b>Lab ID:</b> 2206513-010	Matrix: GROUND	WA Rece	ived Date	: 6/9/202	22 7:20:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	12000	200	µg/L	200	6/14/2022 6:04:00 PM
Toluene	10000	200	µg/L	200	6/14/2022 6:04:00 PM
Ethylbenzene	1100	200	µg/L	200	6/14/2022 6:04:00 PM

5400

96.0

400

70-130

µg/L

%Rec

200

200

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н

- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit PQL
- Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix interference S

- Analyte detected in the associated Method Blank в
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 10 of 14

Xylenes, Total

Surr: 4-Bromofluorobenzene

**Analytical Report** Lab Order 2206513

Date Reported: 6/16/2022

6/14/2022 6:44:00 PM

6/14/2022 6:44:00 PM

6/14/2022 6:44:00 PM

1

1

1

µg/L

µg/L

%Rec

CLIENT:	HILCORP ENERGY		Client Sa	mple ID	: MW2	2
Project:	Standard 1		Collect	ion Date	: 6/7/20	22 2:10:00 PM
Lab ID:	2206513-011	Matrix: GROUNDWA	Receiv	ved Date	:6/9/20	022 7:20:00 AM
Analyses		Result	RL Qua	Units	DF	Date Analyzed
EPA ME	THOD 8021B: VOLATILES					Analyst: BRM
Benzene	)	ND	1.0	µg/L	1	6/14/2022 6:44:00 PM
Toluene		ND	1.0	µg/L	1	6/14/2022 6:44:00 PM

ND

ND

94.7

1.0

2.0

70-130

### Hall Environmental Analysis Laboratory, Inc.

Refer to	the	QC Summary report and sample login o	checklist for flagge	ed QC data and preservation information	۱.
fiors	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank	

Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- ociated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 11 of 14

D

**Qualifiers:** 

Xylenes, Total

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 2206513

Date Reported: 6/16/2022

6/14/2022 7:04:00 PM

6/14/2022 7:04:00 PM

6/14/2022 7:04:00 PM

					_
	Client S	ample ID	: MW2	3	
	Collec	tion Date:	: 6/7/20	022 1:05:00 PM	
Matrix: GROUNDWA	Recei	ived Date:	: 6/9/20	022 7:20:00 AM	
Result	RL Qua	al Units	DF	Date Analyzed	
				Analyst: BRI	M
ND	1.0	µg/L	1	6/14/2022 7:04:00 PM	
ND	1.0	ua/l	1	6/14/2022 7:04:00 PM	
-	Matrix: GROUNDWA Result	Client S Collec Matrix: GROUNDWA Recei Result RL Qua ND 1.0 ND 1.0	Client Sample ID         Collection Date:         Matrix:       GROUNDWA       Received Date:         Result       RL       Qual       Units         ND       1.0       µg/L         ND       1.0       µg/L	Client Sample ID: MW2         Collection Date: 6/7/20         Matrix: GROUNDWA       Received Date: 6/9/20         Result       RL       Qual       Units       DF         ND       1.0       µg/L       1         ND       1.0       µg/L       1	Client Sample ID: MW23           Collection Date: 6/7/2022 1:05:00 PM           Matrix:         GROUNDWA         Received Date: 6/9/2022 7:20:00 AM           Result         RL         Qual         Units         DF         Date Analyzed           Analyst: BRI           ND         1.0         µg/L         1         6/14/2022 7:04:00 PM           ND         1.0         µg/L         1         6/14/2022 7:04:00 PM

ND

ND

93.6

1.0

2.0

70-130

µg/L

µg/L

%Rec

1

1

1

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н

- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit PQL
- Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix interference S

- Analyte detected in the associated Method Blank в
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 12 of 14

Xylenes, Total

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 2206513

Date Reported: 6/16/2022

6/14/2022 7:24:00 PM

6/14/2022 7:24:00 PM

6/14/2022 7:24:00 PM

-						
CLIENT:	HILCORP ENERGY		Client Sa	ample ID	: MW2	6
Project:	Standard 1		Collect	tion Date	: 6/7/20	022 2:15:00 PM
Lab ID:	2206513-013	Matrix: GROUNDWA	Recei	ved Date	: 6/9/20	022 7:20:00 AM
Analyses		Result	RL Qua	l Units	DF	Date Analyzed
EPA ME	THOD 8021B: VOLATILES					Analyst: BRM
Benzene	9	ND	1.0	µg/L	1	6/14/2022 7:24:00 PM
Toluene		ND	1.0	μg/L	1	6/14/2022 7:24:00 PM

ND

ND

93.5

1.0

2.0

70-130

µg/L

µg/L

%Rec

1

1

1

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit PQL
- Practical Quanitative Limit % Recovery outside of range due to dilution or matrix interference S

Analyte detected in the associated Method Blank в

- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 13 of 14

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Released to Imaging: 1/17/2023 1:49:55 PM

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:	HILCORF	P ENERG	Y								
Project:	Standard	1									
Sample ID:	100ng btex lcs	Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Volati	les		
Client ID:	LCSW	Batc	h ID: <b>B8</b>	8732	F	RunNo: 8	8732				
Prep Date:		Analysis I	Date: <b>6/</b> *	14/2022	\$	SeqNo: 3	150208	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		18	1.0	20.00	0	90.7	80	120			
Toluene		19	1.0	20.00	0	93.0	80	120			
Ethylbenzene		19	1.0	20.00	0	93.8	80	120			
Xylenes, Total		56	2.0	60.00	0	94.0	80	120			
Surr: 4-Bron	nofluorobenzene	19		20.00		95.9	70	130			
Sample ID:	mb	Samp	Туре: <b>МЕ</b>	BLK	Tes	tCode: El	PA Method	8021B: Volati	les		
Client ID:	PBW	Batc	h ID: <b>B8</b>	8732	F	RunNo: <b>8</b>	8732				
Prep Date:		Analysis I	Date: 6/*	14/2022	:	SeqNo: 3	150209	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bron	nofluorobenzene	19		20.00		95.9	70	130			
Sample ID:	2206513-001ams	Samp	Туре: <b>МS</b>	5	Tes	stCode: El	PA Method	8021B: Volati	les		
Client ID:	MW03	Batc	h ID: <b>B8</b>	8732	F	RunNo: <b>8</b>	8732				
Prep Date:		Analysis I	Date: 6/	14/2022	:	SeqNo: 3	150211	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		16000	10	200.0	16130	11.3	80	120			ES
Toluene		2900	10	200.0	2774	76.9	80	120			ES
Ethylbenzene		880	10	200.0	697.9	91.1	80	120			
Xylenes, Total		7400	20	600.0	6902	78.5	80	120			ES
Surr: 4-Bron	nofluorobenzene	230		200.0		116	70	130			
Sample ID:	2206513-001amsd	Samp	Type: MS	D	TestCode: EPA Method 8021B: Volatiles						
Client ID:	MW03	Batc	h ID: <b>B8</b>	8732	F	RunNo: <b>8</b>	8732				
Prep Date:		Analysis I	Date: 6/	14/2022	\$	SeqNo: 3	150212	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		15000	10	200.0	16130	-443	80	120	5.79	20	ES
Toluene		2800	10	200.0	2774	-2.83	80	120	5.60	20	ES
Ethylbenzene		840	10	200.0	697.9	69.2	80	120	5.10	20	S
Xylenes, Total		7000	20	600.0	6902	22.5	80	120	4.67	20	ES
Surr: 4-Bron	nofluorobenzene	230		200.0		115	70	130	0	0	

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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### Released to Imaging: 1/17/2023 1:49:55 PM

16-Jun-22

2206513

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Client Na	me: HILC	ORP ENERGY	Wor	k Order Num	ber: 220	06513			RcptNo: 1	
Received	By: Trac	y Casarrubias	6/9/20	22 7:20:00 A	M					
Completed	By: Sea	n Livingston	6/9/20	22 9:25:31 A	M		<	. ,	1	
Reviewed	ву: ТМ	r	6/10/	22				-L	not	
Chain of	Custody									
1. Is Chair	n of Custody	complete?			Yes		N	•	Not Present	
2. How wa	s the sample	e delivered?		1	Cou	irier				
Log In										
3. Was an	attempt mac	le to cool the san	nples?		Yes		No			
4. Were all	samples rec	eived at a tempe	rature of >0° C	to 6.0°C	Yes		No			
5. Sample(	s) in proper (	container(s)?			Yes		No			
6. Sufficien	t sample volu	ume for indicated	test(s)?		Yes		No			
7. Are sam	oles (except	VOA and ONG) p	properly preserv	ed?	Yes		No			
8. Was pres	servative ado	led to bottles?	0.00000-00		Yes		No			
9. Received	l at least 1 vi	al with headspac	e <1/4" for AQ \	/OA?	Yes		No	П		
10. Were an	y sample cor	ntainers received	broken?		Yes		No			- /
11. Does par	erwork mate	h bottle labels?			Yes		No		# of preserved bottles checked for pH:	/
12 Are matri	ces correctly	identified on Ch	ly) Din of Custodu?				10		(<2 or >12 unless not	ed)
13 Is it clear	what analys	es were requeste	an or Custody?		Yes		NO		Aujusted	
14. Were all I (If no, not	holding times	s able to be met?			Yes		No		checked by: KPG 5-1	0-22
Special Ha	ndling (if	applicable)	.,							
15. Was clie	nt notified of	all discrepancies	with this order?		Yes		No			
Pe	rson Notified	1		Date:				_		
Ву	Whom:			Via:	□ eMa	ail 🗖	Phone	Fax		
Re	garding:							· un		
Clie	ent Instructio	ns:								
16. Addition	al remarks:									
17. <u>Cooler I</u> Coole	nformation	°C Condition	Seal Intact	Seal No	Cool D	1	0			
1	0.5	Good	Gear mact	Seal NO	Seal Da	ite	Signed	Ву		
2	3.2	Good								

Page 1 of 1

Phone	<i>Chain</i> <i>Hit</i> <i>Hit</i> <i>Hit</i> <i>Hit</i> <i>Hit</i> <i>Raddres</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>g</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>Addres</i> <i>G</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i>Addres</i> <i></i></i>	-of-C · Killer □ Az Q	ustody Record	Turn-Around B: Standar Project Nam Stock Project #: Project Man Project Man Sampler: it On Ice: # of Coolers	d Time: d □ Rust ne: ne: and and Andand Andand ant Hyde - E. Carvall E. Carvall P(Including CF): 0.1 7	Ensolum Ensolum	(°C)	O         MTBE / TMB'S (8021)	C     Image: Control of the second seco	C     TMB's (8021)       015D(GRO / DRO / MRO)     Tel. 50       Pesticides/8082 PCB's     Tel. 50       Mathed 504 1)     Tel. 50	C       C         Y-MTBE / TMB's (8021)         015D(GRO / DRO / MRO)         Pesticides/8082 PCB's         Method 504.1)         by 8310 or 8270SIMS	C       C         Y-MTBE / TMB's (8021)         015D(GRO / DRO / MRO)         Pesticides/8082 PCB's         Method 504.1)         by 8310 or 8270SIMS         8 Metals	C       C	C       C       ATTRE / TMB'S (8021)         015D(GRO / DRO / MRO)       4901 Hawkins NE - Albuq         Pesticides/8082 PCB'S         Method 504.1)         by 8310 or 8270SIMS         .8 Metals         Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> VOA)	C       7       MTBE / TMB'S (8021)         015D(GRO / DRO / MRO)       4901 Hawkins NE - Albuquerg         Pesticides/8082 PCB's       Tel. 505-345-3975         Method 504.1)       Fax 50         by 8310 or 8270SIMS       Fax 50         .8 Metals       Fr, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> Remi-VOA)
	Time /5 : 56	Matrix C-W	Sample Name	Cooler Tem Container Type and #	P(Including CF): 0.( 3- Preservative Type HCI	1-0.1=0.5 (°C 3-0.1=3.2° HEAL NO. 22004513	* BTEXT-MTE	TPH:8015D(	8081 Pestici	EDB (Motho	EDB (Metho	EDB (Metho PAHs by 83 <sup>-</sup> RCRA 8 Met	EDB (Metho PAHs by 83 <sup>-</sup> RCRA 8 Met Cl, F, Br, N	EDB (Metho PAHs by 83 <sup>-</sup> RCRA 8 Met Cl, F, Br, N 8260 (VOA)	EDB (Metho PAHs by 83 <sup>-</sup> RCRA 8 Met Cl, F, Br, N 8260 (VOA) 8270 (Semi-
	15:45	0-00	MWOH	Had C	псі	001		_							
	13:30		MWOS			so y	_	-			-	_			
_	14235		MW 11			<i>05</i> 5	-	-							
	14:45		MW12	-		10C		-							
<u>PM</u>	15:15		MW15			Fau Fau									
4:15	13:53		81 MW			1005	-	-		+	+	_			
2 1:4	5 6:51	-	MW19			010	_			_					
202	14:10		NWAZ			0(1	-			_					
1/20	13:05	1<	MW23	R	K	のて	14	1.1							
<b>0€D:</b> ¶ ∞ ē	Time:  3:00	Relinquish	ed by: CUTCOU	Received by:	Via:	Date Time	Rem	ω (	rks:	rks:	rks:	rks:	rks: CC: CCannall	rks: CC: CCanton Do	rks: CC: CCantal Done
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Time: Relinquished by: Received by: Via: Ce Date Time Ocarroll @ Consolum, Com	Mailing Address: $V_{1}$ : Use of the second s	Stand	ger: t Hyde t Hyde Carrol Carrol Preservative Type HCI HCI HCI	- Ensolum No 33-01:32% HEAL No. 2%	BIEX/ MTBE/ TMB's (8024)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS				8270 (Semi-VOA)	Total Coliform (Present/Absent) et 45, NM 87109	
Walling Address:	Hilcorp	Project Name	C Rush					>:	Z	5	S	IS	E 2	ABORI	RATO
Phone #         Project #:	Mailing Address:	Project Name	t# prof				: <b>I</b>		WW.	halle	nvin	onm	enta	al.com	
Phone #:         Image:         Project Manager:         Concentration:         Analysis Request           CMOC Praivage:         I Levid (Full Validation)         Struct + Hyck - Enstitute         Struc + Hyck - Enstitute         Struct + Hyck - E		Project #:				490 Te	1 Ha	-345	-39	5	Albu Fa	quei	ngue	9, NM 87109	7109
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Standard         Level 4 (Full Validation)         2 CC/C 7         F TV           NELAC         New Compliance         Sampler:         E. C Arrow         Sampler:         E. C Arrow           NELAC         Other         Horizon         Accreditation:         Ac	email or Fax#: <u>mellough @ hileorp - com</u> QA/QC Package:	Project Mana	ger:	- Ensolum	<del>3021</del> )	MRO)	B's		٨S		4, 504	_		osent)	
Accompliance         Sampler:         F. Correl           INELAC         Other         Other         Other           IDDE         Time         Matrix         Sampler:         FD: Correl           Date         Time         Matrix         Sampler:         FD: Correl           Date         Time         Matrix         Sampler:         FD: Correl           Cooler:         Time         Reinquished by:         Mutrix         Sampler:         FD: Correl           Monord by:         Via:         Via:         Correl         Correl         GO: Correl           Via:         Correl         Correl         Correl         Correl         Correl           Correl         Correl         Correl         Correl         Correl         Correl           Correl         Correl         Correl         Correl         Correl         Correl	Standard Level 4 (Full Validation)	2000	6	Ţ	' <del>s (</del> 1	01	PC		SI	DC	PU		_	it/A	
EDD (Type)         On los:         P vs         On los:         P vs           Date         Time         Matrix         Sample Name         Container         Presenative         Container         Container         Presenative         Container         Presenative         Container	Accreditation: 🛛 Az Compliance	Sampler:	- Carrol		MB	DR	)82	1)	3270	0	U <sub>2</sub> ,	_	-	ser	
EDD (Type)         # of Coolers: T           Date         Time         Matrix         Sample Name         Cooler Templemennest: 0         - C 1 < 0 (°C)	NELAC      Other	On Ice:	¤ Yes	□ No	/-Ŧ	0/	s/80	04.	or 8	; N	, IN		A)	Pre	
Date         Time         Matrix         Sample Name         Cooler Tempusseesce:         0	EDD (Type)	# of Coolers:	2		BE	GR	ide	od 5	10	tals	103		VO	m (	
Date         Time         Matrix         Sample Name         Container         Preservative         3 C 1: 3 2 ° C           C-7         IV.2         C         3 V0 A         HZ         C         3 V0 A         HEAL No.         ETTYpe and #         Type           C-7         IV.2         C         3 V0 A         HC1         Q13         C         Structure         Structure         HEAL No.         ETTYpe and #         Type and # <td< td=""><td></td><td>Cooler Temp()</td><td>including CF):</td><td>6-0.1-05 (°C)</td><td>MT</td><td>5D(</td><td>stic</td><td>etho</td><td>/ 83</td><td>NIE</td><td>, 1</td><td>JA)</td><td>emi-</td><td>lifor</td><td></td></td<>		Cooler Temp()	including CF):	6-0.1-05 (°C)	MT	5D(	stic	etho	/ 83	NIE	, 1	JA)	emi-	lifor	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Date Time Matrix Sample Name	Container Type and #	Preservative Type	33-01: 3.2 % HEAL No.	BTEX/	TPH:801	8081 Pe	EDB (Me	PAHs by			8260 (VC	8270 (Se	Total Col	
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October 11, 2022

Stuart Hyde HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

RE: Standard 1

OrderNo.: 2209H09

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 14 sample(s) on 9/30/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report
Lab Order 2209H09

Date Reported: 10/11/2022

CLIENT:	HILCORP ENERGY			Clie	ent Sai	nple ID	: MW 0	2
Project:	Standard 1			C	ollectio	on Date:	9/29/2	022 12:49:00 PM
Lab ID:	2209H09-001	Matrix:	GROUNDWA	I	Receiv	ed Date:	9/30/2	022 6:55:00 AM
Analyses		F	Result	RL	Qual	Units	DF	Date Analyzed

EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	16000	200	µg/L	200	10/6/2022 9:03:08 PM
Toluene	2600	200	µg/L	200	10/6/2022 9:03:08 PM
Ethylbenzene	1600	200	µg/L	200	10/6/2022 9:03:08 PM
Xylenes, Total	16000	300	µg/L	200	10/6/2022 9:03:08 PM
Surr: 1,2-Dichloroethane-d4	119	70-130	%Rec	200	10/6/2022 9:03:08 PM
Surr: 4-Bromofluorobenzene	100	70-130	%Rec	200	10/6/2022 9:03:08 PM
Surr: Dibromofluoromethane	103	70-130	%Rec	200	10/6/2022 9:03:08 PM
Surr: Toluene-d8	108	70-130	%Rec	200	10/6/2022 9:03:08 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 17

Toluene

Ethylbenzene

Xylenes, Total

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 2209H09

Date Reported: 10/11/2022

10/6/2022 9:30:05 PM

µg/L

µg/L

µg/L

µg/L

%Rec

%Rec

%Rec

%Rec

200

200

200

200

200

200

200

200

200

300

70-130

70-130

70-130

70-130

CLIENT: HILCORP ENERGY		Client S	ample ID	: MW 0	3
Project: Standard 1		Collec	tion Date	: 9/29/20	022 12:20:00 PM
Lab ID: 2209H09-002	Matrix: GROUND	WA Rece	ived Date	: 9/30/20	022 6:55:00 AM
Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES S	HORT LIST				Analyst: BRM
Benzene	17000	200	µg/L	200	10/6/2022 9:30:05 PM

1000

660

6400

112

120

101

110

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

**Qualifiers:** 

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

Page 2 of 17

Analytical Report
Lab Order 2209H09

Date Reported: 10/11/2022

CLIENT: HILCORP ENERGY		Client Sample ID	: MW 0	)4
Project: Standard 1		<b>Collection Date</b>	:9/29/2	2022 11:54:00 AM
Lab ID: 2209H09-003	Matrix: GROUNE	WA Received Date	:9/30/2	2022 6:55:00 AM
Analyses	Result	<b>RL</b> Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	ORT LIST			Analyst: BRM

Benzene	1500	20	µg/L	20	10/6/2022 9:57:01 PM
Toluene	ND	20	µg/L	20	10/6/2022 9:57:01 PM
Ethylbenzene	33	20	µg/L	20	10/6/2022 9:57:01 PM
Xylenes, Total	ND	30	µg/L	20	10/6/2022 9:57:01 PM
Surr: 1,2-Dichloroethane-d4	124	70-130	%Rec	20	10/6/2022 9:57:01 PM
Surr: 4-Bromofluorobenzene	104	70-130	%Rec	20	10/6/2022 9:57:01 PM
Surr: Dibromofluoromethane	105	70-130	%Rec	20	10/6/2022 9:57:01 PM
Surr: Toluene-d8	103	70-130	%Rec	20	10/6/2022 9:57:01 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 17

Analytical Report
Lab Order 2209H09

Date Reported: 10/11/2022

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 08
Project:	Standard 1	Collection Date: 9/29/2022 2:18:00 PM
Lab ID:	2209H09-004	Matrix: GROUNDWA Received Date: 9/30/2022 6:55:00 AM
Analyses		Result RL Qual Units DF Date Analyzed

EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	ND	1.0	µg/L	1	10/6/2022 10:23:53 PM
Toluene	ND	1.0	µg/L	1	10/6/2022 10:23:53 PM
Ethylbenzene	ND	1.0	µg/L	1	10/6/2022 10:23:53 PM
Xylenes, Total	ND	1.5	µg/L	1	10/6/2022 10:23:53 PM
Surr: 1,2-Dichloroethane-d4	116	70-130	%Rec	1	10/6/2022 10:23:53 PM
Surr: 4-Bromofluorobenzene	106	70-130	%Rec	1	10/6/2022 10:23:53 PM
Surr: Dibromofluoromethane	102	70-130	%Rec	1	10/6/2022 10:23:53 PM
Surr: Toluene-d8	98.1	70-130	%Rec	1	10/6/2022 10:23:53 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Analytical Report
Lab Order 2209H09

Date Reported: 10/11/2022

Project: Standard 1		Collection Date	: 9/29/2	2022 12:35:00 PM
Lab ID: 2209H09-005	Matrix: GROUNI	DWA Received Date	<b>: 9/30/2</b>	2022 6:55:00 AM
Analyses	Result	RL Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES S	HORT LIST			Analyst: BRI

EPA METHOD 8260: VOLATILES SHORT LIST					Analyst. BRIVI
Benzene	ND	1.0	µg/L	1	10/6/2022 10:50:51 PM
Toluene	ND	1.0	µg/L	1	10/6/2022 10:50:51 PM
Ethylbenzene	ND	1.0	µg/L	1	10/6/2022 10:50:51 PM
Xylenes, Total	ND	1.5	µg/L	1	10/6/2022 10:50:51 PM
Surr: 1,2-Dichloroethane-d4	122	70-130	%Rec	1	10/6/2022 10:50:51 PM
Surr: 4-Bromofluorobenzene	110	70-130	%Rec	1	10/6/2022 10:50:51 PM
Surr: Dibromofluoromethane	97.8	70-130	%Rec	1	10/6/2022 10:50:51 PM
Surr: Toluene-d8	102	70-130	%Rec	1	10/6/2022 10:50:51 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2209H09

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/11/2022

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 12
Project:	Standard 1	Collection Date: 9/29/2022 1:00:00 PM
Lab ID:	2209H09-006	Matrix: GROUNDWA Received Date: 9/30/2022 6:55:00 AM

Analyses	Result	RL Q	ual U	nits	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: BRM
Benzene	46	5.0	μ	g/L	5	10/6/2022 11:17:44 PM
Toluene	ND	5.0	μ	g/L	5	10/6/2022 11:17:44 PM
Ethylbenzene	14	5.0	μ	g/L	5	10/6/2022 11:17:44 PM
Xylenes, Total	ND	7.5	μ	g/L	5	10/6/2022 11:17:44 PM
Surr: 1,2-Dichloroethane-d4	130	70-130	S %	6Rec	5	10/6/2022 11:17:44 PM
Surr: 4-Bromofluorobenzene	111	70-130	%	6Rec	5	10/6/2022 11:17:44 PM
Surr: Dibromofluoromethane	111	70-130	%	6Rec	5	10/6/2022 11:17:44 PM
Surr: Toluene-d8	101	70-130	%	6Rec	5	10/6/2022 11:17:44 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Н Holding times for preparation or analysis exceeded

Analytical Report
Lab Order 2209H09

Date Reported: 10/11/2022

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 14
Project:	Standard 1	Collection Date: 9/29/2022 1:15:00 PM
Lab ID:	2209H09-007	Matrix: GROUNDWA Received Date: 9/30/2022 6:55:00 AM
Analyses		Result RL Qual Units DF Date Analyzed

1 mary 505	Rebuit	KL Qu	in emis	DI	Dute Milaly Zea
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	4300	200	µg/L	200	10/6/2022 11:44:37 PM
Toluene	1300	200	µg/L	200	10/6/2022 11:44:37 PM
Ethylbenzene	1100	200	µg/L	200	10/6/2022 11:44:37 PM
Xylenes, Total	6300	300	µg/L	200	10/6/2022 11:44:37 PM
Surr: 1,2-Dichloroethane-d4	120	70-130	%Rec	200	10/6/2022 11:44:37 PM
Surr: 4-Bromofluorobenzene	102	70-130	%Rec	200	10/6/2022 11:44:37 PM
Surr: Dibromofluoromethane	104	70-130	%Rec	200	10/6/2022 11:44:37 PM
Surr: Toluene-d8	99.7	70-130	%Rec	200	10/6/2022 11:44:37 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** 

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2209H09

Date Reported: 10/11/2022

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 15
<b>Project:</b>	Standard 1	Collection Date: 9/29/2022 1:19:00 PM
Lab ID:	2209H09-008	Matrix: GROUNDWA Received Date: 9/30/2022 6:55:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	24000	500	µg/L	500	10/7/2022 1:29:41 PM
Toluene	7500	500	µg/L	500	10/7/2022 1:29:41 PM
Ethylbenzene	640	50	µg/L	50	10/7/2022 12:11:31 AM
Xylenes, Total	4600	75	µg/L	50	10/7/2022 12:11:31 AM
Surr: 1,2-Dichloroethane-d4	112	70-130	%Rec	50	10/7/2022 12:11:31 AM
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	50	10/7/2022 12:11:31 AM
Surr: Dibromofluoromethane	98.9	70-130	%Rec	50	10/7/2022 12:11:31 AM
Surr: Toluene-d8	107	70-130	%Rec	50	10/7/2022 12:11:31 AM

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

**Qualifiers:** 

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

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Toluene

Ethylbenzene

Xylenes, Total

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 2209H09

Date Reported: 10/11/2022

10/7/2022 2:23:33 PM

<b>CLIENT</b> :	HILCORP ENERGY		Client Sample ID: MW 18					
<b>Project:</b>	Standard 1		Collection Date: 9/29/2022 3:00:00 PM					
Lab ID:	2209H09-009	Matrix:	Matrix: GROUNDWA Received Date: 9/30/2022 6:55:00 AM					
Analyses		R	esult	RL	Qual	Units	DF	Date Analyzed
EPA ME	THOD 8260: VOLATILES	HORT LIST						Analyst: BRM
Benzene	e		6400	200	)	µg/L	200	10/10/2022 12:53:08 PM

ND

350

ND

124

107

102

103

20

20

30

70-130

70-130

70-130

70-130

µg/L

µg/L

µg/L

%Rec

%Rec

%Rec

%Rec

20

20

20

20

20

20

20

Refer to the QC Summary report and	l sample login checklist f	or flagged QC data and	preservation information.
	1 8		I ·······

**Qualifiers:** 

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

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Hall Environmental Analysis Laboratory, Inc.

**Analytical Report** Lab Order 2209H09

Date Reported: 10/11/2022

CLIENT:	HILCORP ENERGY		(	Client Sample ID	: MW 1	9
Project:	Standard 1			<b>Collection Date</b>	:9/29/2	022 2:30:00 PM
Lab ID:	2209Н09-010	Matrix: GROUND	VA	<b>Received Date</b>	:9/30/2	022 6:55:00 AM
Analyses		Result	R	<b>RL</b> Qual Units	DF	Date Analyzed

EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	13000	200	µg/L	200	10/7/2022 2:50:32 PM
Toluene	12000	200	µg/L	200	10/7/2022 2:50:32 PM
Ethylbenzene	1100	200	µg/L	200	10/7/2022 2:50:32 PM
Xylenes, Total	6200	300	µg/L	200	10/7/2022 2:50:32 PM
Surr: 1,2-Dichloroethane-d4	122	70-130	%Rec	200	10/7/2022 2:50:32 PM
Surr: 4-Bromofluorobenzene	98.1	70-130	%Rec	200	10/7/2022 2:50:32 PM
Surr: Dibromofluoromethane	106	70-130	%Rec	200	10/7/2022 2:50:32 PM
Surr: Toluene-d8	99.4	70-130	%Rec	200	10/7/2022 2:50:32 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix interference S

- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2209H09

Date Reported: 10/11/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 22
<b>Project:</b>	Standard 1	Collection Date: 9/29/2022 12:05:00 PM
Lab ID:	2209H09-011	Matrix: GROUNDWA Received Date: 9/30/2022 6:55:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	ND	1.0	µg/L	1	10/7/2022 1:56:35 PM
Toluene	ND	1.0	µg/L	1	10/7/2022 1:56:35 PM
Ethylbenzene	ND	1.0	µg/L	1	10/7/2022 1:56:35 PM
Xylenes, Total	ND	1.5	µg/L	1	10/7/2022 1:56:35 PM
Surr: 1,2-Dichloroethane-d4	119	70-130	%Rec	1	10/7/2022 1:56:35 PM
Surr: 4-Bromofluorobenzene	110	70-130	%Rec	1	10/7/2022 1:56:35 PM
Surr: Dibromofluoromethane	101	70-130	%Rec	1	10/7/2022 1:56:35 PM
Surr: Toluene-d8	107	70-130	%Rec	1	10/7/2022 1:56:35 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit PQL
- Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix interference S

- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** 

## Hall Environmental Analysis Laboratory, Inc.

Lab Order 2209H09

Date Reported: 10/11/2022

CLIENT:	HILCORP ENERGY			Client Sample ID: MW 23
Project:	Standard 1			Collection Date: 9/29/2022 1:53:00 PM
Lab ID:	2209H09-012	Matrix:	GROUNDWA	Received Date: 9/30/2022 6:55:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	ND	1.0	µg/L	1	10/7/2022 3:17:28 PM
Toluene	ND	1.0	µg/L	1	10/7/2022 3:17:28 PM
Ethylbenzene	ND	1.0	µg/L	1	10/7/2022 3:17:28 PM
Xylenes, Total	ND	1.5	µg/L	1	10/7/2022 3:17:28 PM
Surr: 1,2-Dichloroethane-d4	127	70-130	%Rec	1	10/7/2022 3:17:28 PM
Surr: 4-Bromofluorobenzene	112	70-130	%Rec	1	10/7/2022 3:17:28 PM
Surr: Dibromofluoromethane	106	70-130	%Rec	1	10/7/2022 3:17:28 PM
Surr: Toluene-d8	99.7	70-130	%Rec	1	10/7/2022 3:17:28 PM

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

**Qualifiers:** 

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

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 2209H09

Date Reported: 10/11/2022

CLIENT:	HILCORP ENERGY	Client Sample ID: MW 26
Project:	Standard 1	Collection Date: 9/29/2022 2:40:00 PM
Lab ID:	2209H09-013	Matrix: GROUNDWA Received Date: 9/30/2022 6:55:00 AM
Analyses		Result DI Qual Units DE Date Analyzed

Analyses	Result	KL Qua	ii Units	Dr	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	ND	1.0	µg/L	1	10/7/2022 3:44:26 PM
Toluene	ND	1.0	µg/L	1	10/7/2022 3:44:26 PM
Ethylbenzene	ND	1.0	µg/L	1	10/7/2022 3:44:26 PM
Xylenes, Total	ND	1.5	µg/L	1	10/7/2022 3:44:26 PM
Surr: 1,2-Dichloroethane-d4	124	70-130	%Rec	1	10/7/2022 3:44:26 PM
Surr: 4-Bromofluorobenzene	105	70-130	%Rec	1	10/7/2022 3:44:26 PM
Surr: Dibromofluoromethane	106	70-130	%Rec	1	10/7/2022 3:44:26 PM
Surr: Toluene-d8	108	70-130	%Rec	1	10/7/2022 3:44:26 PM

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

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 1/17/2023 1:49:55 PM

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 2209H09

Date Reported: 10/11/2022

CLIENT:	HILCORP ENERGY		(	Client Sample ID: Trip Blank
Project:	Standard 1			Collection Date:
Lab ID:	2209H09-014	Matrix:	GROUNDWA	Received Date: 9/30/2022 6:55:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: BRM
Benzene	ND	1.0	µg/L	1	10/7/2022 4:11:26 PM
Toluene	ND	1.0	µg/L	1	10/7/2022 4:11:26 PM
Ethylbenzene	ND	1.0	µg/L	1	10/7/2022 4:11:26 PM
Xylenes, Total	ND	1.5	µg/L	1	10/7/2022 4:11:26 PM
Surr: 1,2-Dichloroethane-d4	129	70-130	%Rec	1	10/7/2022 4:11:26 PM
Surr: 4-Bromofluorobenzene	105	70-130	%Rec	1	10/7/2022 4:11:26 PM
Surr: Dibromofluoromethane	110	70-130	%Rec	1	10/7/2022 4:11:26 PM
Surr: Toluene-d8	99.5	70-130	%Rec	1	10/7/2022 4:11:26 PM

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

**Qualifiers:** 

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

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# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: HII	LCORP ENERC	θY								
Project: Sta	ndard 1									
Sample ID: 100ng Ics	Samp	Гуре: <b>LC</b>	S	TestCode: EPA Method 8260: Volatiles Short List						
Client ID: LCSW	Batc	Batch ID: R91619		F	RunNo: 9	1619				
Prep Date:	Analysis [	Date: 10	0/6/2022	S	SeqNo: 3	282612	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.8	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	13		10.00		125	70	130			
Surr: 4-Bromofluorobenzene	e 11		10.00		112	70	130			
Surr: Dibromofluoromethane	e 11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			
Sample ID: mb	Samp	Type: ME	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW	Batc	h ID: <b>R9</b>	1619	F	RunNo: <b>9</b>	1619				
Prep Date:	Analysis [	Date: 10	0/6/2022	S	SeqNo: 3	282635	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		113	70	130			
Surr: 4-Bromofluorobenzene	e 10		10.00		101	70	130			
Surr: Dibromofluoromethane	e 10		10.00		100	70	130			
Surr: Toluene-d8	11		10.00		107	70	130			
Sample ID: 100ng Ics	Samp	Type: LC	S	TestCode: EPA Method 8260: Volatiles Short List						
Client ID: LCSW	Batc	h ID: A9	1645	RunNo: <b>91645</b>						
Prep Date:	Analysis [	Date: 10	0/7/2022	S	SeqNo: 3	283622	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.5	70	130			
Toluene	20	1.0	20.00	0	98.9	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		123	70	130			
Surr: 4-Bromofluorobenzene	e 10		10.00		104	70	130			
Surr: Dibromofluoromethane	e 10		10.00		104	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			
Sample ID: 100ng Ics2	Samp	Гуре: <b>LC</b>	S	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW	Batc	h ID: <b>B9</b>	1645	F	RunNo: <b>9</b>	1645				
Prep Date:	Analysis I	Date: 10	0/8/2022	S	SeqNo: 3	283623	Units: %Rec	:		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	12		10.00		121	70	130			
Surr: 4-Bromofluorobenzene	e 10		10.00		103	70	130			

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

NDNot Detected at the Reporting LimitPQLPractical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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WO#:	2209H09

<sup>\*</sup> Value exceeds Maximum Contaminant Level.

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: H Project: St	ILCORP ENERC	GΥ											
Sample ID: 100ng lcs	2 Samp	Туре: <b>LC</b>	S	Tes	tCode: El	PA Method	8260: Volatile	es Short L	ist				
Client ID: LCSW	Bato	ch ID: <b>B9</b>	1645	RunNo: <b>91645</b>									
Prep Date:	Analysis	Date: 10	/8/2022	S	SeqNo: 3	283623	Units: %Rec	:					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Surr: Dibromofluorometha	ne 10		10.00		101	70	130						
Surr: Toluene-d8	11		10.00		107	70	130						
Sample ID: 2209h09-0	011a ms Samp	Туре: <b>МS</b>	5	Tes	tCode: El	PA Method	8260: Volatile	es Short L	ist				
Client ID: MW 22	Bato	ch ID: A9	1645	F	RunNo: 9	1645							
Prep Date:	Analysis	Date: 10	/7/2022	S	SeqNo: 3	283628	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	20	1.0	20.00	0	102	70	130						
Toluene	19	1.0	20.00	0.2428	91.3	70	130						
Surr: 1,2-Dichloroethane-	14 14		10.00		137	70	130			S			
Surr: 4-Bromofluorobenze	ne 11		10.00		110	70	130						
Surr: Dibromofluorometha	ne 11		10.00		114	70	130						
Surr: Toluene-d8	9.8		10.00		97.7	70	130						
Sample ID: 2209h09-0	011a msd Samp	Туре: <b>МS</b>	D	Tes	tCode: El	PA Method	8260: Volatile	es Short L	ist				
Client ID: MW 22	Bato	F	RunNo: <b>9</b>	1645									
Prep Date:	Analysis	Date: 10	/7/2022	SeqNo: <b>3283629</b> Units: μ <b>g/L</b>									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	20	1.0	20.00	0	100	70	130	1.72	20				
Toluene	18	1.0	20.00	0.2428	89.1	70	130	2.46	20				
Surr: 1,2-Dichloroethane-	14 13		10.00		131	70	130	0	0	S			
Surr: 4-Bromofluorobenze	ne 11		10.00		108	70	130	0	0				
Surr: Dibromofluorometha	ne 11		10.00		108	70	130	0	0				
Surr: Toluene-d8	10		10.00		100	70	130	0	0				
Sample ID: <b>mb</b>	Samp	Туре: <b>МЕ</b>	BLK	Tes	tCode: El	PA Method	8260: Volatile	es Short L	ist				
Client ID: PBW	Bato	ch ID: A9	1645	F	RunNo: <b>9</b>	1645							
Prep Date:	Analysis	Date: 10	/7/2022	5	SeqNo: 3	283668	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	ND	1.0											
Toluene	ND	1.0											
Ethylbenzene	ND	1.0											
Xylenes, Total	ND	1.5											
Surr: 1,2-Dichloroethane-	14 12		10.00		115	70	130						
Surr: 4-Bromofluorobenze	ne 12		10.00		115	70	130						
Surr: Dibromofluorometha	ne 9.5		10.00		95.3	70	130						
Surr: Toluene-d8	9.7		10.00		97.2	70	130						

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

.

2209H09

11-Oct-22

WO#:

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:	HILCORI	P ENERG	Ϋ́										
Project:	Standard	1											
Sample ID: mb2		SampT	Гуре:	MBLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist			
Client ID: PBW		Batc	h ID:	B91645	F	RunNo: 91645							
Prep Date:		Analysis E	Date:	10/8/2022	S	SeqNo: 3	283669	Units: %Rec	;				
Analyte		Result	PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: 1,2-Dichloroetha	ane-d4	12		10.00		118	70	130					
Surr: 4-Bromofluorob	enzene	9.7		10.00		97.5	70	130					
Surr: Dibromofluorom	nethane	10		10.00		102	70	130					
Surr: Toluene-d8		9.6		10.00		95.8	70	130					
Sample ID: 100ng	lcs	SampT	Гуре:	LCS	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist			
Client ID: LCSW	1	Batc	h ID:	R91680	F	RunNo: 9	1680						
Prep Date:	S	SeqNo: 3	285301	Units: µg/L									
Analyte		Result	PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene		18	1	.0 20.00	0	90.6	70	130					
Surr: 1,2-Dichloroetha	ane-d4	12		10.00		118	70	130					
Surr: 4-Bromofluorob	enzene	11		10.00		107	70	130					
Surr: Dibromofluorom	nethane	10		10.00		100	70	130					
Surr: Toluene-d8		10		10.00		102	70	130					
Sample ID: mb		SampT	Гуре:	MBLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist			
Client ID: PBW		Batcl	h ID:	R91680	F	RunNo: 9	1680						
Prep Date:		Analysis E	Date:	10/10/2022	S	SeqNo: 3	285314	Units: µg/L					
Analyte		Result	PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene		ND	1	.0									
Surr: 1,2-Dichloroetha	ane-d4	12		10.00		123	70	130					
Surr: 4-Bromofluorob	enzene	11		10.00		106	70	130					
Surr: Dibromofluorom	nethane	10		10.00		105	70	130					
Surr: Toluene-d8		10		10.00		105	70	130					

#### Qualifiers:

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

2209H09

11-Oct-22

WO#:

Received by	<b>OCD</b> :	11/20/2022	1:44:15 PM
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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental . Albu TEL: 505-345-3975 Website: www.hai	Analysis 4901 F querque, FAX: 50. Ilenviron	Laboratory ławkins NE NM 87109 5-345-4107 mental.com	Sample Log-In Check List					
Client Name: HILCORP ENERGY	Work Order Number:	2209H	09		RcptNo: 1				
Received By: Juan Rojas 9	/30/2022 6:55:00 AM		4	ian and					
Completed By: Sean Livingston 9 Reviewed By: SN 930/22	/30/2022 8:52:48 AM		-	Sala	John -				
Chain of Custody									
1. Is Chain of Custody complete?		Yes 🖌		No 🗌	Not Present				
How was the sample delivered?		Courier							
<u>Log In</u>		-	-	-					
Was an attempt made to cool the samples?		Yes 🗹		No 🗀	NA L				
<ol> <li>Were all samples received at a temperature of</li> </ol>	>0° C to 6.0°C	Yes 🔽		No 🗆					
. Sample(s) in proper container(s)?		Yes 🔽		No 🗆					
5. Sufficient sample volume for indicated test(s)?		Yes 🔽	1	No 🗆					
7. Are samples (except VOA and ONG) properly pr	reserved?	Yes 🔽	1	10 🗆					
. Was preservative added to bottles?		Yes 🗌	1	No 🔽	NA 🗌				
. Received at least 1 vial with headspace <1/4" fo	r AQ VOA?	Yes 🔽	] N	No 🗆					
0. Were any sample containers received broken?		Yes 🗆	]	No 🗹 🛛	# of preserved				
1. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🔽	1	No 🗆	bottles checked for pH: (<2 or >12 untess noted)				
2. Are matrices correctly identified on Chain of Cus	stody?	Yes 🔽	] •	lo 🗆	Adjusted?				
3. Is it clear what analyses were requested?		Yes 🔽	1 [	No 🗌	KPC193				
<ol> <li>Were all holding times able to be met? (If no, notify customer for authorization.)</li> </ol>		Yes 🔽	] •	No 🗆	Checked by: KPG A-2				
pecial Handling (if applicable)					4.30				
5. 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:	1 1								
6. Additional remarks: (1)05 On 14	provided	w	th	Hac	12 trip Blanks.				
7. Cooler Information				2	KPG (				
Cooler No Temp °C Condition Seal	Intact Seal No S	eal Date	Sign	ed By					
1 0.5 Good									

Page 1 of 1

tody Record Turn-Around Time: Hall ENVIRONMENTAL Astandard Drush Anal YSTS LABORATORY	And Mitch Killaugh Project Name: Www.hallenvironmental.com 4901 Hawkins NF - Alburghermine NM 87109	Project #: Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	Project Manager:	Level 4 (Full Validation) Sturrt Hyde 802 RB 50 / MB 5	liance Sampler: (7 / D &) S270	On Ice: T Ves DNo (AC 2015)	# of Coolers: 1 ===================================	Cooler Temp(including cr): し、S-とうし、「(。C) MT BD ast ich 83 Me 1, A Me 1, OA into	ample Name         Type and #         Type         Z2201 HD34         HEAL No.         X         N	MWD Z VOUS Hguix 001 X 100 FIJBH SMON Z COMM	X 200 [7]4 [ 20 M	made if McI as3 X     MCI	MW OS MW	MW 11 1 1 1 205 2 205 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	MW12 MW12 000 Y	mus 14 Haciz oot > 1	MW 15 HACIA 008 Y	MW 18 1 ACI 009 × 1	MUN 19 19 X OIO X OIO X OIO X OIO	NW 22 BE WW	MW 23 V Hel OIL X	N Peller Received by: Via: Date Time Remarks: Shyle a ensolvin	Received by: Via: Date Time D'Aurns @ ensolver
Every Accord	Finado Mitch Killagh Pr	<u>L</u>		<u>r</u>	Level 4 (Full Validation)	Compliance	er	#	ŭ	Cc Sample Name	Comm (	MW 03	No ON	Mw og	MW II	MW 12	HI MW	Mw 15	MW 18	MW 19	EC. MW	MW 23	THAN PENUS	shed by: Re

HALL ENVIRONMENTAL ANALYSIS LABORATORY	www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Kequest	(O/MRO) PCB's PO₄, SO₄ fort)	0 / DR 3/8082 3/8082 01 827( 3/ 9 7 9 7 9 7 9 7 9	703 103 103 103 103 103 103 103 103 103 1	TPH:8015D 8081 Pestic 8081 Pestic PAHs by 83 CI, F, Br, 1 8260 (VOA) 8250 (VOA) 8250 (VOA) 8270 (Semi 70tal Colifor					smarks: sibility. Any sub-contracted data will be clearly notated on the analytical report.
Turn-Around Time:	Project Name: #1	Project #:		Project Manager: Stuurt Myde	Sampler: (A) DB On Ice:Yes No	# of Coolers: 1	Cooler Temp(Induding CF): C. C. C. (°C) Container Preservative HEAL No.	JUDES HC DIJ X				Received by: Via: Date Time Re ALL MOL 9/29/22 (U17 Received by: Via: Date Time Time 10 UN-25 0/22 (LCT) Intracted to other accredited laboratories. This serves as notice of this po
Chain-of-Custody Record	Kide Kinthun Witch Killouch			email or Fax#: ©QA/QC Package: Standard □ Level 4 (Full Validation)	Accreditation:	* EDD (Type) 2DF	Date Time Matrix Sample Name	120 MM CM DA				Date:     Time:     Relinquished by:       Plate:     Time:     Relinquished by       Pate:     Time:     Relinquished by       Pate:     Time:     Relinquished by       Plate:     Time:     Relinquished by

#### Velez, Nelson, EMNRD

From:	Velez, Nelson, EMNRD
Sent:	Tuesday, November 1, 2022 2:09 PM
То:	Stuart Hyde
Cc:	Mitch Killough; Devin Hencmann; Bratcher, Michael, EMNRD; Romero, Rosa, EMNRD; Billings, Bradford, EMNRD
Subject:	RE: [EXTERNAL] nCS1916853082 - Salty Dog Water Gathering System, Variance Request

Stuart,

Your variance request of the 15-day public notice requirement (19.15.30.15B) is approved and contingent upon an updated "Proposed Public Notice and Participation for Stage 1 Abatement Plan" to be submitted to the NMOCD concurrently with the executive summary for the Site, no later than November 21, 2022. Upon approval by OCD, Hilcorp would then be required to complete the 15-day public notice as stated in 19.15.30.15B.

Regards,

Nelson Velez • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | <u>nelson.velez@emnrd.nm.gov</u> NOTE NEW EMAIL ADDRESS http://www.emnrd.state.nm.us/OCD/



From: Stuart Hyde <shyde@ensolum.com>
Sent: Tuesday, November 1, 2022 1:48 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: Mitch Killough <mkillough@hilcorp.com>; Devin Hencmann <dhencmann@ensolum.com>
Subject: [EXTERNAL] nCS1916853082 - Salty Dog Water Gathering System, Variance Request

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Nelson,

On behalf of Hilcorp Energy Company (Hilcorp), Ensolum is submitting this request for a variance to the Public Notice timeline requirements set forth in 19.15.30.15 of the New Mexico Administrative Code (NMAC) for the Salty Dog Water Gathering System site (the "Site"). This request for a variance of requirements set forth in 19.15.30.15 is allowed by the language stated in 19.15.29.14(A) NMAC, "A responsible party may file a written request for a variance from any requirement of 19.15.29 NMAC", of which abatement plans are required by 19.15.29.12(B)(1) to remediate water.

As stated in the NMOCD approval email below, Hilcorp shall adhere to the scheduling described in Section 5.2 of the "Stage 1 Abatement Plan", which was submitted to the NMOCD in December 2019. As part of the "Stage 1 Abatement Plan", LT Environmental (a company that no longer exists) submitted a document to the NMOCD titled "Proposed Public Notice and Participation for Stage 1 Abatement Plan" describing the plan and draft language to be used to send letters to surrounding landowners, government/tribal entities, and to public newspapers.

Due to the lapse of time between the submittal and NMOCD approval of the "Stage 1 Abatement Plan", Hilcorp is concerned that the "Proposed Public Notice and Participation for Stage 1 Abatement Plan" is no longer accurate. Specifically, the proposed public notice plan included a list of property owners located within one mile of the Site.

### Received by OCD: 11/20/2022 1:44:15 PM

Hilcorp would like additional time in order to generate an updated list of property owners and addresses to ensure that all current property owners have the ability to receive a letter. Additionally, the draft public notice language approved by the NMOCD is no longer accurate, as the primary contacts for both the NMOCD and Hilcorp have changed since the submittal of the plan.

As such, Hilcorp is requesting a variance of the 15-day public notice requirement (19.15.30.15). Hilcorp would like to prepare an updated "Proposed Public Notice and Participation for Stage 1 Abatement Plan" to be submitted to the NMOCD concurrently with the executive summary for the Site, no later than November 20, 2022. Upon NMOCD approval of the updated "Proposed Public Notice and Participation for Stage 1 Abatement Plan", Hilcorp will fulfill the public notice requirements within the required 15-day period.



Senior Geologist 970-903-1607 Ensolum, LLC in f

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us> Sent: Friday, October 21, 2022 4:20 PM To: Mitch Killough <<u>mkillough@hilcorp.com</u>> Subject: [EXTERNAL] The Oil Conservation Division (OCD) has approved the application, Application ID: 3057

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To whom it may concern (c/o Mitch Killough for HILCORP ENERGY COMPANY),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nCS1916853082, with the following conditions:

 As a condition of approval Hilcorp must furnish within 30 days of this approval date, the following; - An up-todate executive summary of data from quarterly sampling events or any other activity associated with this specific incident - A current and up-to-date site map showing monitor wells and any pertinent remedial data -Any quarterly monitoring collected to the present (summary table only is sufficient). Hilcorp shall adhere to its scheduling as described in section 5.2 of the abatement plan.

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you, Nelson Velez Environmental Specialist – Advanced 505–469–6146 <u>Nelson.Velez@emnrd.nm.gov</u>

New Mexico Energy, Minerals and Natural Resources Department 1220 South St. Francis Drive Santa Fe, NM 87505 The information contained in this email message is confidential and may be legally privileged and is intended only for the use of the individual or entity named above. If you are not an intended recipient or if you have received this message in error, you are hereby notified that any dissemination, distribution, or copy of this email is strictly prohibited. If you have received this email in error, please immediately notify us by return email or telephone if the sender's phone number is listed above, then promptly and permanently delete this message.

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#### Velez, Nelson, EMNRD

From:	Velez, Nelson, EMNRD
Sent:	Tuesday, November 1, 2022 3:30 PM
То:	Stuart Hyde
Cc:	Mitch Killough; Devin Hencmann; Bratcher, Michael, EMNRD
Subject:	RE: [EXTERNAL] nCS1735235018 - Standard #1, Variance Request

Stuart,

Your variance request of the 15-day public notice requirement (19.15.30.15B) is approved and contingent upon an updated "Proposed Public Notice and Participation for Stage 1 Abatement Plan" to be submitted to the NMOCD concurrently with the executive summary for the Site, no later than November 21, 2022. Upon approval by OCD, Hilcorp would then be required to complete the 15-day public notice as stated in 19.15.30.15B.

Please keep a copy of this communication for inclusion within the appropriate reporting documentation.

The OCD requires a copy of all correspondence related to remedial activities be included in all proposals, weekly/monthly/quarterly/semi-annual/annual, or final closure reports. Correspondence reporting requirements may include, but not limited to, notifications for sampling or drilling event(s), and request for time extension(s) or variance(s).

If you have any questions, please contact me via email at your convenience.

Thanks

Regards,

Nelson Velez • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | <u>nelson.velez@emnrd.nm.gov</u> NOTE NEW EMAIL ADDRESS http://www.emnrd.state.nm.us/OCD/



From: Stuart Hyde <shyde@ensolum.com>
Sent: Tuesday, November 1, 2022 3:24 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: Mitch Killough <mkillough@hilcorp.com>; Devin Hencmann <dhencmann@ensolum.com>
Subject: [EXTERNAL] nCS1735235018 - Standard #1, Variance Request

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Nelson,

On behalf of Hilcorp Energy Company (Hilcorp), Ensolum is submitting this request for a variance to the Public Notice timeline requirements set forth in 19.15.30.15 of the New Mexico Administrative Code (NMAC) for the Standard #1 site (the "Site"). This request for a variance of requirements set forth in 19.15.30.15 is allowed by the language stated in 19.15.29.14(A) NMAC, "A responsible party may file a written request for a variance from any requirement of 19.15.29 NMAC", of which abatement plans are required by 19.15.29.12(B)(1) to remediate water.

### Received by OCD: 11/20/2022 1:44:15 PM

As stated in the NMOCD approval email below, Hilcorp shall adhere to the scheduling described in Section 5.11 of the "Stage 2 Abatement Plan", which was submitted to the NMOCD on September 30, 2019. As part of the "Stage 2 Abatement Plan", LT Environmental (a company that no longer exists) submitted a document to the NMOCD titled "Proposed Public Notice and Participation for Stage 2 Abatement Plan" describing the plan and draft language to be used to send letters to surrounding landowners, government/tribal entities, and to public newspapers.

Due to the lapse of time between the submittal and NMOCD approval of the "Stage 2 Abatement Plan", Hilcorp is concerned that the "Proposed Public Notice and Participation for Stage 2 Abatement Plan" is no longer accurate. Specifically, the proposed public notice plan included a list of property owners located within one mile of the Site. Hilcorp would like additional time in order to generate an updated list of property owners and addresses to ensure that all current property owners have the ability to receive a letter. Additionally, the draft public notice language approved by the NMOCD is no longer accurate, as the primary contacts for both the NMOCD and Hilcorp have changed since the submittal of the plan.

As such, Hilcorp is requesting a variance of the 15-day public notice requirement (19.15.30.15). Hilcorp would like to prepare an updated "Proposed Public Notice and Participation for Stage 2 Abatement Plan" to be submitted to the NMOCD concurrently with the executive summary for the Site, no later than November 21, 2022. Upon NMOCD approval of the updated "Proposed Public Notice and Participation for Stage 2 Abatement Plan", Hilcorp will fulfill the public notice requirements within the required 15-day period.



Stuart Hyde, LG Senior Geologist 970-903-1607 Ensolum, LLC in f

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us> Sent: Friday, October 21, 2022 3:58 PM To: Mitch Killough <<u>mkillough@hilcorp.com</u>> Subject: [EXTERNAL] The Oil Conservation Division (OCD) has approved the application, Application ID: 58603

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To whom it may concern (c/o Mitch Killough for HILCORP ENERGY COMPANY),

The OCD has approved the submitted *Ground Water Abatement* (GROUND WATER ABATEMENT), for incident ID (n#) nCS1735235018, with the following conditions:

 As a condition of approval Hilcorp must furnish within 30 days of this approval date, the following; - An up-todate executive summary of data from quarterly sampling events or any other activity associated with this specific incident - A current and up-to-date site map showing monitor wells and any pertinent remedial data -Any quarterly monitoring collected to the present (summary table only is sufficient). Hilcorp shall adhere to its scheduling as described in section 5.11 of the abatement plan.

The signed GROUND WATER ABATEMENT can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

### New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive Santa Fe, NM 87505

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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 160232

CONDITIONS

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	160232
	Action Type:
	[UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

#### CONDITIONS

Created By	Condition	Condition Date
nvelez	1. Conditions of approved Stage 1 abatement plan letter were met with submittal of required documents reference in the letter. 2. Variance request toward 19.15.30.15B is formally approved. Email thread of correspondence with conditional approval attached.	1/17/2023