

May 29, 2024

### **New Mexico Oil Conservation Division**

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

Re: Site Remediation Report and Closure Request

Witt 1
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident No: nAPP2403723976

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Site Remediation Report and Closure Request* associated with a historical release of produced water and condensate discovered at the Witt 1 natural gas production well (Site). The Site is located on private land in Unit N, Section 33, Township 29 North, Range 11 West, San Juan County, New Mexico (Figure 1).

### SITE BACKGROUND

During the removal of a below grade tank (BGT) storage vessel at the Site, a historical release of condensate and produced was discovered by Hilcorp operations. Upon initial discovery on December 18, 2023, a 5-point composite sample was collected from the area underneath the BGT and laboratory analysis indicated elevated concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and total petroleum hydrocarbons (TPH) as a combination of gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO). Based on soil delineation data and concentrations of BTEX and total TPH, an estimated volume of 15.3 barrels (bbls) of condensate and produced water were released at the Site.

Hilcorp informed the New Mexico Oil Conservation Division (NMOCD) on February 6, 2024, with a Notification of Release (NOR), following assessment activities confirming the presence of impacts and estimated volume calculation. NMOCD assigned the release incident number nAPP2403723976.

#### SITE CHARACTERIZATION AND CLOSURE CRITERIA

As part of the Site investigation, local geology/hydrogeology and nearby sensitive receptors were assessed in accordance with Title 19, Chapter 15, Part 29, Sections 11 and 12 (19.15.29.11 and 12) of the New Mexico Administrative Code (NMAC).

### GEOLOGY AND HYDROGEOLOGY

The Site is located within the Nacimiento Geologic Formation. In the report titled *Hydrogeology and Water Resources of San Juan Basin, New Mexico* (Stone, et. al., 1983), the Nacimiento Formation is characterized by interbedded black carbonaceous mudstones and white, coarse-grained sandstones, which ranges in thickness from 418 feet to 2,232 feet. The hydrogeologic properties of the Nacimiento

Site Remediation Report and Closure Request Witt 1 Hilcorp Energy Company

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Formation display variable hydrogeologic properties dependent on location. Where sufficient yield is present, the primary use of water from this formation is for domestic and/or livestock supply. The Nacimiento Formation is underlain by the Ojo Alamo sandstone (Stone et. al., 1983).

### POTENTIAL SENSITIVE RECEPTORS

Potential nearby receptors were assessed through desktop reviews of United States Geological Survey (USGS) topographic maps, National Wetland Inventory (NWI), National Hydrography Dataset (NHD) Geographic Information System (GIS) maps, New Mexico Office of the State Engineer (NMOSE) database, aerial photographs, and Site-specific observations.

The closest significant watercourse is an intermittent stream located 220 feet northwest of the Site. The Site is greater than 200 feet from any lakebed, sinkhole, or playa lake, and is greater than 300 feet from a wetland (Figure 1). The nearest fresh-water well with depth-to-groundwater information is NMOSE permitted well SJ-04027 (Appendix A), located approximately 3,120 feet west of the Site. The recorded depth to water on the NMOSE database is 4 feet below ground surface (bgs). Well SJ-04027 is located at an elevation of approximately 5,434 feet above mean sea level (AMSL), which is approximately 46 feet lower in elevation than the Site. As such, depth to groundwater beneath the Site is estimated to be approximately 50 feet bgs. No wellhead protection areas, springs, or domestic/stock wells are located within a ½-mile radius from the Site. The Site is not within a 100-year floodplain, overlying a subsurface mine, or located within an area underlain by unstable geology (area designated as low potential karst by the BLM). Schools, hospitals, institutions, churches, and/or other occupied permanent residence or structures are not located within 300 feet of the Site. Nearby sensitive receptors are presented on Figure 1.

### SITE CLOSURE CRITERIA

Based on the information presented above and in accordance with the *Table I, Closure Criteria for Soils Impacted by a Release* (19.15.29.12 NMAC), the following Closure Criteria for constituents of concern (COCs) should be applied to the Site:

Benzene: 10 milligrams per kilogram (mg/kg)

BTEX: 50 mg/kgTPH: 100 mg/kgChloride: 600 mg/kg

### 2024 SITE ASSESSMENT AND REMEDIATION ACTIVITIES

To assess soil impacts and delineate the release, Hilcorp and Ensolum advanced eight potholes (PH01 through PH08) using a backhoe on January 17, 2024. Pothole PH01 was advanced in the center of the release under the BGT storage vessel to assess chloride concentrations and petroleum impacts at the release source. Potholes PH02 through PH08 were advanced laterally away from the source area to assess the lateral and vertical extent of the release. Sampling notification was provided to the NMOCD prior to the start of work, with correspondence attached in Appendix B. During potholing activities, an Ensolum geologist assessed and field screened the soil for petroleum hydrocarbon staining, odors, and chloride crusting. Soil samples were field screened for the presence of volatile organic compounds (VOCs) using a calibrated photoionization detector (PID, see Table 1) and chloride using Hach® QuanTab® test strips. Moderate to strong hydrocarbon odors and bluish staining were observed in soil from potholes PH01, PH03, PH04, and PH07. Blue stained material was removed until field screening observations indicated that all impacted soil had been removed. The underlying sandstone was gray-brown in color with low PID readings. All potholes were advanced until either refusal with the backhoe



Page 3

or field screening indicated the soil was presumed unimpacted by chloride and/or petroleum hydrocarbons (Figure 2).

Two soil samples were collected from potholes PH01 through PH07 at depth intervals corresponding to the greatest potential for impacts based on field screening measurements, as well as the terminal depth of the pothole. One soil sample was collected from the terminal depth at PH08 due to lack of petroleum hydrocarbon indicators and low PID readings in shallow sampling intervals. Soil samples were collected directly into laboratory-provided jars, immediately placed on ice, and submitted to Eurofins Environment Testing (Eurofins) following strict chain of custody procedures for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B, TPH following EPA Method 8015M/D, and chloride following EPA Method 300.0. Soil sample analytical results are summarized in Table 1, with complete laboratory analytical reports attached as Appendix C.

Based on the initial delineation results, Hilcorp began excavation activities to remove impacted soil on March 29, 2024. Ensolum personnel conducted excavation oversight and sampling activities during this work. Sampling notification was provided to the NMOCD prior to the start of work, with correspondence attached in Appendix B. To direct excavation activities, Ensolum personnel field screened soil for chloride and VOCs. Once field screening indicated impacted soil had likely been removed, 5-point composite soil samples were collected from the floor (FS01 though FS18) and sidewalls (WS01 through WS06) of the excavation at a frequency not exceeding one sample per 200 square feet. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The soil samples were placed into laboratory provided containers and transported to Eurofins for laboratory analysis of BTEX, TPH, and chloride following the same methods stated above.

Laboratory analytical results from the excavation sampling completed on April 1, 2024, indicated several floor samples exceeded the NMOCD Closure Criteria for chloride and TPH. As such, Hilcorp and Ensolum returned to the Site on April 24, 2024, to remove additional impacted soil. The excavation was extended to a depth of 6 feet bgs in floor sampling areas FS02, FS10, FS11, FS12, FS13, FS14, and FS15. New floor samples were collected from these areas and submitted to Eurofins for analysis of BTEX, TPH, and chloride. Soil exposed in shallow sidewalls in these areas was included in the 5-point composite samples.

Analytical results indicated concentrations of BTEX, TPH, and chloride were compliant with the NMOCD Table I Closure Criteria and the reclamation requirement in all confirmation soil samples collected on April 24, 2024, from the final excavation extents. Soil analytical results collected during delineation and confirmation sampling events are summarized in Table 1, with complete laboratory reports included in Appendix C. Sampling locations are presented on Figure 2. Photographs taken during the sampling events are attached in Appendix D.

### **CONCLUSIONS AND CLOSURE REQUEST**

Based on the analytical results described above, petroleum hydrocarbon and/or chloride contaminants were not detected above the NMOCD Table I Closure Criteria or reclamation requirement in any of the confirmation samples collected on April 1 and/or April 24, 2024, from the final excavation extent. The Site appears to be absent of soil impacts and waste-containing soil. As such, Site conditions appear to be protective of human health, the environment, and groundwater and Hilcorp respectfully requests closure for Incident Number nAPP2403723976.

### REFERENCES

Stone, W., Lyford, F., Frenzel, P., Mizell, N., & Padgett, E. (1983). Hydrogeology and Water Resources of San Juan Basin, New Mexico. New Mexico Bureau of Mines & Mineral Resources.



Site Remediation Report and Closure Request Witt 1 Hilcorp Energy Company

orp Energy Company Page 4

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

Sincerely, **Ensolum**, **LLC** 

Wer Withet

Wes Weichert Project Geologist (816) 266-8732

wweichert@ensolum.com

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

### **Attachments:**

Figure 1: Site Receptor Map Figure 2: Soil Sample Locations

Table 1: Soil Sample Analytical Results

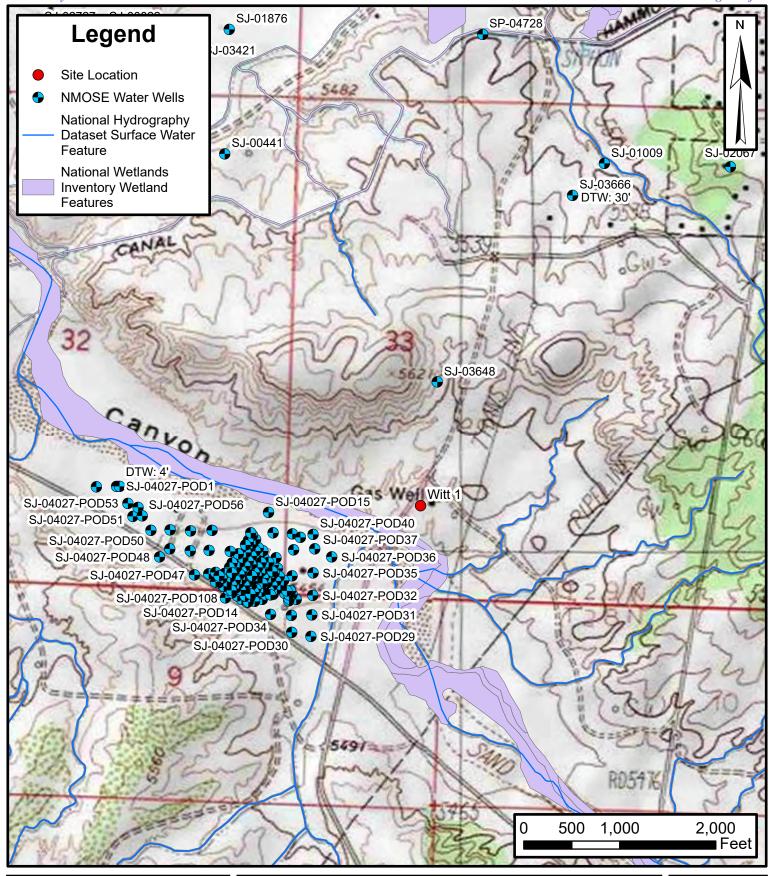
Appendix A: NMOSE Point of Diversion Summary

Appendix B: Agency Sampling Notification
Appendix C: Laboratory Analytical Reports

Appendix D: Photographic Log



**FIGURES** 





## **Site Receptor Map**

Witt 1
Hilcorp Energy Company

36.678101°,-108.001072° San Juan County, New Mexico FIGURE

### Legend **Excavation Floor** Sample in Compliance with NMOCD Closure Criteria **Excavation Sidewall** WS03@0-3' FS14A@6' Sample in Compliance FS11A@6' with NMOCD Closure Criteria FS15A@6' WS04@0-4' PH08 Pothole Delineation Locations FS12A@6' FS09@4' FS17@4' FS18@4' Composite Soil PH07 Sampling Areas WS02@0-4 FS07@4' **Excavation Extent** FS05@4' FS03@4 FS10A@6' FS01@4' PH06 PH04 FS04@4' WS01@0-3' FS02A@6' 12.5 25 50 Feet NMOCD: New Mexico Oil Conservation Division



## **Excavation Soil Sample Locations Map**

Witt 1
Hilcorp Energy Company
36.678101°.-108.001072°

36.678101°,-108.001072° San Juan County, New Mexico FIGURE

Sources: Google Earth (2019)



**TABLES** 



#### TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Witt 1 **Hilcorp Energy Company** San Juan County, New Mexico Sample Depth PID Chloride Benzene Ethylbenzene Xylenes **Total BTEX TPH GRO TPH DRO TPH MRO Total TPH** Date Identification (feet bgs) (mg/kg) (mg/kg) (mg/kg) (ppm) (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg) NMOCD Closure Criteria for Soils Impacted by a NE 600 10 NE NE 50 NE NE 100 NE NE Release **Delineation Soil Sample Results** BGT 5-Point 12/18/2023 NM 3.8 115 1,400 970 2.640 410 <0.12 1.1 110 270 PH01 @ 1 1/17/2024 1.0 3,340 160 <1.2 32 35 340 407 4,000 530 <50 4,530 <0.096 PH01 @ 3.75 1/17/2024 3.75 17.3 <60 < 0.024 <0.048 < 0.048 < 0.096 <4.8 <9.7 <48 <48 PH02 @ 3 1/17/2024 3.0 16.0 <60 < 0.024 < 0.047 < 0.047 < 0.094 < 0.094 <4.7 <9.7 <49 <49 PH02 @ 5 1/17/2024 5.0 2.5 <60 < 0.024 <0.048 <0.048 <0.096 < 0.096 <4.8 <9.4 <47 <47 0.99 <0.096 350 PH03 @ 3 1/17/2024 3.0 3,160 <60 <0.048 15 16 200 <49 550 1/17/2024 4.5 < 0.023 <0.093 < 0.093 <4.7 <9.7 PH03 @ 4.5 117 <60 < 0.047 < 0.047 <48 <48 PH04 @ 3 1/17/2024 3.0 797 <60 < 0.023 0.069 < 0.045 0.33 0.399 26 140 <46 166 PH04 @ 4.5 1/17/2024 4.5 15.0 <61 <0.023 <0.047 < 0.047 <0.093 <0.093 <4.7 <9.2 <46 <46 PH05 @ 3 1/17/2024 3.0 17.3 <60 < 0.024 <0.048 <0.048 < 0.096 <0.096 <4.8 <9.5 <48 <48 PH05 @ 4.5 1/17/2024 4.5 13.0 <60 < 0.023 < 0.047 < 0.047 <0.094 < 0.094 <4.7 <9.5 <48 <48 PH06 @ 4 1/17/2024 4.0 5.0 76 < 0.023 <0.047 < 0.047 <0.094 < 0.094 <4.7 <9.0 <45 <45 PH06 @ 5 1/17/2024 5.0 7.9 <0.025 <0.049 <4.9 <46 <46 <60 < 0.049 <0.098 < 0.098 <9.2 PH07 @ 4 1/17/2024 4.0 320 <60 < 0.024 < 0.048 4.3 5.2 150 740 100 990 <0.046 <0.091 <0.091 PH07 @ 5 1/17/2024 5.0 1,414 <60 < 0.023 < 0.046 <4.6 <9.2 <46 <46 PH08 @ 5 1/17/2024 5.0 15.0 79 < 0.025 <0.049 < 0.049 < 0.099 < 0.099 <4.9 <8.8 <44 <44 **Excavation Sidewall Confirmation Soil Sample Results** WS01 4/1/2024 0 - 3 4.3 49 <0.048 <0.048 <0.095 < 0.095 <4.8 <9.6 <48 <48 < 0.024 WS02 4/1/2024 0 - 4 7.8 90 < 0.024 <0.048 <0.048 < 0.097 < 0.097 <4.8 <9.5 <47 <47 WS03 4/1/2024 0 - 3 6.20 130 < 0.024 <0.049 < 0.049 <0.098 < 0.098 <4.9 <9.5 <48 <48 WS04 4/1/2024 0 - 4 9.1 250 < 0.024 <0.048 <0.048 <0.096 < 0.096 <4.8 <9.9 <49 <49 WS05 4/1/2024 0 - 4 2.2 260 < 0.024 <0.048 < 0.048 < 0.096 < 0.096 <4.8 <9.1 <46 <46 WS06 4/1/2024 0 - 4 3.6 260 < 0.023 < 0.046 < 0.046 < 0.092 < 0.092 <4.6 <9.5 <48 <48



	TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Witt 1												
						Hilcorp Energ							
						San Juan Coun		0					
Sample Identification	Date	Depth (feet bgs)	PID (ppm)	Chloride (mg/kg)	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Toluene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total TPH (mg/kg)
NMOCD Closure	Criteria for Soils Release	Impacted by a	NE	600	10	NE	NE	NE	50	NE	NE	NE	100
Excavation Floor Confirmation Soil Sample Results													
FS01	4/1/2024	4.0	8.2	32	< 0.025	< 0.050	< 0.050	<0.10	<0.10	<5.0	<9.4	<47	<47
FS02	4/1/2024	4.0	6.1	46	<0.024	<0.048	<0.048	<0.096	<del>&lt;0.096</del>	<del>&lt;4.8</del>	<del>76</del>	<del>75</del>	151
FS02A@6'	4/24/2024	6.0	18.5	22	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<9.7	<48	<48
FS03	4/1/2024	4.0	10.2	17	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<9.9	<49	<49
FS04	4/1/2024	4.0	9.8	29	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.3	<47	<47
FS05	4/1/2024	4.0	7.2	260	< 0.023	<0.047	<0.047	< 0.094	<0.094	<4.7	9.5	<45	9.5
FS06	4/1/2024	4.0	13.6	29	<0.024	<0.047	<0.047	< 0.095	<0.095	<4.7	13	<47	13
FS07	4/1/2024	4.0	11.0	32	< 0.023	<0.046	<0.046	<0.092	<0.092	<4.6	13	<50	13
FS08	4/1/2024	4.0	20.3	28	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	10	<49	10
FS09	4/1/2024	4.0	15.6	28	<0.025	< 0.049	<0.049	<0.099	<0.099	<4.9	16	<47	16
FS10	4/1/2024	4.0	5.6	680	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	110	51	161
FS10A@6'	4/24/2024	6.0	6.5	14	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<9.4	<47	<47
FS11	4/1/2024	4.0	7.8	740	<0.024	<0.048	<0.048	<del>&lt;0.096</del>	<0.096	<del>&lt;4.8</del>	500	340	840
FS11A@6'	4/24/2024	6.0	17.3	26	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<9.6	<48	<48
FS12	4/1/2024	4.0	3.1	<del>850</del>	<0.024	<0.048	<0.048	<0.096	<del>&lt;0.096</del>	<del>&lt;4.8</del>	<del>760</del>	500	1,260
FS12A@6'	4/24/2024	6.0	11.8	67	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<9.5	<47	<47
FS13	4/1/2024	4.0	4.8	890	<0.023	<0.047	<0.047	<0.093	<0.093	<4.7	880	720	<del>1,600</del>
FS13A@6'	4/24/2024	6.0	7.5	45	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<9.6	<48	<48
FS14	4/1/2024	4.0	19.2	860	<0.023	<0.046	<0.046	<0.092	<0.092	<del>&lt;4.6</del>	800	540	1,340
FS14A@6'	4/24/2024	6.0	18.3	37	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.7	<49	<49
FS15	4/1/2024	4.0	<del>16.3</del>	690	<del>&lt;0.025</del>	<0.050	<0.050	<del>&lt;0.099</del>	<del>&lt;0.099</del>	<5.0	900	690	<del>1,590</del>
FS15A@6'	4/24/2024	6.0	18.3	25	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<8.5	<42	<42
FS16	4/1/2024	4.0	18.7	180	<0.023	<0.047	<0.047	<0.093	<0.093	<4.7	<9.6	<48	<48
FS17	4/1/2024	4.0	29.6	130	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<9.7	<48	<48
FS18	4/1/2024	4.0	20.3	140	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<8.7	<43	<43

#### Notes:

bgs: Below ground surface

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

mg/kg: Milligrams per kilogram

NE: Not Established
NM: Not Measured

NMOCD: New Mexico Oil Conservation Division

PID: Photoionization detector ppm: Parts per million

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

MRO: Motor Oil/Lube Oil Range Organics

TPH: Total Petroleum Hydrocarbon

': Feet

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

Concentrations in **bold** exceed the New Mexico Oil Conservation Division Table I Closure Criteria for Soils Impacted by a Release

Grey text indicates soil sample removed during excavation activities



**APPENDIX A** 



## New Mexico Office of the State Engineer

## **Point of Diversion Summary**

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag **POD Number**  Q64 Q16 Q4 Sec Tws Rng

 $\mathbf{X}$ 

SJ 04027 POD1

29N 11W

230855 4063409

**Driller License:** 1643 **Driller Company:** 

BIOTECH REMEDIATION INC.

**Driller Name:** 

BEAUPARLANT, MICHAEL

**Drill Start Date:** 

**Drill Finish Date:** 

Plug Date:

Shallow

Log File Date:

10/23/2012

**PCW Rcv Date:** 

Source:

**Pump Type:** 

Pipe Discharge Size:

**Estimated Yield:** 

1 GPM

**Casing Size:** 

2.00

**Depth Well:** 

7 feet

Depth Water:

4 feet

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

5/10/24 1:54 PM

POINT OF DIVERSION SUMMARY



**APPENDIX B** 

From: OCDOnline@state.nm.us

To: <u>Stuart Hyde</u>

**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 325901

**Date:** Friday, March 22, 2024 11:02:32 AM

### [ \*\*EXTERNAL EMAIL\*\*]

To whom it may concern (c/o Stuart Hyde for HILCORP ENERGY COMPANY),

The OCD has received the submitted *Notification for (Final) Sampling of a Release* (C-141N), for incident ID (n#) nAPP2403723976.

The sampling event is expected to take place:

When: 03/29/2024 @ 09:00

Where: N-33-29N-11W 1120 FSL 1510 FWL (36.6785202,-108.0009537)

Additional Information: Please contact PM Stuart Hyde, 970-903-1607

Additional Instructions: Witt 1 Well Pad, site coordinates: 36.678303, -108.000211

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

• Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

New Mexico Energy, Minerals and Natural Resources Department 1220 South St. Francis Drive Santa Fe, NM 87505 From: OCDOnline@state.nm.us

To: Stuart Hyde

**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 327091

**Date:** Wednesday, March 27, 2024 6:57:09 AM

### [ \*\*EXTERNAL EMAIL\*\*]

To whom it may concern (c/o Stuart Hyde for HILCORP ENERGY COMPANY),

The OCD has received the submitted *Notification for (Final) Sampling of a Release* (C-141N), for incident ID (n#) nAPP2403723976.

The sampling event is expected to take place:

When: 04/01/2024 @ 09:00

Where: N-33-29N-11W 1120 FSL 1510 FWL (36.6785202,-108.0009537)

Additional Information: Please contact PM Stuart Hyde, 970-903-1607

Additional Instructions: Witt 1 Well Pad, site coordinates: 36.678303, -108.000211

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

• Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

New Mexico Energy, Minerals and Natural Resources Department 1220 South St. Francis Drive Santa Fe, NM 87505 From: OCDOnline@state.nm.us

To: Stuart Hyde

**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 335364

**Date:** Friday, April 19, 2024 1:10:54 PM

### [\*\*EXTERNAL EMAIL\*\*]

To whom it may concern (c/o Stuart Hyde for HILCORP ENERGY COMPANY),

The OCD has received the submitted *Notification for (Final) Sampling of a Release* (C-141N), for incident ID (n#) nAPP2403723976.

The sampling event is expected to take place:

When: 04/24/2024 @ 09:00

Where: N-33-29N-11W 1120 FSL 1510 FWL (36.6785202,-108.0009537)

**Additional Information:** Contact PM Stuart Hyde, 970-903-1607

Additional Instructions: Witt 1 Well Pad, site coordinates: 36.678303, -108.000211

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

• Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

New Mexico Energy, Minerals and Natural Resources Department 1220 South St. Francis Drive Santa Fe, NM 87505 From: <u>Velez, Nelson, EMNRD</u>

To: <u>Stuart Hyde</u>
Cc: <u>Mitch Killough</u>

Subject: Re: [EXTERNAL] nAPP2403723976 - Hilcorp Witt 1 Reporting Extension Request

**Date:** Wednesday, May 1, 2024 10:16:31 AM

Attachments: image001.png

image002.png image003.png Outlook-0zpuvc4v.png

### [ \*\*EXTERNAL EMAIL\*\*]

Good morning Stuart,

Your 60-day time extension request is approved. Remediation Due date has been updated to July 1, 2024.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

Regards,

Nelson Velez • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | nelson.velez@emnrd.nm.gov http://www.emnrd.state.nm.us/OCD/



From: Stuart Hyde <shyde@ensolum.com> Sent: Monday, April 29, 2024 10:29 AM

To: Velez, Nelson, EMNRD < Nelson. Velez@emnrd.nm.gov>

**Cc:** Mitch Killough < mkillough@hilcorp.com>

Subject: [EXTERNAL] nAPP2403723976 - Hilcorp Witt 1 Reporting Extension 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, Ensolum is requesting an extension to the May 2, 2024 reporting deadline for the Witt 1 site located in San Juan County (coordinates 36.678303,

-108.000211). To date, a majority of impacted soil was excavated from the Site on April 1, 2024. Based on sampling results from this event, several confirmation floor samples contained exceedances of TPH and/or chloride above the applicable Table I Closure Criteria. As such, additional soil was removed from these areas on April 24, 2024 and the floor areas were resampled. At this time, we are awaiting analytical results and therefore would like to request a 60-day extension to the reporting deadline in order to receive analytical results and complete the final report. If approved, the new reporting deadline would be Monday July 1, 2024.

Please reach out with any questions regarding the site or work that has been performed. Thanks.



"If you want to go fast, go alone. If you want to go far, go together." – African Proverb



# **APPENDIX C**

# **ANALYTICAL REPORT**

## PREPARED FOR

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

Generated 5/3/2024 3:43:53 PM

## **JOB DESCRIPTION**

Witt 1

## **JOB NUMBER**

885-3385-1

Eurofins Albuquerque 4901 Hawkins NE Albuquerque NM 87109

## **Eurofins Albuquerque**

### **Job Notes**

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

## **Authorization**

Generated 5/3/2024 3:43:53 PM

Authorized for release by Andy Freeman, Business Unit Manager andy.freeman@et.eurofinsus.com (505)345-3975 2

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Client: Hilcorp Energy
Laboratory Job ID: 885-3385-1
Project/Site: Witt 1

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### **Definitions/Glossary**

Client: Hilcorp Energy Job ID: 885-3385-1 Project/Site: Witt 1

**Glossary** 

Abbreviation These commonly used abbreviations may or may not be present in this report. Listed under the "D" column to designate that the result is reported on a dry weight basis %R Percent Recovery CFL Contains Free Liquid CFU Colony Forming Unit CNF Contains No Free Liquid DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor** 

Detection Limit (DoD/DOE) DL

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

**EDL** Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit ML Minimum Level (Dioxin) Most Probable Number MPN MQL Method Quantitation Limit

NC Not Calculated

Not Detected at the reporting limit (or MDL or EDL if shown) ND

NEG Negative / Absent POS Positive / Present

**PQL Practical Quantitation Limit** 

**PRES** Presumptive QC **Quality Control** 

**RER** Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

**RPD** Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

**TNTC** Too Numerous To Count

Eurofins Albuquerque

### **Case Narrative**

Client: Hilcorp Energy Job ID: 885-3385-1 Project: Witt 1

Job ID: 885-3385-1 **Eurofins Albuquerque** 

### Job Narrative 885-3385-1

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

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

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

### Receipt

The samples were received on 4/25/2024 6:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.5°C.

### Gasoline Range Organics

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

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

### **Diesel Range Organics**

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

### HPLC/IC

Method 300 ORGFM 28D - Soluble: The Chloride matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-79679 and analytical batch 880-79688 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

FS02A@6' (885-3385-1), FS10A@6' (885-3385-2), FS11A@6' (885-3385-3) and FS12A@6' (885-3385-4)

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

**Eurofins Albuquerque** 

Client: Hilcorp Energy Project/Site: Witt 1

**Chloride** 

Client Sample ID: FS02A@6'

Date Collected: 04/24/24 10:00 Date Received: 04/25/24 06:45 Lab Sample ID: 885-3385-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/25/24 12:10	04/27/24 07:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		15 - 244			04/25/24 12:10	04/27/24 07:28	1
Method: SW846 8021B - Volat	ile Organic	Compoun	ds (GC)					
Analyte	_	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/25/24 12:10	04/27/24 07:28	1
Ethylbenzene	ND		0.048	mg/Kg		04/25/24 12:10	04/27/24 07:28	1
Toluene	ND		0.048	mg/Kg		04/25/24 12:10	04/27/24 07:28	1
Xylenes, Total	ND		0.097	mg/Kg		04/25/24 12:10	04/27/24 07:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		39 - 146			04/25/24 12:10	04/27/24 07:28	1
Method: SW846 8015D - Diese	el Range Or	ganics (DF	RO) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		04/26/24 12:53	04/29/24 20:08	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		04/26/24 12:53	04/29/24 20:08	1
0 0 1								
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Surrogate  Di-n-octyl phthalate (Surr)	%Recovery	Qualifier	62 - 134			<b>Prepared</b> 04/26/24 12:53	Analyzed 04/29/24 20:08	Dil Fac
	107		62 - 134					Dil Fac

5.0

**22** 

mg/Kg

05/01/24 12:10

2

3

4

6

8

10

11

04/26/24 12:53 04/29/24 20:22

Analyzed 05/01/24 12:16

Client: Hilcorp Energy Project/Site: Witt 1

Di-n-octyl phthalate (Surr)

Released to Imaging: 6/26/2024 10:01:42 AM

Analyte

**Chloride** 

Client Sample ID: FS10A@6'

Lab Sample ID: 885-3385-2 Date Collected: 04/24/24 12:40 Date Received: 04/25/24 06:45

104

14

Result Qualifier

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

**Matrix: Solid** 

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		04/25/24 12:10	04/27/24 07:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		15 - 244			04/25/24 12:10	04/27/24 07:50	1
Method: SW846 8021B - Volati	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		04/25/24 12:10	04/27/24 07:50	1
Ethylbenzene	ND		0.049	mg/Kg		04/25/24 12:10	04/27/24 07:50	1
Toluene	ND		0.049	mg/Kg		04/25/24 12:10	04/27/24 07:50	1
Xylenes, Total	ND		0.098	mg/Kg		04/25/24 12:10	04/27/24 07:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		39 - 146			04/25/24 12:10	04/27/24 07:50	1
Method: SW846 8015D - Diese	l Range Or	ganics (DF	RO) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4	mg/Kg		04/26/24 12:53	04/29/24 20:22	1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		04/26/24 12:53	04/29/24 20:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

62 - 134

5.0

Unit

mg/Kg

D

Prepared

Dil Fac

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: FS11A@6'

Date Collected: 04/24/24 14:30

Lab Sample ID: FS11A@6'

Lab Sample ID: 885-3385-3 Matrix: Solid

Date Received: 04/25/24 06:45

	Method: SW846 8015D - Gaso	line Range	Organics (	GRO) (GC)				
	Analyte	Result	Qualifier	RL	Unit	D Prepared	Analyzed	Dil Fac
	Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg	04/26/24 11:43	04/30/24 01:17	1
	Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
	4-Bromofluorobenzene (Surr)	98		15 - 244		04/26/24 11:43	04/30/24 01:17	1
ı,	_							

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/26/24 11:43	04/30/24 01:17	1
Ethylbenzene	ND		0.048	mg/Kg		04/26/24 11:43	04/30/24 01:17	1
Toluene	ND		0.048	mg/Kg		04/26/24 11:43	04/30/24 01:17	1
Xylenes, Total	ND		0.097	mg/Kg		04/26/24 11:43	04/30/24 01:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		39 - 146			04/26/24 11:43	04/30/24 01:17	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6	mg/Kg		05/01/24 15:58	05/02/24 15:29	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		05/01/24 15:58	05/02/24 15:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	107		62 - 134			05/01/24 15:58	05/02/24 15:29	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result (	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	26		5.0	mg/Kg			05/01/24 12:23	1	

Eurofins Albuquerque

Client: Hilcorp Energy Project/Site: Witt 1

Toluene

Client Sample ID: FS12A@6' Lab Sample ID: 885-3385-4 Date Collected: 04/24/24 14:20

ND

**Matrix: Solid** 

04/26/24 11:43 04/30/24 02:23

Date Received: 04/25/24 06:45

Method: SW846 8015D - Gaso	line Range	Organics (	(GRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/26/24 11:43	04/30/24 02:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		15 - 244			04/26/24 11:43	04/30/24 02:23	1
Method: SW846 8021B - Volat	ile Organic	Compoun	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/26/24 11:43	04/30/24 02:23	1
Ethylbenzene	ND		0.048	mg/Kg		04/26/24 11:43	04/30/24 02:23	1

Xylenes, Total	ND	0.097	mg/Kg	04/26/24 11:43	04/30/24 02:23	1
Surrogate	%Recovery Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85	39 - 146		04/26/24 11:43	04/30/24 02:23	1

0.048

mg/Kg

Method: SW846 8015D - Diese Analyte		ganics (DF Qualifier	(O) (GC) RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5	mg/Kg	_ =		05/02/24 15:42	1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		05/01/24 15:58	05/02/24 15:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	98		62 - 134			05/01/24 15:58	05/02/24 15:42	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result (	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	67		5.0	mg/Kg			05/01/24 12:29	1	

Released to Imaging: 6/26/2024 10:01:42 AM

Client: Hilcorp Energy Project/Site: Witt 1

Chloride

Client Sample ID: FS13A@6'

Lab Sample ID: 885-3385-5

**Matrix: Solid** 

Date Collected: 04/24/24 14:00 Date Received: 04/25/24 06:45

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		04/26/24 11:43	04/30/24 03:28	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	99		15 - 244			04/26/24 11:43	04/30/24 03:28	
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	ND		0.024	mg/Kg		04/26/24 11:43	04/30/24 03:28	
Ethylbenzene	ND		0.049	mg/Kg		04/26/24 11:43	04/30/24 03:28	
Toluene	ND		0.049	mg/Kg		04/26/24 11:43	04/30/24 03:28	
Xylenes, Total	ND		0.098	mg/Kg		04/26/24 11:43	04/30/24 03:28	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	87		39 - 146			04/26/24 11:43	04/30/24 03:28	
Method: SW846 8015D - Diese	el Range Or	ganics (DF	RO) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Diesel Range Organics [C10-C28]	ND		9.6	mg/Kg		05/01/24 15:58	05/02/24 15:54	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		05/01/24 15:58	05/02/24 15:54	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
Di-n-octyl phthalate (Surr)	105		62 - 134			05/01/24 15:58	05/02/24 15:54	

5.0

45

mg/Kg

04/30/24 17:45

Client: Hilcorp Energy Project/Site: Witt 1

Analyte

Chloride

Client Sample ID: FS14A@6'

Date Collected: 04/24/24 13:10 Date Received: 04/25/24 06:45 Lab Sample ID: 885-3385-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		04/26/24 11:43	04/30/24 03:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		15 - 244			04/26/24 11:43	04/30/24 03:50	1
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		04/26/24 11:43	04/30/24 03:50	1
Ethylbenzene	ND		0.050	mg/Kg		04/26/24 11:43	04/30/24 03:50	1
Toluene	ND		0.050	mg/Kg		04/26/24 11:43	04/30/24 03:50	1
Xylenes, Total	ND		0.10	mg/Kg		04/26/24 11:43	04/30/24 03:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		39 - 146			04/26/24 11:43	04/30/24 03:50	1
Method: SW846 8015D - Diese	el Range Org	ganics (DF	RO) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		05/01/24 15:58	05/02/24 16:06	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		05/01/24 15:58	05/02/24 16:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	122		62 - 134			05/01/24 15:58	05/02/24 16:06	1

RL

5.0

Unit

mg/Kg

Result Qualifier

**37** 

Analyzed

04/30/24 18:03

Prepared

Dil Fac

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: FS15A@6'

Lab Sample ID: 885-3385-7

Matrix: Solid

Date Collected: 04/24/24 13:30 Date Received: 04/25/24 06:45

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/26/24 11:43	04/30/24 04:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		<u> 15 - 244</u>			04/26/24 11:43	04/30/24 04:11	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	MD		0.024	mg/Kg		04/26/24 11:43	04/30/24 04:11	1
Ethylbenzene	ND		0.048	mg/Kg		04/26/24 11:43	04/30/24 04:11	1
Toluene	ND		0.048	mg/Kg		04/26/24 11:43	04/30/24 04:11	1
Xylenes, Total	ND		0.096	mg/Kg		04/26/24 11:43	04/30/24 04:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		39 - 146			04/26/24 11:43	04/30/24 04:11	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.5	mg/Kg		05/01/24 15:58	05/02/24 16:19	1
Motor Oil Range Organics [C28-C40]	ND		42	mg/Kg		05/01/24 15:58	05/02/24 16:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	103		62 - 134			05/01/24 15:58	05/02/24 16:19	1

Method: EPA 300.0 - Anions, Id	on Chromatography - S	Soluble					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25	5.0	mg/Kg			04/30/24 18:10	1

Client: Hilcorp Energy Project/Site: Witt 1

Prep Batch: 3834

Prep Batch: 3888

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-3834/1-A Client Sample ID: Method Blank Prep Type: Total/NA

**Matrix: Solid** 

Analyte

**Analysis Batch: 4029** 

MB MB Result Qualifier RL Unit D Analyzed Dil Fac Prepared 04/24/24 13:52 04/26/24 11:50 Gasoline Range Organics [C6 - C10] ND 5.0 mg/Kg

MB MB

%Recovery Surrogate Qualifier Limits Prepared Analyzed Dil Fac 04/24/24 13:52 04/26/24 11:50 4-Bromofluorobenzene (Surr) 98 15 - 244

Lab Sample ID: MB 885-3888/1-A Client Sample ID: Method Blank Prep Type: Total/NA

**Matrix: Solid** 

**Analysis Batch: 4029** 

MB MB

Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Gasoline Range Organics [C6 - C10] ND 5.0 mg/Kg 04/25/24 12:10 04/26/24 22:44

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 4-Bromofluorobenzene (Surr) 101 15 - 244 04/25/24 12:10 04/26/24 22:44

Lab Sample ID: LCS 885-3888/2-A

**Matrix: Solid** 

**Analysis Batch: 4029** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA Prep Batch: 3888

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits

Gasoline Range Organics [C6 -25.0 25.1 mg/Kg 101 70 - 130

C10]

LCS LCS

%Recovery Qualifier Limits Surrogate 4-Bromofluorobenzene (Surr) 224 15 - 244

Lab Sample ID: MB 885-3926/1-A Client Sample ID: Method Blank

**Matrix: Solid** 

**Analysis Batch: 4120** 

Prep Type: Total/NA Prep Batch: 3926 MR MR

Result Qualifier RL Unit Prepared Analyzed Dil Fac Gasoline Range Organics [C6 - C10] ND 5.0 mg/Kg 04/25/24 17:33 04/29/24 14:03

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 4-Bromofluorobenzene (Surr) 95 15 - 244 04/25/24 17:33 04/29/24 14:03

Lab Sample ID: MB 885-3956/1-A

**Matrix: Solid** 

**Analysis Batch: 4120** 

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

Prep Batch: 3956

MB MB Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Gasoline Range Organics [C6 - C10] 5.0 04/26/24 11:43 04/30/24 00:56 ND mg/Kg

MB MB

Surrogate %Recovery Qualifier Limits Prepared Dil Fac Analyzed 4-Bromofluorobenzene (Surr) 15 - 244 95

Eurofins Albuquerque

Client: Hilcorp Energy

Project/Site: Witt 1

Method: 8015D - Gasoline Range Organics (GRO) (GC) (Continued)

**Client Sample ID: Lab Control Sample** Lab Sample ID: LCS 885-3956/2-A

**Matrix: Solid** 

**Matrix: Solid** 

**Analysis Batch: 4120** 

Lab Sample ID: 885-3385-3 MS

Prep Type: Total/NA

Prep Batch: 3956

Spike LCS LCS %Rec Result Qualifier Added %Rec Limits Analyte Unit D Gasoline Range Organics [C6 -25.0 23.7 mg/Kg 95 70 - 130

C10]

LCS LCS Limits Surrogate %Recovery Qualifier 15 - 244 4-Bromofluorobenzene (Surr) 207

Client Sample ID: FS11A@6

Prep Type: Total/NA

Prep Batch: 3956

**Analysis Batch: 4120** Sample Sample Spike MS MS %Rec Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Gasoline Range Organics [C6 -ND 23.9 24.4 mg/Kg 102 70 - 130

C10]

MS MS

87

%Recovery Qualifier Limits Surrogate 15 - 244 4-Bromofluorobenzene (Surr) 210

Lab Sample ID: 885-3385-3 MSD Client Sample ID: FS11A@6'

**Matrix: Solid** 

**Analysis Batch: 4120** 

Prep Type: Total/NA Prep Batch: 3956 Sample Sample Spike MSD MSD %Rec

Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics [C6 -ND 24.2 23.0 mg/Kg 95 70 - 130 6

C10]

MSD MSD %Recovery Qualifier Surrogate Limits 4-Bromofluorobenzene (Surr) 214 15 - 244

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-3834/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA Prep Batch: 3834

**Analysis Batch: 4030** 

	MB MB					
Analyte	Result Qualifier	RL	Unit	D Prepared	Analyzed	Dil Fac
Benzene	ND ND	0.025	mg/Kg	04/24/24 13:52	04/26/24 11:50	1
Ethylbenzene	ND	0.050	mg/Kg	04/24/24 13:52	04/26/24 11:50	1
Toluene	ND	0.050	mg/Kg	04/24/24 13:52	04/26/24 11:50	1
Xylenes, Total	ND	0.10	mg/Kg	04/24/24 13:52	2 04/26/24 11:50	1
Ethylbenzene Toluene	ND ND	0.050 0.050	mg/Kg mg/Kg	04/24/24 13:52 04/24/24 13:52	2 04/26/24 11:50 2 04/26/24 11:50	

MB MB %Recovery Dil Fac Qualifier Limits Surrogate Prepared Analyzed

39 - 146

04/24/24 13:52 04/26/24 11:50

Eurofins Albuquerque

4-Bromofluorobenzene (Surr)

Client: Hilcorp Energy Project/Site: Witt 1

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

Lab Sample ID: MB 885-3888/1-A **Client Sample ID: Method Blank Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 4030** Prep Batch: 3888 MD MD

	IVID	MID						
Analyte	Result (	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		04/25/24 12:10	04/26/24 22:44	1
Ethylbenzene	ND		0.050	mg/Kg		04/25/24 12:10	04/26/24 22:44	1
Toluene	ND		0.050	mg/Kg		04/25/24 12:10	04/26/24 22:44	1
Xylenes, Total	ND		0.10	mg/Kg		04/25/24 12:10	04/26/24 22:44	1
	MR I	MR						

Surrogate Limits Prepared Dil Fac %Recovery Qualifier Analyzed 4-Bromofluorobenzene (Surr) 39 - 146 04/25/24 12:10 04/26/24 22:44 88

Lab Sample ID: LCS 885-3888/3-A

**Matrix: Solid** 

**Analysis Batch: 4030** 

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

Prep Batch: 3888

Prep Batch: 3926

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	1.00	0.910		mg/Kg		91	70 - 130	
Ethylbenzene	1.00	0.927		mg/Kg		93	70 - 130	
m&p-Xylene	2.00	1.85		mg/Kg		92	70 - 130	
o-Xylene	1.00	0.925		mg/Kg		92	70 - 130	
Toluene	1.00	0.919		mg/Kg		92	70 - 130	
Xylenes, Total	3.00	2.77		mg/Kg		92	70 - 130	

LCS LCS

Limits Surrogate %Recovery Qualifier 4-Bromofluorobenzene (Surr) 88 39 - 146

Lab Sample ID: MB 885-3926/1-A **Client Sample ID: Method Blank Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 4121** 

MD MD

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg	_	04/25/24 17:33	04/29/24 14:03	1
Ethylbenzene	ND		0.050	mg/Kg		04/25/24 17:33	04/29/24 14:03	1
Toluene	ND		0.050	mg/Kg		04/25/24 17:33	04/29/24 14:03	1
Xylenes, Total	ND		0.10	mg/Kg		04/25/24 17:33	04/29/24 14:03	1

MB MB %Recovery Qualifier Limits Surrogate Prepared Analyzed Dil Fac 4-Bromofluorobenzene (Surr) 87 39 - 146 04/25/24 17:33 04/29/24 14:03

Lab Sample ID: MB 885-3956/1-A **Client Sample ID: Method Blank Matrix: Solid** 

**Analysis Batch: 4121** 

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		04/26/24 11:43	04/30/24 00:56	1
Ethylbenzene	ND		0.050	mg/Kg		04/26/24 11:43	04/30/24 00:56	1
Toluene	ND		0.050	mg/Kg		04/26/24 11:43	04/30/24 00:56	1
Xylenes, Total	ND		0.10	mg/Kg		04/26/24 11:43	04/30/24 00:56	1

Eurofins Albuquerque

Prep Type: Total/NA

Prep Batch: 3956

Client: Hilcorp Energy Job ID: 885-3385-1

Project/Site: Witt 1

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

Lab Sample ID: MB 885-3956/1-A

**Matrix: Solid** 

**Analysis Batch: 4121** 

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

Prep Batch: 3956

MB MB

%Recovery Qualifier Limits Prepared Analyzed Dil Fac Surrogate 04/26/24 11:43 04/30/24 00:56 4-Bromofluorobenzene (Surr) 86 39 - 146

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 3956

Lab Sample ID: LCS 885-3956/3-A

**Matrix: Solid** 

**Analysis Batch: 4121** 

Spike	LCS	LCS				%Rec	
Added	Result	Qualifier	Unit	D	%Rec	Limits	
1.00	0.933		mg/Kg		93	70 - 130	
1.00	0.927		mg/Kg		93	70 - 130	
2.00	1.85		mg/Kg		93	70 - 130	
1.00	0.923		mg/Kg		92	70 - 130	
1.00	0.925		mg/Kg		93	70 - 130	
3.00	2.78		mg/Kg		93	70 - 130	
	Added 1.00 1.00 2.00 1.00 1.00	Added         Result           1.00         0.933           1.00         0.927           2.00         1.85           1.00         0.923           1.00         0.925	Added         Result         Qualifier           1.00         0.933           1.00         0.927           2.00         1.85           1.00         0.923           1.00         0.925	Added         Result         Qualifier         Unit           1.00         0.933         mg/Kg           1.00         0.927         mg/Kg           2.00         1.85         mg/Kg           1.00         0.923         mg/Kg           1.00         0.925         mg/Kg	Added         Result         Qualifier         Unit         D           1.00         0.933         mg/Kg           1.00         0.927         mg/Kg           2.00         1.85         mg/Kg           1.00         0.923         mg/Kg           1.00         0.925         mg/Kg	Added         Result         Qualifier         Unit         D         %Rec           1.00         0.933         mg/Kg         93           1.00         0.927         mg/Kg         93           2.00         1.85         mg/Kg         93           1.00         0.923         mg/Kg         92           1.00         0.925         mg/Kg         93	Added         Result         Qualifier         Unit         D         %Rec         Limits           1.00         0.933         mg/Kg         93         70 - 130           1.00         0.927         mg/Kg         93         70 - 130           2.00         1.85         mg/Kg         93         70 - 130           1.00         0.923         mg/Kg         92         70 - 130           1.00         0.925         mg/Kg         93         70 - 130

LCS LCS

%Recovery Qualifier Surrogate Limits 4-Bromofluorobenzene (Surr) 87 39 - 146

Lab Sample ID: 885-3385-4 MS Client Sample ID: FS12A@6'

**Matrix: Solid** 

**Analysis Batch: 4121** 

Prep Type: Total/NA Prep Batch: 3956

•	•	Spike Added					%Rec	%Rec Limits	
					Unit	D			
ND		0.963	0.895		mg/Kg		93	70 - 130	
ND		0.963	0.895		mg/Kg		93	70 - 130	
ND		1.93	1.79		mg/Kg		93	70 - 130	
ND		0.963	0.890		mg/Kg		92	70 - 130	
ND		0.963	0.889		mg/Kg		92	70 - 130	
ND		2.89	2.68		mg/Kg		93	70 - 130	
	Result ND ND ND ND ND ND	ND ND ND ND	Result         Qualifier         Added           ND         0.963           ND         0.963           ND         1.93           ND         0.963           ND         0.963           ND         0.963	Result         Qualifier         Added         Result           ND         0.963         0.895           ND         0.963         0.895           ND         1.93         1.79           ND         0.963         0.890           ND         0.963         0.889	Result         Qualifier         Added         Result         Qualifier           ND         0.963         0.895           ND         0.963         0.895           ND         1.93         1.79           ND         0.963         0.890           ND         0.963         0.889	Result         Qualifier         Added         Result         Qualifier         Unit           ND         0.963         0.895         mg/Kg           ND         0.963         0.895         mg/Kg           ND         1.93         1.79         mg/Kg           ND         0.963         0.890         mg/Kg           ND         0.963         0.889         mg/Kg	Result         Qualifier         Added         Result         Qualifier         Unit         D           ND         0.963         0.895         mg/Kg         mg/Kg           ND         1.93         1.79         mg/Kg           ND         0.963         0.890         mg/Kg           ND         0.963         0.890         mg/Kg           ND         0.963         0.889         mg/Kg	Result         Qualifier         Added         Result         Qualifier         Unit         D         %Rec           ND         0.963         0.895         mg/Kg         93           ND         0.963         0.895         mg/Kg         93           ND         1.93         1.79         mg/Kg         93           ND         0.963         0.890         mg/Kg         92           ND         0.963         0.889         mg/Kg         92	Result         Qualifier         Added         Result         Qualifier         Unit         D         %Rec         Limits           ND         0.963         0.895         mg/Kg         93         70 - 130           ND         0.963         0.895         mg/Kg         93         70 - 130           ND         1.93         1.79         mg/Kg         93         70 - 130           ND         0.963         0.890         mg/Kg         92         70 - 130           ND         0.963         0.889         mg/Kg         92         70 - 130

MS MS Limits Surrogate %Recovery Qualifier 4-Bromofluorobenzene (Surr) 39 - 146 85

Lab Sample ID: 885-3385-4 MSD

**Matrix: Solid** 

**Analysis Batch: 4121** 

Client Sample ID: FS12A@6' Prep Type: Total/NA

Prep Batch: 3956

_	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	ND		0.970	0.916		mg/Kg		94	70 - 130	2	20
Ethylbenzene	ND		0.970	0.921		mg/Kg		95	70 - 130	3	20
m&p-Xylene	ND		1.94	1.85		mg/Kg		95	70 - 130	3	20
o-Xylene	ND		0.970	0.929		mg/Kg		96	70 - 130	4	20
Toluene	ND		0.970	0.913		mg/Kg		94	70 - 130	3	20
Xylenes, Total	ND		2.91	2.78		mg/Kg		96	70 - 130	4	20

MSD MSD

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 87 39 - 146

Eurofins Albuquerque

Client: Hilcorp Energy Project/Site: Witt 1

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-3963/1-A

**Matrix: Solid** 

**Analysis Batch: 4042** 

Client Sample ID: Method Blank

**Prep Type: Total/NA** 

Prep Batch: 3963

Prep Batch: 3963

Prep Type: Total/NA

Prep Batch: 4215

Dil Fac

Dil Fac

MB MB RL Unit

Result Qualifier Analyzed Dil Fac Analyte **Prepared** Diesel Range Organics [C10-C28] ND 10 mg/Kg 04/26/24 12:53 04/29/24 17:29 Motor Oil Range Organics [C28-C40] ND 50 mg/Kg 04/26/24 12:53 04/29/24 17:29

MB MB

Surrogate %Recovery Qualifier I imite Prepared Analyzed Dil Fac Di-n-octyl phthalate (Surr) 102

62 - 134 04/26/24 12:53 04/29/24 17:29

Lab Sample ID: LCS 885-3963/2-A Client Sample ID: Lab Control Sample Prep Type: Total/NA

RL

10

50

**Matrix: Solid** 

**Analysis Batch: 4042** 

Analyte **Diesel Range Organics** 

Spike Added 50.0

41.8

LCS LCS

Result Qualifier Unit mg/Kg

%Rec D 84 Limits 60 - 135

%Rec

Client Sample ID: Method Blank

[C10-C28]

LCS LCS

Surrogate Di-n-octyl phthalate (Surr)

%Recovery Qualifier 100

Limits 62 - 134

Lab Sample ID: MB 885-4215/1-A

**Matrix: Solid** 

**Analysis Batch: 4310** 

MB MB

 $\overline{\mathsf{ND}}$ 

ND

Analyte Result Qualifier Diesel Range Organics [C10-C28]

Motor Oil Range Organics [C28-C40]

Di-n-octyl phthalate (Surr)

Lab Sample ID: LCS 885-4215/2-A

MB MB %Recovery Qualifier 104

Limits 62 - 134

Unit

mg/Kg

mg/Kg

Prepared

Prepared

05/01/24 15:58

05/01/24 15:58

Analyzed 05/01/24 15:58 05/02/24 13:13

Analyzed

05/02/24 13:13 05/02/24 13:13

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

Prep Batch: 4215

Spike LCS LCS %Rec Added Result Qualifier Unit %Rec Limits **Analyte** Diesel Range Organics 50.0 47.8 60 - 135 mg/Kg

[C10-C28]

Surrogate

**Matrix: Solid** 

**Analysis Batch: 4310** 

LCS LCS

Surrogate %Recovery Qualifier Di-n-octyl phthalate (Surr)

Limits 62 - 134

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-79680/1-A

**Matrix: Solid** 

**Analysis Batch: 79687** 

**Analyte** Chloride ND

MB MB Result Qualifier

RL Unit 5.0 mg/Kg D

Prepared Analyzed

Client Sample ID: Method Blank

Dil Fac 04/30/24 17:26

**Prep Type: Soluble** 

Eurofins Albuquerque

Job ID: 885-3385-1

Client: Hilcorp Energy Project/Site: Witt 1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-79680/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 79687** 

-		Spike	LCS	LCS				%Rec	
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride		250	252		mg/Kg	_	101	90 - 110	

Lab Sample ID: LCSD 880-79680/3-A **Client Sample ID: Lab Control Sample Dup Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 79687** 

	<b>Spike</b>	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	253		mg/Kg		101	90 - 110	0	20	

Lab Sample ID: 885-3385-5 MS Client Sample ID: FS13A@6' **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 79687** 

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	45		252	309		ma/Ka	_	105	90 - 110	

Lab Sample ID: 885-3385-5 MSD Client Sample ID: FS13A@6' **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 79687** 

-	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	45		252	310		mg/Kg		105	90 - 110	0	20

Lab Sample ID: MB 880-79679/1-A **Client Sample ID: Method Blank Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 79688** 

	IVID	IAID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		5.0	mg/Kg			05/01/24 09:20	1

Lab Sample ID: LCS 880-79679/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 79688** 

	Spike	LCS LCS			%Rec	
Analyte	Added	Result Qualifier	Unit D	%Rec	Limits	
Chloride	250	235	ma/Ka	0/	90 110	 _

Lab Sample ID: LCSD 880-79679/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 79688** 

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	238		mg/Kg		95	90 - 110	1	20	

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# **QC Association Summary**

Client: Hilcorp Energy Job ID: 885-3385-1
Project/Site: Witt 1

**GC VOA** 

Pre	n B	atc	h:	383	4
	_	u	•••		

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-3834/1-A	Method Blank	Total/NA	Solid	5030C	

#### Prep Batch: 3888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-1	FS02A@6'	Total/NA	Solid	5030C	
885-3385-2	FS10A@6'	Total/NA	Solid	5030C	
MB 885-3888/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-3888/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-3888/3-A	Lab Control Sample	Total/NA	Solid	5030C	

## Prep Batch: 3926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-3926/1-A	Method Blank	Total/NA	Solid	5030C	

#### Prep Batch: 3956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-3	FS11A@6'	Total/NA	Solid	5030C	
885-3385-4	FS12A@6'	Total/NA	Solid	5030C	
885-3385-5	FS13A@6'	Total/NA	Solid	5030C	
885-3385-6	FS14A@6'	Total/NA	Solid	5030C	
885-3385-7	FS15A@6'	Total/NA	Solid	5030C	
MB 885-3956/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-3956/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-3956/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-3385-3 MS	FS11A@6'	Total/NA	Solid	5030C	
885-3385-3 MSD	FS11A@6'	Total/NA	Solid	5030C	
885-3385-4 MS	FS12A@6'	Total/NA	Solid	5030C	
885-3385-4 MSD	FS12A@6'	Total/NA	Solid	5030C	

## **Analysis Batch: 4029**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-1	FS02A@6'	Total/NA	Solid	8015D	3888
885-3385-2	FS10A@6'	Total/NA	Solid	8015D	3888
MB 885-3834/1-A	Method Blank	Total/NA	Solid	8015D	3834
MB 885-3888/1-A	Method Blank	Total/NA	Solid	8015D	3888
LCS 885-3888/2-A	Lab Control Sample	Total/NA	Solid	8015D	3888

## **Analysis Batch: 4030**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-1	FS02A@6'	Total/NA	Solid	8021B	3888
885-3385-2	FS10A@6'	Total/NA	Solid	8021B	3888
MB 885-3834/1-A	Method Blank	Total/NA	Solid	8021B	3834
MB 885-3888/1-A	Method Blank	Total/NA	Solid	8021B	3888
LCS 885-3888/3-A	Lab Control Sample	Total/NA	Solid	8021B	3888

## **Analysis Batch: 4120**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-3	FS11A@6'	Total/NA	Solid	8015D	3956
885-3385-4	FS12A@6'	Total/NA	Solid	8015D	3956
885-3385-5	FS13A@6'	Total/NA	Solid	8015D	3956
885-3385-6	FS14A@6'	Total/NA	Solid	8015D	3956

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# **QC Association Summary**

Client: Hilcorp Energy Job ID: 885-3385-1
Project/Site: Witt 1

**GC VOA (Continued)** 

## **Analysis Batch: 4120 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-7	FS15A@6'	Total/NA	Solid	8015D	3956
MB 885-3926/1-A	Method Blank	Total/NA	Solid	8015D	3926
MB 885-3956/1-A	Method Blank	Total/NA	Solid	8015D	3956
LCS 885-3956/2-A	Lab Control Sample	Total/NA	Solid	8015D	3956
885-3385-3 MS	FS11A@6'	Total/NA	Solid	8015D	3956
885-3385-3 MSD	FS11A@6'	Total/NA	Solid	8015D	3956

## **Analysis Batch: 4121**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-3	FS11A@6'	Total/NA	Solid	8021B	3956
885-3385-4	FS12A@6'	Total/NA	Solid	8021B	3956
885-3385-5	FS13A@6'	Total/NA	Solid	8021B	3956
885-3385-6	FS14A@6'	Total/NA	Solid	8021B	3956
885-3385-7	FS15A@6'	Total/NA	Solid	8021B	3956
MB 885-3926/1-A	Method Blank	Total/NA	Solid	8021B	3926
MB 885-3956/1-A	Method Blank	Total/NA	Solid	8021B	3956
LCS 885-3956/3-A	Lab Control Sample	Total/NA	Solid	8021B	3956
885-3385-4 MS	FS12A@6'	Total/NA	Solid	8021B	3956
885-3385-4 MSD	FS12A@6'	Total/NA	Solid	8021B	3956

# **GC Semi VOA**

## Prep Batch: 3963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-1	FS02A@6'	Total/NA	Solid	SHAKE	
885-3385-2	FS10A@6'	Total/NA	Solid	SHAKE	
MB 885-3963/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-3963/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

## **Analysis Batch: 4042**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-1	FS02A@6'	Total/NA	Solid	8015D	3963
885-3385-2	FS10A@6'	Total/NA	Solid	8015D	3963
MB 885-3963/1-A	Method Blank	Total/NA	Solid	8015D	3963
LCS 885-3963/2-A	Lab Control Sample	Total/NA	Solid	8015D	3963

## Prep Batch: 4215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-3	FS11A@6'	Total/NA	Solid	SHAKE	
885-3385-4	FS12A@6'	Total/NA	Solid	SHAKE	
885-3385-5	FS13A@6'	Total/NA	Solid	SHAKE	
885-3385-6	FS14A@6'	Total/NA	Solid	SHAKE	
885-3385-7	FS15A@6'	Total/NA	Solid	SHAKE	
MB 885-4215/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-4215/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

## **Analysis Batch: 4310**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-3	FS11A@6'	Total/NA	Solid	8015D	4215
885-3385-4	FS12A@6'	Total/NA	Solid	8015D	4215
885-3385-5	FS13A@6'	Total/NA	Solid	8015D	4215

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# **QC Association Summary**

Client: Hilcorp Energy Job ID: 885-3385-1

Project/Site: Witt 1

# GC Semi VOA (Continued)

## **Analysis Batch: 4310 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-6	FS14A@6'	Total/NA	Solid	8015D	4215
885-3385-7	FS15A@6'	Total/NA	Solid	8015D	4215
MB 885-4215/1-A	Method Blank	Total/NA	Solid	8015D	4215
LCS 885-4215/2-A	Lab Control Sample	Total/NA	Solid	8015D	4215

## HPLC/IC

#### Leach Batch: 79679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-1	FS02A@6'	Soluble	Solid	DI Leach	
885-3385-2	FS10A@6'	Soluble	Solid	DI Leach	
885-3385-3	FS11A@6'	Soluble	Solid	DI Leach	
885-3385-4	FS12A@6'	Soluble	Solid	DI Leach	
MB 880-79679/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-79679/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-79679/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

#### Leach Batch: 79680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-5	FS13A@6'	Soluble	Solid	DI Leach	_
885-3385-6	FS14A@6'	Soluble	Solid	DI Leach	
885-3385-7	FS15A@6'	Soluble	Solid	DI Leach	
MB 880-79680/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-79680/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-79680/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
885-3385-5 MS	FS13A@6'	Soluble	Solid	DI Leach	
885-3385-5 MSD	FS13A@6'	Soluble	Solid	DI Leach	

## **Analysis Batch: 79687**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-5	FS13A@6'	Soluble	Solid	300.0	79680
885-3385-6	FS14A@6'	Soluble	Solid	300.0	79680
885-3385-7	FS15A@6'	Soluble	Solid	300.0	79680
MB 880-79680/1-A	Method Blank	Soluble	Solid	300.0	79680
LCS 880-79680/2-A	Lab Control Sample	Soluble	Solid	300.0	79680
LCSD 880-79680/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	79680
885-3385-5 MS	FS13A@6'	Soluble	Solid	300.0	79680
885-3385-5 MSD	FS13A@6'	Soluble	Solid	300.0	79680

## **Analysis Batch: 79688**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3385-1	FS02A@6'	Soluble	Solid	300.0	79679
885-3385-2	FS10A@6'	Soluble	Solid	300.0	79679
885-3385-3	FS11A@6'	Soluble	Solid	300.0	79679
885-3385-4	FS12A@6'	Soluble	Solid	300.0	79679
MB 880-79679/1-A	Method Blank	Soluble	Solid	300.0	79679
LCS 880-79679/2-A	Lab Control Sample	Soluble	Solid	300.0	79679
LCSD 880-79679/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	79679

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Client Sample ID: FS02A@6'

Lab Sample ID: 885-3385-1

Date Collected: 04/24/24 10:00 Date Received: 04/25/24 06:45

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			3888	JP	EET ALB	04/25/24 12:10
Total/NA	Analysis	8015D		1	4029	RA	EET ALB	04/27/24 07:28
Total/NA	Prep	5030C			3888	JP	EET ALB	04/25/24 12:10
Total/NA	Analysis	8021B		1	4030	RA	EET ALB	04/27/24 07:28
Total/NA	Prep	SHAKE			3963	DH	EET ALB	04/26/24 12:53
Total/NA	Analysis	8015D		1	4042	JU	EET ALB	04/29/24 20:08
Soluble	Leach	DI Leach			79679	SA	EET MID	04/30/24 15:02
Soluble	Analysis	300.0		1	79688	SMC	EET MID	05/01/24 12:10

Lab Sample ID: 885-3385-2

Date Collected: 04/24/24 12:40

Client Sample ID: FS10A@6'

**Matrix: Solid** 

Date Received: 04/25/24 06:45

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			3888	JP	EET ALB	04/25/24 12:10
Total/NA	Analysis	8015D		1	4029	RA	<b>EET ALB</b>	04/27/24 07:50
Total/NA	Prep	5030C			3888	JP	EET ALB	04/25/24 12:10
Total/NA	Analysis	8021B		1	4030	RA	EET ALB	04/27/24 07:50
Total/NA	Prep	SHAKE			3963	DH	EET ALB	04/26/24 12:53
Total/NA	Analysis	8015D		1	4042	JU	EET ALB	04/29/24 20:22
Soluble	Leach	DI Leach			79679	SA	EET MID	04/30/24 15:02
Soluble	Analysis	300.0		1	79688	SMC	EET MID	05/01/24 12:16

Client Sample ID: FS11A@6'

Date Collected: 04/24/24 14:30

Date Received: 04/25/24 06:45

Lab Sample ID: 885-3385-3

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			3956	JP	EET ALB	04/26/24 11:43
Total/NA	Analysis	8015D		1	4120	RA	EET ALB	04/30/24 01:17
Total/NA	Prep	5030C			3956	JP	EET ALB	04/26/24 11:43
Total/NA	Analysis	8021B		1	4121	RA	<b>EET ALB</b>	04/30/24 01:17
Total/NA	Prep	SHAKE			4215	JU	EET ALB	05/01/24 15:58
Total/NA	Analysis	8015D		1	4310	JU	EET ALB	05/02/24 15:29
Soluble	Leach	DI Leach			79679	SA	EET MID	04/30/24 15:02
Soluble	Analysis	300.0		1	79688	SMC	EET MID	05/01/24 12:23

Client Sample ID: FS12A@6'

Lab Sample ID: 885-3385-4

Date Collected: 04/24/24 14:20 Date Received: 04/25/24 06:45

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			3956	JP	EET ALB	04/26/24 11:43
Total/NA	Analysis	8015D		1	4120	RA	<b>EET ALB</b>	04/30/24 02:23

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: FS12A@6'

Date Collected: 04/24/24 14:20 Date Received: 04/25/24 06:45

Lab Sample ID: 885-3385-4

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			3956	JP	EET ALB	04/26/24 11:43
Total/NA	Analysis	8021B		1	4121	RA	EET ALB	04/30/24 02:23
Total/NA	Prep	SHAKE			4215	JU	EET ALB	05/01/24 15:58
Total/NA	Analysis	8015D		1	4310	JU	EET ALB	05/02/24 15:42
Soluble	Leach	DI Leach			79679	SA	EET MID	04/30/24 15:02
Soluble	Analysis	300.0		1	79688	SMC	EET MID	05/01/24 12:29

Lab Sample ID: 885-3385-5

Matrix: Solid

Date Collected: 04/24/24 14:00 Date Received: 04/25/24 06:45

Client Sample ID: FS13A@6'

Batch Batch Dilution Batch **Prepared** Method **Prep Type** Type Run **Factor** Number Analyst Lab or Analyzed Total/NA Prep 5030C 3956 JΡ **EET ALB** 04/26/24 11:43 Total/NA 8015D 04/30/24 03:28 Analysis 4120 RA **EET ALB** 1 Total/NA Prep 5030C 3956 JΡ **EET ALB** 04/26/24 11:43 Total/NA 8021B 4121 RA **EET ALB** 04/30/24 03:28 Analysis 1 Total/NA SHAKE 4215 JU **EET ALB** 05/01/24 15:58 Prep Total/NA 8015D 4310 JU **EET ALB** 05/02/24 15:54 Analysis 1 Soluble Leach DI Leach 79680 SA EET MID 04/30/24 15:04 300.0 04/30/24 17:45 Soluble Analysis 79687 SMC **EET MID** 1

Client Sample ID: FS14A@6'

Date Collected: 04/24/24 13:10 Date Received: 04/25/24 06:45

Lab Sample ID: 885-3385-6

Matrix: Solid

_	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			3956	JP	EET ALB	04/26/24 11:43
Total/NA	Analysis	8015D		1	4120	RA	EET ALB	04/30/24 03:50
Total/NA	Prep	5030C			3956	JP	EET ALB	04/26/24 11:43
Total/NA	Analysis	8021B		1	4121	RA	EET ALB	04/30/24 03:50
Total/NA	Prep	SHAKE			4215	JU	EET ALB	05/01/24 15:58
Total/NA	Analysis	8015D		1	4310	JU	EET ALB	05/02/24 16:06
Soluble	Leach	DI Leach			79680	SA	EET MID	04/30/24 15:04
Soluble	Analysis	300.0		1	79687	SMC	EET MID	04/30/24 18:03

Client Sample ID: FS15A@6'

Date Collected: 04/24/24 13:30 Date Received: 04/25/24 06:45

Lab Sample ID: 885-3385-7

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			3956	JP	EET ALB	04/26/24 11:43
Total/NA	Analysis	8015D		1	4120	RA	EET ALB	04/30/24 04:11
Total/NA	Prep	5030C			3956	JP	EET ALB	04/26/24 11:43
Total/NA	Analysis	8021B		1	4121	RA	EET ALB	04/30/24 04:11

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# **Lab Chronicle**

Client: Hilcorp Energy Job ID: 885-3385-1

Project/Site: Witt 1

Client Sample ID: FS15A@6' Lab Sample ID: 885-3385-7

Matrix: Solid

Date Collected: 04/24/24 13:30 Date Received: 04/25/24 06:45

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	SHAKE			4215	JU	EET ALB	05/01/24 15:58
Total/NA	Analysis	8015D		1	4310	JU	EET ALB	05/02/24 16:19
Soluble	Leach	DI Leach			79680	SA	EET MID	04/30/24 15:04
Soluble	Analysis	300.0		1	79687	SMC	EET MID	04/30/24 18:10

#### Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975 EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

# **Accreditation/Certification Summary**

Client: Hilcorp Energy Job ID: 885-3385-1

Project/Site: Witt 1

# **Laboratory: Eurofins Albuquerque**

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

Authority	Progr	am	Identification Number	Expiration Date
New Mexico	State		NM9425, NM0901	02-26-25
• ,	•	•	not certified by the governing authori	ty. This list may include analytes
for which the agency	does not offer certificatior	1.		
Analysis Method	Prep Method	Matrix	Analyte	
8015D	5030C	Solid	Gasoline Range Organics	s [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [6	C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organic	s [C28-C40]
8021B	5030C	Solid	Benzene	
8021B	5030C	Solid	Ethylbenzene	
8021B	5030C	Solid	Toluene	
8021B	5030C	Solid	Xylenes, Total	
Oregon	NELA	P	NM100001	02-26-25

# **Laboratory: Eurofins Midland**

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	<b>Expiration Date</b>
Texas	NELAP	T104704400-23-26	06-30-24

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70	Date	Time	Matrix	Sample Name	Con	tainer	Preservative Type	a	BTEX / *	TPH:8015D(GRO	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(C)	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)				:	
age	4-24	1000	Soil	F502A@6'	1	102	COD(		Ž	$\nabla$	<u> </u>			一	$\forall$		3				<del></del>		
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		If necessary	, samples su	bmitted to Hall Environmental may be sub	e of the contract	ed to other a	accredited laboratori		s poss	ibility			ntracte					ated on	the an	alytical	report.		of 144

Sibility Any sub-contracted data will be clearly notated on the analytical report.

# Login Sample Receipt Checklist

Client: Hilcorp Energy Job Number: 885-3385-1

Login Number: 3385 List Source: Eurofins Albuquerque

List Number: 1

Creator: McQuiston, Steven

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

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# **Login Sample Receipt Checklist**

Client: Hilcorp Energy Job Number: 885-3385-1

Login Number: 3385 **List Source: Eurofins Midland** List Number: 2 List Creation: 04/30/24 10:54 AM

Creator: Vasquez, Julisa

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

# **ANALYTICAL REPORT**

# PREPARED FOR

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

Generated 4/10/2024 5:31:37 PM

# **JOB DESCRIPTION**

Witt 1

# **JOB NUMBER**

885-2136-1

Eurofins Albuquerque 4901 Hawkins NE Albuquerque NM 87109

# **Eurofins Albuquerque**

# **Job Notes**

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

# **Authorization**

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

4/10/2024

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Laboratory Job ID: 885-2136-1

Client: Hilcorp Energy Project/Site: Witt 1

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# **Definitions/Glossary**

Client: Hilcorp Energy Job ID: 885-2136-1 Project/Site: Witt 1

#### **Qualifiers**

#### **GC Semi VOA**

Qualifier **Qualifier Description** MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not

applicable.

F2 MS/MSD RPD exceeds control limits

S1+ Surrogate recovery exceeds control limits, high biased.

## **Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DL, RA, RE, IN DLC Decision Level Concentration (Radiochemistry)

Estimated Detection Limit (Dioxin) EDL LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit ML Minimum Level (Dioxin) MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

PQL **Practical Quantitation Limit** 

**PRES** Presumptive QC **Quality Control** 

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

**TEF** Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

**TNTC** Too Numerous To Count

**Eurofins Albuquerque** 

#### **Case Narrative**

Client: Hilcorp Energy Job ID: 885-2136-1 Project: Witt 1

Job ID: 885-2136-1 Eurofins Albuquerque

#### Job Narrative 885-2136-1

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

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

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

#### Receipt

The samples were received on 4/2/2024 7:15 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C.

#### Gasoline Range Organics

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

#### GC VOA

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

#### **Diesel Range Organics**

Method 8015D\_DRO: The continuing calibration verification (CCV) associated with batch 885-2812 recovered above the upper control limit for Di-n-octyl phthalate (Surr). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8015D\_DRO: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 885-2786 and analytical batch 885-2915 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015D\_DRO: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 885-2786 and analytical batch 885-2941 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015D\_DRO: Surrogate recovery for the following sample was outside the upper control limit: FS16 (885-2136-22). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

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

#### HPLC/IC

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

**Eurofins Albuquerque** 

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# **Client Sample Results**

Client: Hilcorp Energy Job ID: 885-2136-1

Project/Site: Witt 1

**Chloride** 

Released to Imaging: 6/26/2024 10:01:42 AM

**Client Sample ID: WS01** Lab Sample ID: 885-2136-1

Date Collected: 04/01/24 09:10 **Matrix: Solid** 

Date Received: 04/02/24 07:15

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/02/24 12:37	04/03/24 21:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		15 - 244			04/02/24 12:37	04/03/24 21:18	1
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/02/24 12:37	04/03/24 21:18	1
Ethylbenzene	ND		0.048	mg/Kg		04/02/24 12:37	04/03/24 21:18	1
Toluene	ND		0.048	mg/Kg		04/02/24 12:37	04/03/24 21:18	1
Xylenes, Total	ND		0.095	mg/Kg		04/02/24 12:37	04/03/24 21:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		39 - 146			04/02/24 12:37	04/03/24 21:18	1
Method: SW846 8015D - Diese	l Range Or	ganics (DF	RO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6	mg/Kg		04/04/24 13:06	04/05/24 12:23	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		04/04/24 13:06	04/05/24 12:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	105		62 - 134			04/04/24 13:06	04/05/24 12:23	1

5.0

49

mg/Kg

04/08/24 19:29

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: WS02

Lab Sample ID: 885-2136-2

**Matrix: Solid** 

Date Collected: 04/01/24 09:15 Date Received: 04/02/24 07:15

		RL	Unit	D	Prepared	Analyzed	Dil Fac
ND		4.8	mg/Kg		04/02/24 12:37	04/03/24 22:28	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
102		15 - 244			04/02/24 12:37	04/03/24 22:28	1
le Organic	Compound	ds (GC)					
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
ND		0.024	mg/Kg		04/02/24 12:37	04/03/24 22:28	1
ND		0.048	mg/Kg		04/02/24 12:37	04/03/24 22:28	1
ND		0.048	mg/Kg		04/02/24 12:37	04/03/24 22:28	1
ND		0.097	mg/Kg		04/02/24 12:37	04/03/24 22:28	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
87		39 - 146			04/02/24 12:37	04/03/24 22:28	1
I Range Or	ganics (DF	RO) (GC)					
		RL	Unit	D	Prepared	Analyzed	Dil Fac
ND		9.5	mg/Kg		04/04/24 13:06	04/05/24 12:48	1
ND		47	mg/Kg		04/04/24 13:06	04/05/24 12:48	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
88		62 - 134			04/04/24 13:06	04/05/24 12:48	1
	le Organic Result ND Recovery 87 I Range Org Result ND	Result Qualifier  ND ND ND ND ND  **Recovery 87    Range Organics (DR Result ND ND ND ND  **Recovery Qualifier ND ND  **Recovery Qualifier	102   15 - 244	102   15-244     15-244     16	102   15-244     15-244     16	102   15 - 244   04/02/24 12:37	102   15 - 244

5.0

90

mg/Kg

04/08/24 19:35

Method: EPA 300.0 - Anions Analyte Chloride

Released to Imaging: 6/26/2024 10:01:42 AM

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Client: Hilcorp Energy Project/Site: Witt 1

**Chloride** 

Client Sample ID: WS03

Lab Sample ID: 885-2136-3

**Matrix: Solid** 

Date Collected: 04/01/24 09:20 Date Received: 04/02/24 07:15

ixeouit	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
ND		4.9	mg/Kg		04/02/24 12:37	04/03/24 23:39	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
100		15 - 244			04/02/24 12:37	04/03/24 23:39	1
tile Organic	Compound	ds (GC)					
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
ND		0.024	mg/Kg		04/02/24 12:37	04/03/24 23:39	1
ND		0.049	mg/Kg		04/02/24 12:37	04/03/24 23:39	1
ND		0.049	mg/Kg		04/02/24 12:37	04/03/24 23:39	1
ND		0.098	mg/Kg		04/02/24 12:37	04/03/24 23:39	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
86		39 - 146			04/02/24 12:37	04/03/24 23:39	1
el Range Org	ganics (DF	RO) (GC)					
	•	RL	Unit	D	Prepared	Analyzed	Dil Fac
ND		9.5	mg/Kg		04/04/24 13:06	04/05/24 13:12	1
ND		48	mg/Kg		04/04/24 13:06	04/05/24 13:12	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
124		62 - 134			04/04/24 13:06	04/05/24 13:12	1
	**Recovery 100  tile Organic Result ND	**Recovery Qualifier 100   ND   ND   ND   ND   ND   ND   ND	%Recovery         Qualifier         Limits           100         15 - 244           tile Organic Compounds (GC)         Result Qualifier         RL           ND         0.024           ND         0.049           ND         0.098           %Recovery 86         Qualifier Limits 39 - 146           el Range Organics (DRO) (GC)         Result Qualifier RL           ND         9.5           ND         48           %Recovery Qualifier Limits	%Recovery         Qualifier         Limits           100         15 - 244           tille Organic Compounds (GC)         Result Qualifier         RL         Unit           ND         0.024         mg/Kg           ND         0.049         mg/Kg           ND         0.098         mg/Kg           %Recovery         Qualifier         Limits           86         39 - 146           el Range Organics (DRO) (GC)         Unit           Result Qualifier         RL         Unit           ND         9.5         mg/Kg           ND         48         mg/Kg           %Recovery         Qualifier         Limits	%Recovery         Qualifier         Limits           tille Organic Compounds (GC)         Result         Qualifier         RL         Unit         D           ND         0.024         mg/Kg         Mg/Kg         ND         Mg/Kg         Mg/Kg </td <td>%Recovery         Qualifier         Limits         Prepared           100         15 - 244         04/02/24 12:37           tille Organic Compounds (GC)         Result Qualifier         RL         Unit         D         Prepared           ND         0.024         mg/Kg         04/02/24 12:37           ND         0.049         mg/Kg         04/02/24 12:37           ND         0.098         mg/Kg         04/02/24 12:37           %Recovery         Qualifier Limits         Prepared           86         39 - 146         04/02/24 12:37           el Range Organics (DRO) (GC)         Prepared           ND         9.5         mg/Kg         04/04/24 13:06           ND         48         mg/Kg         04/04/24 13:06           %Recovery         Qualifier Limits         Prepared</td> <td>  Mailyzed   Mailyzed</td>	%Recovery         Qualifier         Limits         Prepared           100         15 - 244         04/02/24 12:37           tille Organic Compounds (GC)         Result Qualifier         RL         Unit         D         Prepared           ND         0.024         mg/Kg         04/02/24 12:37           ND         0.049         mg/Kg         04/02/24 12:37           ND         0.098         mg/Kg         04/02/24 12:37           %Recovery         Qualifier Limits         Prepared           86         39 - 146         04/02/24 12:37           el Range Organics (DRO) (GC)         Prepared           ND         9.5         mg/Kg         04/04/24 13:06           ND         48         mg/Kg         04/04/24 13:06           %Recovery         Qualifier Limits         Prepared	Mailyzed   Mailyzed

5.0

130

mg/Kg

04/08/24 19:41

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: WS04

Lab Sample ID: 885-2136-4

**Matrix: Solid** 

Date Collected: 04/01/24 09:25
Date Received: 04/02/24 07:15

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/02/24 12:37	04/04/24 00:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		15 - 244			04/02/24 12:37	04/04/24 00:02	1
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/02/24 12:37	04/04/24 00:02	1
Ethylbenzene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 00:02	1
Toluene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 00:02	1
Xylenes, Total	ND		0.096	mg/Kg		04/02/24 12:37	04/04/24 00:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		39 - 146			04/02/24 12:37	04/04/24 00:02	1
Method: SW846 8015D - Diese	el Range Or	ganics (DF	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9	mg/Kg		04/04/24 13:06	04/05/24 18:25	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		04/04/24 13:06	04/05/24 18:25	1
	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Surrogate			62 - 134			04/04/24 13:06	04/05/24 18:25	1
Di-n-octyl phthalate (Surr)	103							
		tography -	Soluble					
Di-n-octyl phthalate (Surr)	on Chroma	tography - Qualifier	Soluble RL	Unit	D	Prepared	Analyzed	Dil Fac

# **Client Sample Results**

Client: Hilcorp Energy Job ID: 885-2136-1

Project/Site: Witt 1

**Client Sample ID: WS05** Lab Sample ID: 885-2136-5

Date Collected: 04/01/24 09:30

**Matrix: Solid** 

Method: SW846 8015D - Gaso Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/02/24 12:37	04/04/24 00:26	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	100		15 - 244			04/02/24 12:37	04/04/24 00:26	
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	ND		0.024	mg/Kg		04/02/24 12:37	04/04/24 00:26	
Ethylbenzene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 00:26	
Toluene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 00:26	
Xylenes, Total	ND		0.096	mg/Kg		04/02/24 12:37	04/04/24 00:26	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	85		39 - 146			04/02/24 12:37	04/04/24 00:26	
Method: SW846 8015D - Diese	el Range Or	ganics (DF	(C) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Diesel Range Organics [C10-C28]	ND		9.1	mg/Kg		04/04/24 13:06	04/05/24 18:49	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		04/04/24 13:06	04/05/24 18:49	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
Di-n-octyl phthalate (Surr)	103		62 - 134			04/04/24 13:06	04/05/24 18:49	
Method: EPA 300.0 - Anions, I	on Chromat	tography -	Soluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: WS06

Lab Sample ID: 885-2136-6

Matrix: Solid

Date Collected: 04/01/24 09:35 Date Received: 04/02/24 07:15

Method: SW846 8015D - Gaso	line Range	<b>Organics</b>	(GRO) (GC)					
Analyte Gasoline Range Organics [C6 - C10]		Qualifier	RL 4.6	Unit mg/Kg	_ <u>D</u>	Prepared 04/02/24 12:37	Analyzed 04/04/24 00:49	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		15 - 244			04/02/24 12:37	04/04/24 00:49	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023	mg/Kg		04/02/24 12:37	04/04/24 00:49	1
Ethylbenzene	ND		0.046	mg/Kg		04/02/24 12:37	04/04/24 00:49	1
Toluene	ND		0.046	mg/Kg		04/02/24 12:37	04/04/24 00:49	1
Xylenes, Total	ND		0.092	mg/Kg		04/02/24 12:37	04/04/24 00:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		39 - 146			04/02/24 12:37	04/04/24 00:49	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5	mg/Kg		04/04/24 13:06	04/05/24 19:13	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		04/04/24 13:06	04/05/24 19:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	96	·	62 - 134			04/04/24 13:06	04/05/24 19:13	1

Method: EPA 300.0 - Anions, Id	on Chromatography -	Soluble					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	260	5.0	mg/Kg			04/08/24 22:44	1

# **Client Sample Results**

Client: Hilcorp Energy Job ID: 885-2136-1

Project/Site: Witt 1

Lab Sample ID: 885-2136-7 **Client Sample ID: FS01** Date Collected: 04/01/24 10:00

**Matrix: Solid** 

Date Received: 04/02/24 07:15

Method: SW846 8015D - Gaso Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		04/02/24 12:37	04/04/24 01:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		15 - 244			04/02/24 12:37	04/04/24 01:13	1
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		04/02/24 12:37	04/04/24 01:13	1
Ethylbenzene	ND		0.050	mg/Kg		04/02/24 12:37	04/04/24 01:13	1
Toluene	ND		0.050	mg/Kg		04/02/24 12:37	04/04/24 01:13	1
Xylenes, Total	ND		0.10	mg/Kg		04/02/24 12:37	04/04/24 01:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		39 - 146			04/02/24 12:37	04/04/24 01:13	1
Method: SW846 8015D - Diese	el Range Or	ganics (DF	RO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4	mg/Kg		04/04/24 13:06	04/05/24 19:38	1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		04/04/24 13:06	04/05/24 19:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	107		62 - 134			04/04/24 13:06	04/05/24 19:38	1
Method: EPA 300.0 - Anions, I	on Chromat	tography -	Soluble					
Analyte	Pocult	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Allalyte	ixesuit	Qualifier	116	Oilit		ricparca	Analyzou	Diriac

Client: Hilcorp Energy Project/Site: Witt 1

**Client Sample ID: FS02** Date Collected: 04/01/24 10:05 Lab Sample ID: 885-2136-8

**Matrix: Solid** 

Method: SW846 8015D - Gaso Analyte	_	Organics ( Qualifier	GRO) (GC) RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND	Qualifier	4.8	<del></del> mg/Kg	_ =	04/02/24 12:37	04/04/24 01:37	1
						_		
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	101		15 - 244			04/02/24 12:37	04/04/24 01:37	
Method: SW846 8021B - Volati	le Organic	Compound	ds (GC)					
Analyte	_	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	ND		0.024	mg/Kg		04/02/24 12:37	04/04/24 01:37	
Ethylbenzene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 01:37	•
Toluene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 01:37	•
Xylenes, Total	ND		0.096	mg/Kg		04/02/24 12:37	04/04/24 01:37	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	85		39 - 146			04/02/24 12:37	04/04/24 01:37	
Method: SW846 8015D - Diese	l Range Or	ganics (DR	(GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Diesel Range Organics [C10-C28]	76		9.8	mg/Kg		04/04/24 13:06	04/05/24 20:02	
Motor Oil Range Organics [C28-C40]	75		49	mg/Kg		04/04/24 13:06	04/05/24 20:02	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
Di-n-octyl phthalate (Surr)	107		62 - 134			04/04/24 13:06	04/05/24 20:02	
Method: EPA 300.0 - Anions, Io	on Chromat	tography -	Soluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa

Client: Hilcorp Energy Project/Site: Witt 1

**Client Sample ID: FS03** 

Lab Sample ID: 885-2136-9

**Matrix: Solid** 

Date Collected: 04/01/24 10:10 Date Received: 04/02/24 07:15

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/02/24 12:37	04/04/24 02:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		15 - 244			04/02/24 12:37	04/04/24 02:00	
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/02/24 12:37	04/04/24 02:00	1
Ethylbenzene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 02:00	1
Toluene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 02:00	1
Xylenes, Total	ND		0.097	mg/Kg		04/02/24 12:37	04/04/24 02:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		39 - 146			04/02/24 12:37	04/04/24 02:00	1
Method: SW846 8015D - Diese	el Range Or	ganics (DF	RO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9	mg/Kg		04/04/24 13:06	04/05/24 20:26	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		04/04/24 13:06	04/05/24 20:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	105		62 - 134			04/04/24 13:06	04/05/24 20:26	1
	lon Chroma	tography -	Soluble					
Method: EPA 300.0 - Anions,	on Cinoma	togrupily -	OUIGNIO					
Method: EPA 300.0 - Anions,   Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client: Hilcorp Energy Project/Site: Witt 1

**Client Sample ID: FS04** 

Lab Sample ID: 885-2136-10 Date Collected: 04/01/24 10:15

Date Received: 04/02/24 07:15

Matrix: Solid

Analyte Gasoline Range Organics [C6 - C10]	Result ND	Qualifier		Unit mg/Kg	<u>D</u>	Prepared 04/02/24 12:37	Analyzed 04/04/24 02:24	Dil Fac
Surrogate 4-Bromofluorobenzene (Surr)	%Recovery	Qualifier	Limits 15 - 244			Prepared 04/02/24 12:37	Analyzed 04/04/24 02:24	Dil Fac

Method: SW846 8021B - Vo	olatile Organic Compound	ds (GC)					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	0.024	mg/Kg		04/02/24 12:37	04/04/24 02:24	1
Ethylbenzene	ND	0.048	mg/Kg		04/02/24 12:37	04/04/24 02:24	1
Toluene	ND	0.048	mg/Kg		04/02/24 12:37	04/04/24 02:24	1
Xylenes, Total	ND	0.096	mg/Kg		04/02/24 12:37	04/04/24 02:24	1
Surrogate	%Recovery Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86	39 - 146			04/02/24 12:37	04/04/24 02:24	1

Analyte		ganics (DF Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3	mg/Kg		04/04/24 13:06	04/05/24 20:50	1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		04/04/24 13:06	04/05/24 20:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	102		62 - 134			04/04/24 13:06	04/05/24 20:50	1

Method: EPA 300.0 - Anions, Id	on Chromato	graphy - So	oluble					
Analyte	Result Q	ualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29		5.0	mg/Kg			04/08/24 23:42	1

Eurofins Albuquerque

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: FS05 Date Collected: 04/01/24 10:20

Date Received: 04/02/24 07:15

Lab	Sample	וט:	000-2130-11
			Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC) Analyte Result Qualifier Unit D Dil Fac RL Prepared Analyzed Gasoline Range Organics [C6 - C10] ND 4.7 04/02/24 12:37 04/04/24 03:11 mg/Kg

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 4-Bromofluorobenzene (Surr) 15 - 244 04/02/24 12:37 04/04/24 03:11 102

Method: SW846 8021B - Volatile Organic Compounds (GC) Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Benzene ND 0.023 mg/Kg 04/02/24 12:37 04/04/24 03:11 Ethylbenzene ND mg/Kg 04/02/24 12:37 04/04/24 03:11 0.047 Toluene ND 0.047 mg/Kg 04/02/24 12:37 04/04/24 03:11 ND 04/02/24 12:37 Xylenes, Total 0.094 mg/Kg 04/04/24 03:11

%Recovery Qualifier Limits Prepared Dil Fac Surrogate Analyzed 85 39 - 146 04/02/24 12:37 04/04/24 03:11 4-Bromofluorobenzene (Surr)

Method: SW846 8015D - Diesel Range Organics (DRO) (GC) Analyte Result Qualifier Unit Prepared Analyzed Dil Fac RL 9.0 04/04/24 13:06 04/05/24 21:14 **Diesel Range Organics [C10-C28]** 9.5 mg/Kg Motor Oil Range Organics [C28-C40] ND 45 mg/Kg 04/04/24 13:06 04/05/24 21:14 Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac Di-n-octyl phthalate (Surr) 62 - 134 04/04/24 13:06 04/05/24 21:14 101

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac 04/08/24 23:13 **Chloride** 260 5.0 mg/Kg

Client: Hilcorp Energy Project/Site: Witt 1

**Client Sample ID: FS06** Lab Sample ID: 885-2136-12 Date Collected: 04/01/24 10:25

**Matrix: Solid** 

Date Received: 04/02/24 07:15

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7	mg/Kg		04/02/24 12:37	04/04/24 03:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		15 - 244			04/02/24 12:37	04/04/24 03:34	1
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/02/24 12:37	04/04/24 03:34	1
Ethylbenzene	ND		0.047	mg/Kg		04/02/24 12:37	04/04/24 03:34	1
Toluene	ND		0.047	mg/Kg		04/02/24 12:37	04/04/24 03:34	1
Xylenes, Total	ND		0.095	mg/Kg		04/02/24 12:37	04/04/24 03:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		39 - 146			04/02/24 12:37	04/04/24 03:34	1
Method: SW846 8015D - Diese	el Range Or	ganics (DF	RO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	13		9.3	mg/Kg		04/04/24 13:06	04/05/24 21:38	1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		04/04/24 13:06	04/05/24 21:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	109		62 - 134			04/04/24 13:06	04/05/24 21:38	1
			Calubla					
Method: EPA 300.0 - Anions, I	on Chroma	tography -	Soluble					
Method: EPA 300.0 - Anions, I Analyte		tography - Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client: Hilcorp Energy Project/Site: Witt 1

**Client Sample ID: FS07** 

Lab Sample ID: 885-2136-13

Matrix: Solid

Date Collected: 04/01/24 10:30 Date Received: 04/02/24 07:15

Released to Imaging: 6/26/2024 10:01:42 AM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics [C6 - C10]	ND		4.6	mg/Kg		04/02/24 12:37	04/04/24 03:58	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	101		15 - 244			04/02/24 12:37	04/04/24 03:58	
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	ND		0.023	mg/Kg		04/02/24 12:37	04/04/24 03:58	
Ethylbenzene	ND		0.046	mg/Kg		04/02/24 12:37	04/04/24 03:58	
Toluene	ND		0.046	mg/Kg		04/02/24 12:37	04/04/24 03:58	
Xylenes, Total	ND		0.092	mg/Kg		04/02/24 12:37	04/04/24 03:58	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil F
4-Bromofluorobenzene (Surr)	85		39 - 146			04/02/24 12:37	04/04/24 03:58	
Method: SW846 8015D - Diese	el Range Or	ganics (DF	RO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil F
Diesel Range Organics [C10-C28]	13		10	mg/Kg		04/04/24 13:06	04/08/24 15:51	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		04/04/24 13:06	04/08/24 15:51	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil F
Di-n-octyl phthalate (Surr)	125		62 - 134			04/04/24 13:06	04/08/24 15:51	
Method: EPA 300.0 - Anions, I	on Chroma	tography -	Soluble					
•								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil F

Client: Hilcorp Energy Project/Site: Witt 1

Chloride

Client Sample ID: FS08 Lab Sample ID: 885-2136-14

Date Collected: 04/01/24 10:35

Matrix: Solid

Date Received: 04/02/24 07:15

ND <b>6Recovery</b> 101	Qualifier	4.7	mg/Kg		04/02/24 12:37	04/04/24 04:21	1
	Qualifier	l imits					
101					Prepared	Analyzed	Dil Fac
		15 - 244			04/02/24 12:37	04/04/24 04:21	1
Organic •	Compound	ds (GC)					
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
ND		0.023	mg/Kg		04/02/24 12:37	04/04/24 04:21	1
ND		0.047	mg/Kg		04/02/24 12:37	04/04/24 04:21	1
ND		0.047	mg/Kg		04/02/24 12:37	04/04/24 04:21	1
ND		0.094	mg/Kg		04/02/24 12:37	04/04/24 04:21	1
6Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
85		39 - 146			04/02/24 12:37	04/04/24 04:21	1
ange Or	ganics (DF	RO) (GC)					
		RL	Unit	D	Prepared	Analyzed	Dil Fac
10		9.8	mg/Kg		04/04/24 13:06	04/08/24 16:02	1
ND		49	mg/Kg		04/04/24 13:06	04/08/24 16:02	1
6Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
127		62 - 134			04/04/24 13:06	04/08/24 16:02	1
	Result ND ND ND Recovery 85 ange Org Result 10 ND Recovery 127	Result ND	Result   Qualifier   RL	Result         Qualifier         RL         Unit           ND         0.023         mg/Kg           ND         0.047         mg/Kg           ND         0.047         mg/Kg           ND         0.094         mg/Kg           Recovery 85         Qualifier Limits 39 - 146           ange Organics (DRO) (GC) Result Qualifier RL 10 9.8 mg/Kg         Unit mg/Kg mg/Kg           ND         49 mg/Kg           Recovery 127         Qualifier Limits 62 - 134	Result ND         Qualifier         RL 0.023         Unit mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg         D 0.047 mg/Kg mg/Kg mg/Kg           ND         0.094         mg/Kg           ND         0.094         mg/Kg           Recovery 85         Qualifier Limits 39 - 146         Unit D mg/Kg           Ange Organics (DRO) (GC) Result Qualifier RL ND         9.8 mg/Kg mg/Kg           ND         49 mg/Kg           ND         49 mg/Kg           Recovery 127         Qualifier Limits 62 - 134	Result         Qualifier         RL         Unit         D         Prepared           ND         0.023         mg/Kg         04/02/24 12:37           ND         0.047         mg/Kg         04/02/24 12:37           ND         0.094         mg/Kg         04/02/24 12:37           Recovery         Qualifier         Limits         Prepared           85         39 - 146         04/02/24 12:37           ange Organics (DRO) (GC)         Prepared         04/02/24 12:37           ND         9.8         mg/Kg         04/04/24 13:06           ND         49         mg/Kg         04/04/24 13:06           Recovery         Qualifier         Limits         Prepared           127         62 - 134         04/04/24 13:06	Result   Qualifier   RL   Unit   D   Prepared   O4/02/24 12:37   O4/04/24 04:21

5.0

28

mg/Kg

04/08/24 23:37

3

5

8

40

# **Client Sample Results**

Job ID: 885-2136-1 Client: Hilcorp Energy

Project/Site: Witt 1

Analyte

Chloride

**Client Sample ID: FS09** Lab Sample ID: 885-2136-15

Dat

ate Collected: 04/01/24 10:40	Matrix: Solid
ate Received: 04/02/24 07:15	

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		04/02/24 12:37	04/04/24 04:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		15 - 244			04/02/24 12:37	04/04/24 04:45	1
Method: SW846 8021B - Volati	le Organic	Compoun	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		04/02/24 12:37	04/04/24 04:45	1
Ethylbenzene	ND		0.049	mg/Kg		04/02/24 12:37	04/04/24 04:45	1
Toluene	ND		0.049	mg/Kg		04/02/24 12:37	04/04/24 04:45	1
Xylenes, Total	ND		0.099	mg/Kg		04/02/24 12:37	04/04/24 04:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		39 - 146			04/02/24 12:37	04/04/24 04:45	1
Method: SW846 8015D - Diese	l Range Or	ganics (DF	RO) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	16		9.4	mg/Kg		04/04/24 13:06	04/08/24 16:12	1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		04/04/24 13:06	04/08/24 16:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	119		62 - 134			04/04/24 13:06	04/08/24 16:12	1

5.0

Unit

mg/Kg

Result Qualifier

28

Analyzed

04/08/24 23:47

Prepared

Dil Fac

Client: Hilcorp Energy Project/Site: Witt 1

**Client Sample ID: FS10** Date Collected: 04/01/24 11:00

Date Received: 04/02/24 07:15

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: 885-2136-16

Matrix: Solid

Analyzed	Dil Fac	5
04/24 05:08	1	6

Analyte	Result Qu	ualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/02/24 12:37	04/04/24 05:08	1
Surrogate	%Recovery Qu	ualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		15 - 244			04/02/24 12:37	04/04/24 05:08	1

4-Bromofluorobenzene (Surr)	102		15 - 244			04/02/24 12:37	04/04/24 05:08	1
Method: SW846 8021B - Vo	latile Organic (	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/02/24 12:37	04/04/24 05:08	1
Ethylbenzene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 05:08	1
Toluene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 05:08	1
Xylenes, Total	ND		0.097	mg/Kg		04/02/24 12:37	04/04/24 05:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		39 - 146			04/02/24 12:37	04/04/24 05:08	1

Analyte	Result C	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	110		9.5	mg/Kg		04/04/24 13:06	04/08/24 16:23	1
Motor Oil Range Organics [C28-C40]	51		48	mg/Kg		04/04/24 13:06	04/08/24 16:23	1
Surrogate	%Recovery G	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	120		62 - 134			04/04/24 13:06	04/08/24 16:23	1

Method: EPA 300.0 - Anions, Id	on Chromatography - So	oluble					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	680	25	mg/Kg			04/08/24 23:52	5

Matrix: Solid

Date Collected: 04/01/24 11:03
Date Received: 04/02/24 07:15

Released to Imaging: 6/26/2024 10:01:42 AM

Method: SW846 8015D - Gaso Analyte	_	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/02/24 12:37	04/04/24 05:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		15 - 244			04/02/24 12:37	04/04/24 05:32	1
Method: SW846 8021B - Volat	ile Organic	Compoun	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/02/24 12:37	04/04/24 05:32	1
Ethylbenzene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 05:32	1
Toluene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 05:32	1
Xylenes, Total	ND		0.096	mg/Kg		04/02/24 12:37	04/04/24 05:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		39 - 146			04/02/24 12:37	04/04/24 05:32	1
Method: SW846 8015D - Diese	el Range Or	ganics (DF	RO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	500		9.5	mg/Kg		04/04/24 13:06	04/05/24 18:01	1
Motor Oil Range Organics [C28-C40]	340		48	mg/Kg		04/04/24 13:06	04/05/24 18:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	90		62 - 134			04/04/24 13:06	04/05/24 18:01	1
Method: EPA 300.0 - Anions, I	on Chroma	tography -	Soluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Allalyto						•	•	

Client: Hilcorp Energy Job ID: 885-2136-1 Project/Site: Witt 1 **Client Sample ID: FS11** Lab Sample ID: 885-2136-17

Client: Hilcorp Energy Project/Site: Witt 1

Chloride

Client Sample ID: FS12

Lab Sample ID: 885-2136-18

**Matrix: Solid** 

Date Collected: 04/01/24 11:06
Date Received: 04/02/24 07:15

850

ond -

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/02/24 12:37	04/04/24 05:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		15 - 244			04/02/24 12:37	04/04/24 05:55	1
Method: SW846 8021B - Volati	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/02/24 12:37	04/04/24 05:55	1
Ethylbenzene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 05:55	1
Toluene	ND		0.048	mg/Kg		04/02/24 12:37	04/04/24 05:55	1
Xylenes, Total	ND		0.096	mg/Kg		04/02/24 12:37	04/04/24 05:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		39 - 146			04/02/24 12:37	04/04/24 05:55	1
Method: SW846 8015D - Diese	l Range Or	ganics (DF	(C) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	760		9.9	mg/Kg		04/04/24 13:06	04/05/24 13:36	1
Motor Oil Range Organics [C28-C40]	500		49	mg/Kg		04/04/24 13:06	04/05/24 13:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	78		62 - 134			04/04/24 13:06	04/05/24 13:36	1

25

mg/Kg

04/09/24 00:11

# **Client Sample Results**

Client: Hilcorp Energy Job ID: 885-2136-1

Project/Site: Witt 1

Client Sample ID: FS13 Lab Sample ID: 885-2136-19

Date Collected: 04/01/24 11:09

Matrix: Solid

Date Received: 04/02/24 07:15

Method: SW846 8015D - Gaso	_	_	(GRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7	mg/Kg		04/02/24 12:37	04/04/24 06:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		15 - 244			04/02/24 12:37	04/04/24 06:18	1
Method: SW846 8021B - Volati	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023	mg/Kg		04/02/24 12:37	04/04/24 06:18	1
Ethylbenzene	ND		0.047	mg/Kg		04/02/24 12:37	04/04/24 06:18	1
Toluene	ND		0.047	mg/Kg		04/02/24 12:37	04/04/24 06:18	1
Xylenes, Total	ND		0.093	mg/Kg		04/02/24 12:37	04/04/24 06:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		39 - 146			04/02/24 12:37	04/04/24 06:18	1
4-Bromofluorobenzene (Surr)  Method: SW846 8015D - Diese		ganics (DF				04/02/24 12:37	04/04/24 06:18	1
Method: SW846 8015D - Diese	el Range Or	ganics (DF Qualifier		Unit	D	04/02/24 12:37  Prepared	04/04/24 06:18  Analyzed	Dil Fac
Method: SW846 8015D - Diese Analyte	el Range Or		RO) (GC)	<mark>Unit</mark> mg/Kg	<u>D</u>			Dil Fac
Method: SW846 8015D - Diese Analyte Diesel Range Organics [C10-C28] Motor Oil Range Organics	el Range Org		RO) (GC)		<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015D - Diese Analyte Diesel Range Organics [C10-C28] Motor Oil Range Organics [C28-C40]	el Range Or Result 880	Qualifier	RO) (GC) RL 9.1	mg/Kg	<u>D</u>	Prepared 04/04/24 13:06	Analyzed 04/05/24 14:24	1
Method: SW846 8015D - Diese Analyte Diesel Range Organics [C10-C28] Motor Oil Range Organics [C28-C40]	Result 880	Qualifier	RO) (GC)  RL  9.1  46	mg/Kg	<u>D</u>	Prepared 04/04/24 13:06 04/04/24 13:06	Analyzed 04/05/24 14:24 04/05/24 14:24	1
4-Bromofluorobenzene (Surr)  Method: SW846 8015D - Diese Analyte  Diesel Range Organics [C10-C28]  Motor Oil Range Organics [C28-C40]  Surrogate  Di-n-octyl phthalate (Surr)  Method: EPA 300.0 - Anions, I	Result 880 720  **Recovery* 81	Qualifier  Qualifier	RO) (GC)  RL  9.1  46  Limits  62 - 134	mg/Kg	<u>D</u>	Prepared 04/04/24 13:06 04/04/24 13:06 Prepared	Analyzed 04/05/24 14:24 04/05/24 14:24  Analyzed	Dil Fac
Method: SW846 8015D - Diese Analyte Diesel Range Organics [C10-C28] Motor Oil Range Organics [C28-C40] Surrogate Di-n-octyl phthalate (Surr)	Result 880 720  **Recovery 81  on Chromat	Qualifier  Qualifier	RO) (GC)  RL  9.1  46  Limits  62 - 134	mg/Kg	<u>D</u>	Prepared 04/04/24 13:06 04/04/24 13:06 Prepared	Analyzed 04/05/24 14:24 04/05/24 14:24  Analyzed	1

Client: Hilcorp Energy Project/Site: Witt 1

Chloride

Client Sample ID: FS14

Lab Sample ID: 885-2136-20

Matrix: Solid

Date Collected: 04/01/24 11:12 Date Received: 04/02/24 07:15

Oualifier Ompound Qualifier	4.6  Limits 15 - 244  S (GC) RL 0.023 0.046 0.046 0.092	mg/Kg  Unit  mg/Kg  mg/Kg  mg/Kg	D	Prepared 04/02/24 12:37  Prepared 04/02/24 12:37  Prepared 04/02/24 12:37 04/02/24 12:37 04/02/24 12:37	Analyzed 04/04/24 06:42  Analyzed 04/04/24 06:42 04/04/24 06:42 04/04/24 06:42 04/04/24 06:42 04/04/24 06:42	1
ompound Qualifier	15 - 244 s (GC) RL 0.023 0.046 0.046	mg/Kg mg/Kg mg/Kg	<u>D</u>	Prepared 04/02/24 12:37 04/02/24 12:37 04/02/24 12:37 04/02/24 12:37	Analyzed 04/04/24 06:42 04/04/24 06:42 04/04/24 06:42 04/04/24 06:42	Dil Fac
Qualifier	S (GC)  RL  0.023  0.046  0.046	mg/Kg mg/Kg mg/Kg	<u>D</u>	Prepared 04/02/24 12:37 04/02/24 12:37 04/02/24 12:37	Analyzed 04/04/24 06:42 04/04/24 06:42 04/04/24 06:42	Dil Fac
Qualifier	RL 0.023 0.046 0.046	mg/Kg mg/Kg mg/Kg	<u> </u>	04/02/24 12:37 04/02/24 12:37 04/02/24 12:37	04/04/24 06:42 04/04/24 06:42 04/04/24 06:42	Dil Fac 1 1 1
Qualifier	RL 0.023 0.046 0.046	mg/Kg mg/Kg mg/Kg	<u>D</u>	04/02/24 12:37 04/02/24 12:37 04/02/24 12:37	04/04/24 06:42 04/04/24 06:42 04/04/24 06:42	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	0.046 0.046	mg/Kg mg/Kg		04/02/24 12:37 04/02/24 12:37	04/04/24 06:42 04/04/24 06:42	1 1
)	0.046	mg/Kg		04/02/24 12:37	04/04/24 06:42	1 1
						1 1
	0.092	mg/Kg		04/02/24 12:37	04/04/24 06:42	1
Qualifier	Limits			Prepared	Analyzed	Dil Fac
	39 - 146			04/02/24 12:37	04/04/24 06:42	1
nics (DR	O) (GC)					
Qualifier .	RL	Unit	D	Prepared	Analyzed	Dil Fac
2	9.4	mg/Kg		04/04/24 13:06	04/05/24 15:12	1
	47	mg/Kg		04/04/24 13:06	04/05/24 15:12	1
Qualifier	Limits			Prepared	Analyzed	Dil Fac
	62 - 134			04/04/24 13:06	04/05/24 15:12	1
2 2 9	alifier	nics (DRO) (GC) palifier RL 9.4 47	Nailifier   RL   Unit   mg/Kg   mg/K	Dics (DRO) (GC)	nics (DRO) (GC)         Unit         D         Prepared           9.4         mg/Kg         04/04/24 13:06           47         mg/Kg         04/04/24 13:06           valifier         Limits         Prepared           62 - 134         04/04/24 13:06	nics (DRO) (GC)         Unit         D         Prepared 04/04/24 13:06         Analyzed 04/05/24 15:12 04/05/24 1

25

mg/Kg

860

04/09/24 00:30

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: FS15

Lab Sample ID: 885-2136-21

**Matrix: Solid** 

Date Collected: 04/01/24 11:15 Date Received: 04/02/24 07:15

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		04/02/24 13:30	04/04/24 16:13	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	129		15 - 244			04/02/24 13:30	04/04/24 16:13	
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	ND		0.025	mg/Kg		04/02/24 13:30	04/04/24 16:13	
Ethylbenzene	ND		0.050	mg/Kg		04/02/24 13:30	04/04/24 16:13	
Toluene	ND		0.050	mg/Kg		04/02/24 13:30	04/04/24 16:13	
Xylenes, Total	ND		0.099	mg/Kg		04/02/24 13:30	04/04/24 16:13	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4 Duama efference have a company								
4-Bromonuoropenzene (Surr)	88		39 - 146			04/02/24 13:30	04/04/24 16:13	
,		ganics (DF				04/02/24 13:30	04/04/24 16:13	
Method: SW846 8015D - Diese	el Range Or	ganics (DF Qualifier		Unit	D	04/02/24 13:30 Prepared	04/04/24 16:13 Analyzed	Dil Fa
Method: SW846 8015D - Diese Analyte	el Range Or	-	RO) (GC)	<mark>Unit</mark> mg/Kg	D			Dil Fa
Method: SW846 8015D - Diese Analyte Diesel Range Organics [C10-C28] Motor Oil Range Organics	el Range Org Result	-	RO) (GC)		<u>D</u>	Prepared	Analyzed 04/04/24 16:24	Dil Fa
Method: SW846 8015D - Diese Analyte Diesel Range Organics [C10-C28] Motor Oil Range Organics [C28-C40]	el Range Or Result	Qualifier	RO) (GC) RL 9.3	mg/Kg	<u>D</u>	Prepared 04/03/24 13:15	Analyzed 04/04/24 16:24	
Method: SW846 8015D - Diese Analyte Diesel Range Organics [C10-C28] Motor Oil Range Organics (C28-C40]	Range Org Result 900 690	Qualifier	RO) (GC)  RL  9.3  46	mg/Kg	<u>D</u>	Prepared 04/03/24 13:15 04/03/24 13:15	Analyzed 04/04/24 16:24 04/04/24 16:24	
Method: SW846 8015D - Diese Analyte Diesel Range Organics [C10-C28] Motor Oil Range Organics [C28-C40] Surrogate Di-n-octyl phthalate (Surr)	Result 900 690 %Recovery	Qualifier  Qualifier	RO) (GC)  RL  9.3  46  Limits  62 - 134	mg/Kg	<u> </u>	Prepared 04/03/24 13:15 04/03/24 13:15 Prepared	Analyzed 04/04/24 16:24 04/04/24 16:24  Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)  Method: SW846 8015D - Diese Analyte  Diesel Range Organics [C10-C28]  Motor Oil Range Organics [C28-C40]  Surrogate  Di-n-octyl phthalate (Surr)  Method: EPA 300.0 - Anions, I Analyte	Result 900 690 %Recovery 104	Qualifier  Qualifier	RO) (GC)  RL  9.3  46  Limits  62 - 134	mg/Kg	<u>D</u>	Prepared 04/03/24 13:15 04/03/24 13:15 Prepared	Analyzed 04/04/24 16:24 04/04/24 16:24  Analyzed	

Client: Hilcorp Energy Project/Site: Witt 1

**Client Sample ID: FS16** Lab Sample ID: 885-2136-22 Date Collected: 04/01/24 11:18

**Matrix: Solid** 

Date Received: 04/02/24 07:15

Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
ND		4.7	mg/Kg		04/02/24 13:30	04/04/24 17:24	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
117		15 - 244			04/02/24 13:30	04/04/24 17:24	1
le Organic	Compound	ds (GC)					
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
ND		0.023	mg/Kg		04/02/24 13:30	04/04/24 17:24	1
ND		0.047	mg/Kg		04/02/24 13:30	04/04/24 17:24	1
ND		0.047	mg/Kg		04/02/24 13:30	04/04/24 17:24	1
ND		0.093	mg/Kg		04/02/24 13:30	04/04/24 17:24	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
87		39 - 146			04/02/24 13:30	04/04/24 17:24	
	%Recovery 117 le Organic Result ND ND ND ND ND ND %Recovery	##Recovery Qualifier  117    Compound Result Qualifier ND	ND         4.7           %Recovery 117         Qualifier 25-244           le Organic Compounds (GC)         Result Qualifier RL           ND         0.023           ND         0.047           ND         0.047           ND         0.093           %Recovery Qualifier Limits	ND         4.7         mg/Kg           %Recovery 117         Qualifier 215 - 244         Limits 15 - 244           le Organic Compounds (GC)         Result Qualifier RL Unit         White Market	ND   4.7   mg/Kg	ND         4.7         mg/Kg         04/02/24 13:30           %Recovery 1177         Qualifier 215 - 244         Limits 215 - 244         Prepared 04/02/24 13:30           le Organic Compounds (GC)         Result Qualifier         RL Unit mg/Kg         D Prepared 04/02/24 13:30           ND         0.023         mg/Kg         04/02/24 13:30           ND         0.047         mg/Kg         04/02/24 13:30           ND         0.047         mg/Kg         04/02/24 13:30           ND         0.093         mg/Kg         04/02/24 13:30           %Recovery Qualifier         Limits         Prepared	ND         4.7         mg/Kg         04/02/24 13:30         04/04/24 17:24           %Recovery 117         Qualifier Limits 15 - 244         Prepared 04/02/24 13:30         Analyzed 04/04/24 17:24           le Organic Compounds (GC) Result ND ND 0.023         ND 0.023         Mg/Kg 04/02/24 13:30         Analyzed 04/04/24 17:24           ND ND ND 0.047         Mg/Kg 04/02/24 13:30         04/04/24 17:24           ND ND 0.047         Mg/Kg 04/02/24 13:30         04/04/24 17:24           ND 0.093         Mg/Kg 04/02/24 13:30         04/04/24 17:24           %Recovery Qualifier Limits         Prepared Analyzed

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6	mg/Kg		04/03/24 13:15	04/09/24 10:36	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		04/03/24 13:15	04/09/24 10:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	148	S1+	62 - 134			04/03/24 13:15	04/09/24 10:36	1

Method: EPA 300.0 - Anions, Io	n Chromat	ography - S	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		5.1	mg/Kg			04/09/24 00:40	1

Client: Hilcorp Energy Project/Site: Witt 1

**Client Sample ID: FS17** 

Lab Sample ID: 885-2136-23

**Matrix: Solid** 

Date Collected: 04/01/24 11:21 Date Received: 04/02/24 07:15

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/02/24 13:30	04/04/24 18:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		15 - 244			04/02/24 13:30	04/04/24 18:34	1
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/02/24 13:30	04/04/24 18:34	1
Ethylbenzene	ND		0.048	mg/Kg		04/02/24 13:30	04/04/24 18:34	1
Toluene	ND		0.048	mg/Kg		04/02/24 13:30	04/04/24 18:34	1
Xylenes, Total	ND		0.097	mg/Kg		04/02/24 13:30	04/04/24 18:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		39 - 146			04/02/24 13:30	04/04/24 18:34	1
Method: SW846 8015D - Diese	el Range Or	ganics (DF	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		04/03/24 13:15	04/04/24 16:49	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		04/03/24 13:15	04/04/24 16:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	102		62 - 134			04/03/24 13:15	04/04/24 16:49	1
·	on Chromo	tography -	Soluble					
Method: EPA 300.0 - Anions,	ion Cilionia	togi upiliy	Colubio					
Method: EPA 300.0 - Anions, Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client: Hilcorp Energy Project/Site: Witt 1

**Client Sample ID: FS18** Lab Sample ID: 885-2136-24

Date Collected: 04/01/24 11:24 **Matrix: Solid** 

Date Received: 04/02/24 07:15

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		04/02/24 13:30	04/04/24 18:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		15 - 244			04/02/24 13:30	04/04/24 18:57	1
Method: SW846 8021B - Volat	ile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		04/02/24 13:30	04/04/24 18:57	1
Ethylbenzene	ND		0.048	mg/Kg		04/02/24 13:30	04/04/24 18:57	1
Toluene	ND		0.048	mg/Kg		04/02/24 13:30	04/04/24 18:57	1
Xylenes, Total	ND		0.097	mg/Kg		04/02/24 13:30	04/04/24 18:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		39 - 146			04/02/24 13:30	04/04/24 18:57	1
Method: SW846 8015D - Diese	el Range Or	ganics (DF	RO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.7	mg/Kg		04/03/24 13:15	04/04/24 17:01	1
Motor Oil Range Organics [C28-C40]	ND		43	mg/Kg		04/03/24 13:15	04/04/24 17:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	104		62 - 134			04/03/24 13:15	04/04/24 17:01	1
Method: EPA 300.0 - Anions,	on Chromat	tography -	Soluble					
WELLIOU. LEA 300.0 - ALLIOHS, I	• · · · · · · · · · · · · · · · · · · ·							
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client: Hilcorp Energy Project/Site: Witt 1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-2652/1-A

**Matrix: Solid** 

**Analysis Batch: 2770** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2652

MB MB Result Qualifier RL Unit D Analyzed Dil Fac Analyte Prepared 5.0 04/02/24 12:37 04/03/24 20:54 Gasoline Range Organics [C6 - C10] ND mg/Kg

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 15 - 244 04/02/24 12:37 04/03/24 20:54 4-Bromofluorobenzene (Surr) 98

Lab Sample ID: LCS 885-2652/2-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** 

**Analysis Batch: 2770** 

Prep Type: Total/NA Prep Batch: 2652

mg/Kg

25.9

LCS LCS Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits

25.0

Gasoline Range Organics [C6 -C10]

LCS LCS

Limits Surrogate %Recovery Qualifier 4-Bromofluorobenzene (Surr) 211 15 - 244

Lab Sample ID: 885-2136-1 MS

**Matrix: Solid** 

**Analysis Batch: 2770** 

**Client Sample ID: WS01** Prep Type: Total/NA

70 - 130

104

Prep Batch: 2652

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Gasoline Range Organics [C6 -ND 23.6 26.3 mg/Kg 112 70 - 130

C10]

MS MS

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 222 15 - 244

Lab Sample ID: 885-2136-1 MSD

**Matrix: Solid** 

**Analysis Batch: 2770** 

Client Sample ID: WS01

Prep Type: Total/NA Prep Batch: 2652

%Rec RPD

Sample Sample Spike MSD MSD Result Qualifier Added Result Qualifier Unit Limits RPD Limit Analyte %Rec 23.7 70 - 130 Gasoline Range Organics [C6 -ND 26.2 mg/Kg 110

C10]

MSD MSD

%Recovery Limits Surrogate Qualifier 15 - 244 4-Bromofluorobenzene (Surr) 221

Lab Sample ID: MB 885-2659/1-A

**Matrix: Solid** 

**Analysis Batch: 2819** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2659

MB MB Result Qualifier RL Unit Analyzed Analyte Prepared Dil Fac Gasoline Range Organics [C6 - C10] 04/02/24 13:30 04/04/24 15:50 ND 5.0 mg/Kg

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 4-Bromofluorobenzene (Surr) 100 15 - 244 04/02/24 13:30 04/04/24 15:50

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: FS15

Client Sample ID: FS15

Prep Type: Total/NA

Prep Type: Total/NA

### Method: 8015D - Gasoline Range Organics (GRO) (GC) (Continued)

**Client Sample ID: Lab Control Sample** Lab Sample ID: LCS 885-2659/2-A **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 2819** Prep Batch: 2659

Spike LCS LCS %Rec Added Result Qualifier %Rec Limits Analyte Unit D Gasoline Range Organics [C6 -25.0 28.5 mg/Kg 114 70 - 130 C10]

LCS LCS Limits Surrogate %Recovery Qualifier 15 - 244 4-Bromofluorobenzene (Surr) 219

Lab Sample ID: 885-2136-21 MS

**Matrix: Solid** 

**Analysis Batch: 2819** 

Prep Batch: 2659 Sample Sample Spike MS MS %Rec Result Qualifier Added Analyte Result Qualifier Unit D %Rec Limits 24.7 Gasoline Range Organics [C6 -ND 30.3 mg/Kg 108 70 - 130 C10]

MS MS %Recovery Qualifier I imite Surrogate 15 - 244 4-Bromofluorobenzene (Surr) 234

Lab Sample ID: 885-2136-21 MSD

**Matrix: Solid** 

**Analysis Batch: 2819** 

Prep Batch: 2659 Sample Sample Spike MSD MSD %Rec **RPD** RPD **Analyte** Result Qualifier Added Result Qualifier Unit D %Rec Limits Limit Gasoline Range Organics [C6 -ND 24.8 30.3 mg/Kg 108 70 - 130 0 20

C10]

MSD MSD %Recovery Qualifier Surrogate Limits 4-Bromofluorobenzene (Surr) 235 15 - 244

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

Lab Sample ID: MB 885-2652/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 2771** Prep Batch: 2652

MB MB Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Benzene ND 0.025 mg/Kg 04/02/24 12:37 04/03/24 20:54 Ethylbenzene ND 0.050 mg/Kg 04/02/24 12:37 04/03/24 20:54 Toluene ND 0.050 mg/Kg 04/02/24 12:37 04/03/24 20:54 Xylenes, Total ND 0.10 mg/Kg 04/02/24 12:37 04/03/24 20:54

MB MB %Recovery Qualifier Dil Fac Limits Surrogate Prepared Analyzed 39 - 146 04/02/24 12:37 04/03/24 20:54 4-Bromofluorobenzene (Surr) 84

Client: Hilcorp Energy Project/Site: Witt 1

Job ID: 885-2136-1

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

Lab Sample ID: LCS 885-2652/3-A

**Matrix: Solid** 

**Analysis Batch: 2771** 

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

Prep Batch: 2652

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits D Benzene 1.00 0.846 mg/Kg 85 70 - 130 Ethylbenzene 1.00 0.856 mg/Kg 86 70 - 130 m&p-Xylene 2.00 1.75 mg/Kg 88 70 - 130 o-Xylene 1.00 0.854 mg/Kg 85 70 - 130 Toluene 1.00 0.856 86 mg/Kg 70 - 130

LCS LCS

Limits Surrogate %Recovery Qualifier 4-Bromofluorobenzene (Surr) 39 - 146 87

Lab Sample ID: 885-2136-2 MS

**Matrix: Solid** 

**Analysis Batch: 2771** 

Client Sample ID: WS02 Prep Type: Total/NA

Prep Batch: 2652

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Benzene ND 0.969 0.850 mg/Kg 88 70 - 130 Ethylbenzene ND 0.969 0.878 91 70 - 130 mg/Kg ND 1.81 m&p-Xylene 1.94 mg/Kg 92 70 - 130 o-Xylene ND 0.969 0.875 mg/Kg 90 70 - 130 Toluene ND 0.969 0.869 mg/Kg 90 70 - 130

MS MS %Recovery Surrogate Qualifier

Limits 4-Bromofluorobenzene (Surr) 87 39 - 146

Lab Sample ID: 885-2136-2 MSD

**Matrix: Solid** 

**Analysis Batch: 2771** 

Client Sample ID: WS02

Prep Type: Total/NA Prep Batch: 2652

Sample Sample Spike MSD MSD %Rec **RPD** Result Qualifier Added Limits RPD Limit **Analyte** Result Qualifier Unit %Rec D Benzene ND 0.970 0.854 mg/Kg 88 70 - 130 0 20 Ethylbenzene ND 0.970 0.893 92 70 - 130 2 20 mg/Kg ND m&p-Xylene 1.94 1.80 mg/Kg 92 70 - 130 20 o-Xylene ND 0.970 0.883 mg/Kg 91 70 - 130 20 Toluene ND 0.970 0.876 mg/Kg ٩n 70 - 130 20

MSD MSD

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 88 39 - 146

Lab Sample ID: MB 885-2659/1-A

**Matrix: Solid** 

**Analysis Batch: 2821** 

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

Prep Batch: 2659

	MB MB					
Analyte	Result Qualifier	RL	Unit	D Prepared	Analyzed	Dil Fac
Benzene	ND ND	0.025	mg/Kg	04/02/24 13:3	0 04/04/24 15:50	1
Ethylbenzene	ND	0.050	mg/Kg	04/02/24 13:3	0 04/04/24 15:50	1
Toluene	ND	0.050	mg/Kg	04/02/24 13:3	0 04/04/24 15:50	1
Xylenes, Total	ND	0.10	mg/Kg	04/02/24 13:3	0 04/04/24 15:50	1

Client: Hilcorp Energy Project/Site: Witt 1

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

Lab Sample ID: MB 885-2659/1-A

**Matrix: Solid** 

**Analysis Batch: 2821** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2659

MB MB

Limits %Recovery Qualifier Prepared Analyzed Dil Fac Surrogate 04/02/24 13:30 04/04/24 15:50 4-Bromofluorobenzene (Surr) 84 39 - 146

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 885-2659/3-A **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 2821** Prep Batch: 2659 Spike LCS LCS %Rec

Added Limits **Analyte** Result Qualifier Unit %Rec Benzene 1.00 0.834 mg/Kg 83 70 - 130 mg/Kg Ethylbenzene 1.00 0.861 86 70 - 130 m&p-Xylene 2.00 1.76 mg/Kg 88 70 - 130 o-Xylene 1.00 0.861 mg/Kg 86 70 - 130 Toluene 1.00 0.850 mg/Kg 85 70 - 130

LCS LCS

MS MS

%Recovery Qualifier Limits Surrogate 4-Bromofluorobenzene (Surr) 88 39 - 146

Lab Sample ID: 885-2136-22 MS Client Sample ID: FS16

**Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 2821** Prep Batch: 2659 **.** ..

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	ND		0.930	0.777		mg/Kg		84	70 - 130	
Ethylbenzene	ND		0.930	0.818		mg/Kg		87	70 - 130	
m&p-Xylene	ND		1.86	1.68		mg/Kg		89	70 - 130	
o-Xylene	ND		0.930	0.805		mg/Kg		86	70 - 130	
Toluene	ND		0.930	0.788		mg/Kg		85	70 - 130	

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 92 39 - 146

Lab Sample ID: 885-2136-22 MSD

**Matrix: Solid Prep Type: Total/NA Analysis Batch: 2821** Prep Batch: 2659

Sample Sample Spike MSD MSD %Rec **RPD** Qualifier RPD Result Added Result Qualifier %Rec Limits Limit Analyte Unit Benzene ND 0.930 0.805 87 70 - 130 20 mg/Kg ND 0.930 0.832 70 - 130 20 Ethylbenzene mg/Kg 88 2 m&p-Xylene ND 1.86 1.69 mg/Kg 90 70 - 130 20 70 - 130 o-Xylene ND 0.930 0.821 88 2 20 mg/Kg Toluene ND 0.930 0.818 mg/Kg 88 70 - 130 20

MSD MSD Surrogate %Recovery Qualifier Limits 39 - 146 4-Bromofluorobenzene (Surr) 90

Eurofins Albuquerque

Client Sample ID: FS16

Client: Hilcorp Energy

Project/Site: Witt 1

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-2723/1-A

Lab Sample ID: LCS 885-2723/2-A

**Matrix: Solid** 

**Analysis Batch: 2812** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2723

MB MB Result Qualifier RL Unit D Analyzed Dil Fac Analyte **Prepared** Diesel Range Organics [C10-C28] ND 10 mg/Kg 04/03/24 13:15 04/04/24 12:41 Motor Oil Range Organics [C28-C40] ND 50 mg/Kg 04/03/24 13:15 04/04/24 12:41

MB MB

Surrogate %Recovery Qualifier I imite Prepared Analyzed Dil Fac Di-n-octyl phthalate (Surr) 124 62 - 134 04/03/24 13:15 04/04/24 12:41

50.7

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

60 - 135

101

Prep Batch: 2723

Spike LCS LCS %Rec Added Result Qualifier Limits Unit %Rec D

mg/Kg

**Diesel Range Organics** 

**Analysis Batch: 2812** 

[C10-C28]

Analyte

**Matrix: Solid** 

LCS LCS

Surrogate %Recovery Qualifier Limits Di-n-octyl phthalate (Surr) 110 62 - 134

Lab Sample ID: 885-2136-24 MS

**Matrix: Solid** 

**Analysis Batch: 2812** 

Client Sample ID: FS18 **Prep Type: Total/NA** 

Prep Batch: 2723

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Limits Unit D %Rec

50.0

ND 49.0 44.8 91 44 - 136 Diesel Range Organics mg/Kg

[C10-C28]

MS MS

Surrogate %Recovery Qualifier Limits Di-n-octyl phthalate (Surr) 104 62 - 134

Lab Sample ID: 885-2136-24 MSD

**Matrix: Solid** 

**Matrix: Solid** 

**Analysis Batch: 2812** 

**Client Sample ID: FS18** Prep Type: Total/NA

Prep Batch: 2723

MSD MSD %Rec **RPD** Sample Sample Spike Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit ND 45.8 42.8 Diesel Range Organics mg/Kg 93 44 - 136

[C10-C28]

MSD MSD

Surrogate %Recovery Qualifier Limits 62 - 134 Di-n-octyl phthalate (Surr) 99

Lab Sample ID: MB 885-2786/1-A **Client Sample ID: Method Blank** 

Prep Batch: 2786 **Analysis Batch: 2915** MB MB

Result Qualifier RL Unit Prepared Analyzed Diesel Range Organics [C10-C28] ND 10 mg/Kg 04/04/24 13:06 04/05/24 11:12 Motor Oil Range Organics [C28-C40] ND 50 04/04/24 13:06 04/05/24 11:12 mg/Kg 1

Eurofins Albuquerque

Prep Type: Total/NA

Client: Hilcorp Energy Project/Site: Witt 1

Job ID: 885-2136-1

Method: 8015D - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 885-2786/1-A

Lab Sample ID: LCS 885-2786/2-A

**Matrix: Solid** 

**Matrix: Solid** 

**Analysis Batch: 2915** 

**Analysis Batch: 2915** 

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 2786

MB MB

%Recovery Qualifier Limits Prepared Analyzed Dil Fac Surrogate 04/04/24 13:06 04/05/24 11:12 Di-n-octyl phthalate (Surr) 128 62 - 134

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2786

Spike LCS LCS %Rec Added Result Qualifier Limits **Analyte** Unit %Rec 50.0 60 - 135 Diesel Range Organics 55.0 mg/Kg 110

[C10-C28]

LCS LCS

%Recovery Qualifier Limits Surrogate 62 - 134 Di-n-octyl phthalate (Surr) 109

Lab Sample ID: 885-2136-20 MS

**Matrix: Solid Prep Type: Total/NA Analysis Batch: 2915** Prep Batch: 2786

Client Sample ID: FS14

Sample Sample MS MS Spike %Rec Result Qualifier Added Limits Analyte Result Qualifier Unit %Rec Diesel Range Organics 800 F2 47.3 735 4 mg/Kg -146 44 - 136

[C10-C28]

MS MS

Surrogate %Recovery Qualifier Limits Di-n-octyl phthalate (Surr) 75 62 - 134

Lab Sample ID: 885-2136-20 MSD

**Matrix: Solid** 

**Analysis Batch: 2915** 

Client Sample ID: FS14 Prep Type: Total/NA

Prep Batch: 2786

Sample Sample Spike MSD MSD %Rec **RPD** Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Diesel Range Organics 800 F2 46.9 1140 4 F2 mg/Kg 716 44 - 136 43 32

[C10-C28]

MSD MSD

Surrogate %Recovery Qualifier Limits Di-n-octyl phthalate (Surr) 62 - 134 64

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-77648/1-A

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**Matrix: Solid** 

**Analysis Batch: 77664** 

**Client Sample ID: Method Blank** 

**Prep Type: Soluble** 

MB MB

Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Chloride ND 5.0 04/08/24 18:03 mg/Kg

Client: Hilcorp Energy Project/Site: Witt 1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-77648/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 77664** 

LCS LCS Spike %Rec Added Result Qualifier Limits Analyte Unit D %Rec Chloride 250 251 mg/Kg 100 90 - 110

Lab Sample ID: LCSD 880-77648/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 77664** 

Spike LCSD LCSD %Rec **RPD** Added Result Qualifier Unit D %Rec Limits RPD Limit Analyte 250 90 - 110 Chloride 251 mg/Kg 100 n

Lab Sample ID: 885-2136-4 MS Client Sample ID: WS04 **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 77664** 

Sample Sample Spike MS MS %Rec Result Qualifier Added Result Qualifier **Analyte** Unit D %Rec Limits Chloride 250 251 506 90 - 110 mg/Kg 101

Lab Sample ID: 885-2136-4 MSD Client Sample ID: WS04 **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 77664** 

Spike MSD MSD **RPD** Sample Sample %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Chloride 250 251 504 mg/Kg 100 90 - 110

Lab Sample ID: MB 880-77428/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 77665** 

MR MR Analyte RL Unit Result Qualifier Prepared Analyzed Dil Fac Chloride 5.0 04/08/24 22:30 ND mg/Kg

Lab Sample ID: LCS 880-77428/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** 

**Analysis Batch: 77665** 

Spike LCS LCS %Rec Added Result Analyte Qualifier D %Rec Limits Unit 250 259 Chloride mg/Kg 104 90 - 110

Lab Sample ID: LCSD 880-77428/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 77665** 

Spike LCSD LCSD %Rec **RPD** Added Result Qualifier Unit Limits RPD Limit Analyte D %Rec Chloride 250 260 104 mg/Kg 90 - 110 0

Lab Sample ID: 885-2136-6 MS **Client Sample ID: WS06 Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 77665** 

Released to Imaging: 6/26/2024 10:01:42 AM

Spike MS MS %Rec Sample Sample Added Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Chloride 260 250 525 mg/Kg 106 90 - 110

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**Prep Type: Soluble** 

# **QC Sample Results**

Client: Hilcorp Energy Job ID: 885-2136-1

Project/Site: Witt 1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 885-2136-6 MSD **Client Sample ID: WS06 Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 77665** 

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	260		250	525		mg/Kg		106	90 - 110	0	20

Lab Sample ID: 885-2136-16 MS **Client Sample ID: FS10 Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 77665** 

	Sample Sample	Spike	MS MS	3			%Rec	
Analyte	Result Qualifier	Added	Result Qu	ualifier Unit	D	%Rec	Limits	
Chloride	680	1250	2070	mg/Kg		110	90 - 110	

Lab Sample ID: 885-2136-16 MSD Client Sample ID: FS10 **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 77665** 

Sample Sample Spike MSD MSD %Rec RPD Result Qualifier Limits Analyte Added Result Qualifier Unit RPD Limit %Rec Chloride 680 1250 2060 mg/Kg 90 - 110 20

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4/10/2024

Client: Hilcorp Energy

Job ID: 885-2136-1

Project/Site: Witt 1

**GC VOA** 

Prep Batch: 2652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-1	WS01	Total/NA	Solid	5030C	
885-2136-2	WS02	Total/NA	Solid	5030C	
885-2136-3	WS03	Total/NA	Solid	5030C	
885-2136-4	WS04	Total/NA	Solid	5030C	
885-2136-5	WS05	Total/NA	Solid	5030C	
885-2136-6	WS06	Total/NA	Solid	5030C	
885-2136-7	FS01	Total/NA	Solid	5030C	
885-2136-8	FS02	Total/NA	Solid	5030C	
885-2136-9	FS03	Total/NA	Solid	5030C	
885-2136-10	FS04	Total/NA	Solid	5030C	
885-2136-11	FS05	Total/NA	Solid	5030C	
885-2136-12	FS06	Total/NA	Solid	5030C	
885-2136-13	FS07	Total/NA	Solid	5030C	
885-2136-14	FS08	Total/NA	Solid	5030C	
885-2136-15	FS09	Total/NA	Solid	5030C	
885-2136-16	FS10	Total/NA	Solid	5030C	
885-2136-17	FS11	Total/NA	Solid	5030C	
885-2136-18	FS12	Total/NA	Solid	5030C	
885-2136-19	FS13	Total/NA	Solid	5030C	
885-2136-20	FS14	Total/NA	Solid	5030C	
MB 885-2652/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-2652/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-2652/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-2136-1 MS	WS01	Total/NA	Solid	5030C	
885-2136-1 MSD	WS01	Total/NA	Solid	5030C	
885-2136-2 MS	WS02	Total/NA	Solid	5030C	
885-2136-2 MSD	WS02	Total/NA	Solid	5030C	

Prep Batch: 2659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-21	FS15	Total/NA	Solid	5030C	
885-2136-22	FS16	Total/NA	Solid	5030C	
885-2136-23	FS17	Total/NA	Solid	5030C	
885-2136-24	FS18	Total/NA	Solid	5030C	
MB 885-2659/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-2659/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-2659/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-2136-21 MS	FS15	Total/NA	Solid	5030C	
885-2136-21 MSD	FS15	Total/NA	Solid	5030C	
885-2136-22 MS	FS16	Total/NA	Solid	5030C	
885-2136-22 MSD	FS16	Total/NA	Solid	5030C	

**Analysis Batch: 2770** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-1	WS01	Total/NA	Solid	8015D	2652
885-2136-2	WS02	Total/NA	Solid	8015D	2652
885-2136-3	WS03	Total/NA	Solid	8015D	2652
885-2136-4	WS04	Total/NA	Solid	8015D	2652
885-2136-5	WS05	Total/NA	Solid	8015D	2652
885-2136-6	WS06	Total/NA	Solid	8015D	2652
885-2136-7	FS01	Total/NA	Solid	8015D	2652

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Client: Hilcorp Energy

Job ID: 885-2136-1

Project/Site: Witt 1

# **GC VOA (Continued)**

#### **Analysis Batch: 2770 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-8	FS02	Total/NA	Solid	8015D	2652
885-2136-9	FS03	Total/NA	Solid	8015D	2652
885-2136-10	FS04	Total/NA	Solid	8015D	2652
885-2136-11	FS05	Total/NA	Solid	8015D	2652
885-2136-12	FS06	Total/NA	Solid	8015D	2652
885-2136-13	FS07	Total/NA	Solid	8015D	2652
885-2136-14	FS08	Total/NA	Solid	8015D	2652
885-2136-15	FS09	Total/NA	Solid	8015D	2652
885-2136-16	FS10	Total/NA	Solid	8015D	2652
885-2136-17	FS11	Total/NA	Solid	8015D	2652
885-2136-18	FS12	Total/NA	Solid	8015D	2652
885-2136-19	FS13	Total/NA	Solid	8015D	2652
885-2136-20	FS14	Total/NA	Solid	8015D	2652
MB 885-2652/1-A	Method Blank	Total/NA	Solid	8015D	2652
LCS 885-2652/2-A	Lab Control Sample	Total/NA	Solid	8015D	2652
885-2136-1 MS	WS01	Total/NA	Solid	8015D	2652
885-2136-1 MSD	WS01	Total/NA	Solid	8015D	2652

#### **Analysis Batch: 2771**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-1	WS01	Total/NA	Solid	8021B	2652
885-2136-2	WS02	Total/NA	Solid	8021B	2652
885-2136-3	WS03	Total/NA	Solid	8021B	2652
885-2136-4	WS04	Total/NA	Solid	8021B	2652
885-2136-5	WS05	Total/NA	Solid	8021B	2652
885-2136-6	WS06	Total/NA	Solid	8021B	2652
885-2136-7	FS01	Total/NA	Solid	8021B	2652
885-2136-8	FS02	Total/NA	Solid	8021B	2652
885-2136-9	FS03	Total/NA	Solid	8021B	2652
885-2136-10	FS04	Total/NA	Solid	8021B	2652
885-2136-11	FS05	Total/NA	Solid	8021B	2652
885-2136-12	FS06	Total/NA	Solid	8021B	2652
885-2136-13	FS07	Total/NA	Solid	8021B	2652
885-2136-14	FS08	Total/NA	Solid	8021B	2652
885-2136-15	FS09	Total/NA	Solid	8021B	2652
885-2136-16	FS10	Total/NA	Solid	8021B	2652
885-2136-17	FS11	Total/NA	Solid	8021B	2652
885-2136-18	FS12	Total/NA	Solid	8021B	2652
885-2136-19	FS13	Total/NA	Solid	8021B	2652
885-2136-20	FS14	Total/NA	Solid	8021B	2652
MB 885-2652/1-A	Method Blank	Total/NA	Solid	8021B	2652
LCS 885-2652/3-A	Lab Control Sample	Total/NA	Solid	8021B	2652
885-2136-2 MS	WS02	Total/NA	Solid	8021B	2652
885-2136-2 MSD	WS02	Total/NA	Solid	8021B	2652

#### **Analysis Batch: 2819**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-21	FS15	Total/NA	Solid	8015D	2659
885-2136-22	FS16	Total/NA	Solid	8015D	2659
885-2136-23	FS17	Total/NA	Solid	8015D	2659
885-2136-24	FS18	Total/NA	Solid	8015D	2659

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Client: Hilcorp Energy Job ID: 885-2136-1

Project/Site: Witt 1

### **GC VOA (Continued)**

#### **Analysis Batch: 2819 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-2659/1-A	Method Blank	Total/NA	Solid	8015D	2659
LCS 885-2659/2-A	Lab Control Sample	Total/NA	Solid	8015D	2659
885-2136-21 MS	FS15	Total/NA	Solid	8015D	2659
885-2136-21 MSD	FS15	Total/NA	Solid	8015D	2659

#### **Analysis Batch: 2821**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-21	FS15	Total/NA	Solid	8021B	2659
885-2136-22	FS16	Total/NA	Solid	8021B	2659
885-2136-23	FS17	Total/NA	Solid	8021B	2659
885-2136-24	FS18	Total/NA	Solid	8021B	2659
MB 885-2659/1-A	Method Blank	Total/NA	Solid	8021B	2659
LCS 885-2659/3-A	Lab Control Sample	Total/NA	Solid	8021B	2659
885-2136-22 MS	FS16	Total/NA	Solid	8021B	2659
885-2136-22 MSD	FS16	Total/NA	Solid	8021B	2659

#### **GC Semi VOA**

#### Prep Batch: 2723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-21	FS15	Total/NA	Solid	SHAKE	
885-2136-22	FS16	Total/NA	Solid	SHAKE	
885-2136-23	FS17	Total/NA	Solid	SHAKE	
885-2136-24	FS18	Total/NA	Solid	SHAKE	
MB 885-2723/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-2723/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-2136-24 MS	FS18	Total/NA	Solid	SHAKE	
885-2136-24 MSD	FS18	Total/NA	Solid	SHAKE	

#### Prep Batch: 2786

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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-1	WS01	Total/NA	Solid	SHAKE	
885-2136-2	WS02	Total/NA	Solid	SHAKE	
885-2136-3	WS03	Total/NA	Solid	SHAKE	
885-2136-4	WS04	Total/NA	Solid	SHAKE	
885-2136-5	WS05	Total/NA	Solid	SHAKE	
885-2136-6	WS06	Total/NA	Solid	SHAKE	
885-2136-7	FS01	Total/NA	Solid	SHAKE	
885-2136-8	FS02	Total/NA	Solid	SHAKE	
885-2136-9	FS03	Total/NA	Solid	SHAKE	
885-2136-10	FS04	Total/NA	Solid	SHAKE	
885-2136-11	FS05	Total/NA	Solid	SHAKE	
885-2136-12	FS06	Total/NA	Solid	SHAKE	
885-2136-13	FS07	Total/NA	Solid	SHAKE	
885-2136-14	FS08	Total/NA	Solid	SHAKE	
885-2136-15	FS09	Total/NA	Solid	SHAKE	
885-2136-16	FS10	Total/NA	Solid	SHAKE	
885-2136-17	FS11	Total/NA	Solid	SHAKE	
885-2136-18	FS12	Total/NA	Solid	SHAKE	
885-2136-19	FS13	Total/NA	Solid	SHAKE	
885-2136-20	FS14	Total/NA	Solid	SHAKE	

Client: Hilcorp Energy

Job ID: 885-2136-1

Project/Site: Witt 1

### GC Semi VOA (Continued)

#### Prep Batch: 2786 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-2786/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-2786/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-2136-20 MS	FS14	Total/NA	Solid	SHAKE	
885-2136-20 MSD	FS14	Total/NA	Solid	SHAKE	

#### **Analysis Batch: 2812**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-21	FS15	Total/NA	Solid	8015D	2723
885-2136-23	FS17	Total/NA	Solid	8015D	2723
885-2136-24	FS18	Total/NA	Solid	8015D	2723
MB 885-2723/1-A	Method Blank	Total/NA	Solid	8015D	2723
LCS 885-2723/2-A	Lab Control Sample	Total/NA	Solid	8015D	2723
885-2136-24 MS	FS18	Total/NA	Solid	8015D	2723
885-2136-24 MSD	FS18	Total/NA	Solid	8015D	2723

#### **Analysis Batch: 2915**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-1	WS01	Total/NA	Solid	8015D	2786
885-2136-2	WS02	Total/NA	Solid	8015D	2786
885-2136-3	WS03	Total/NA	Solid	8015D	2786
885-2136-4	WS04	Total/NA	Solid	8015D	2786
885-2136-5	WS05	Total/NA	Solid	8015D	2786
885-2136-6	WS06	Total/NA	Solid	8015D	2786
885-2136-7	FS01	Total/NA	Solid	8015D	2786
885-2136-8	FS02	Total/NA	Solid	8015D	2786
885-2136-9	FS03	Total/NA	Solid	8015D	2786
885-2136-10	FS04	Total/NA	Solid	8015D	2786
885-2136-11	FS05	Total/NA	Solid	8015D	2786
885-2136-12	FS06	Total/NA	Solid	8015D	2786
885-2136-17	FS11	Total/NA	Solid	8015D	2786
885-2136-18	FS12	Total/NA	Solid	8015D	2786
885-2136-19	FS13	Total/NA	Solid	8015D	2786
885-2136-20	FS14	Total/NA	Solid	8015D	2786
MB 885-2786/1-A	Method Blank	Total/NA	Solid	8015D	2786
LCS 885-2786/2-A	Lab Control Sample	Total/NA	Solid	8015D	2786
885-2136-20 MS	FS14	Total/NA	Solid	8015D	2786
885-2136-20 MSD	FS14	Total/NA	Solid	8015D	2786

#### **Analysis Batch: 2941**

Lab Sample ID 885-2136-13	Client Sample ID FS07	Prep Type Total/NA	Matrix Solid	Method 8015D	Prep Batch 2786
885-2136-14	FS08	Total/NA	Solid	8015D	2786
885-2136-15	FS09	Total/NA	Solid	8015D	2786
885-2136-16	FS10	Total/NA	Solid	8015D	2786

#### **Analysis Batch: 2992**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-22	FS16	Total/NA	Solid	8015D	2723

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Client: Hilcorp Energy

Job ID: 885-2136-1

Project/Site: Witt 1

### HPLC/IC

Leach Batch: 77428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-6	WS06	Soluble	Solid	DI Leach	
885-2136-7	FS01	Soluble	Solid	DI Leach	
885-2136-8	FS02	Soluble	Solid	DI Leach	
885-2136-9	FS03	Soluble	Solid	DI Leach	
885-2136-10	FS04	Soluble	Solid	DI Leach	
885-2136-11	FS05	Soluble	Solid	DI Leach	
885-2136-12	FS06	Soluble	Solid	DI Leach	
885-2136-13	FS07	Soluble	Solid	DI Leach	
885-2136-14	FS08	Soluble	Solid	DI Leach	
885-2136-15	FS09	Soluble	Solid	DI Leach	
885-2136-16	FS10	Soluble	Solid	DI Leach	
885-2136-17	FS11	Soluble	Solid	DI Leach	
885-2136-18	FS12	Soluble	Solid	DI Leach	
885-2136-19	FS13	Soluble	Solid	DI Leach	
885-2136-20	FS14	Soluble	Solid	DI Leach	
885-2136-21	FS15	Soluble	Solid	DI Leach	
885-2136-22	FS16	Soluble	Solid	DI Leach	
885-2136-23	FS17	Soluble	Solid	DI Leach	
885-2136-24	FS18	Soluble	Solid	DI Leach	
MB 880-77428/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-77428/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-77428/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
885-2136-6 MS	WS06	Soluble	Solid	DI Leach	
885-2136-6 MSD	WS06	Soluble	Solid	DI Leach	
885-2136-16 MS	FS10	Soluble	Solid	DI Leach	
885-2136-16 MSD	FS10	Soluble	Solid	DI Leach	

#### Leach Batch: 77648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-1	WS01	Soluble	Solid	DI Leach	
885-2136-2	WS02	Soluble	Solid	DI Leach	
885-2136-3	WS03	Soluble	Solid	DI Leach	
885-2136-4	WS04	Soluble	Solid	DI Leach	
885-2136-5	WS05	Soluble	Solid	DI Leach	
MB 880-77648/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-77648/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-77648/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
885-2136-4 MS	WS04	Soluble	Solid	DI Leach	
885-2136-4 MSD	WS04	Soluble	Solid	DI Leach	

#### **Analysis Batch: 77664**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-1	WS01	Soluble	Solid	300.0	77648
885-2136-2	WS02	Soluble	Solid	300.0	77648
885-2136-3	WS03	Soluble	Solid	300.0	77648
885-2136-4	WS04	Soluble	Solid	300.0	77648
885-2136-5	WS05	Soluble	Solid	300.0	77648
MB 880-77648/1-A	Method Blank	Soluble	Solid	300.0	77648
LCS 880-77648/2-A	Lab Control Sample	Soluble	Solid	300.0	77648
LCSD 880-77648/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	77648
885-2136-4 MS	WS04	Soluble	Solid	300.0	77648

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Client: Hilcorp Energy

Job ID: 885-2136-1

Project/Site: Witt 1

### **HPLC/IC (Continued)**

#### **Analysis Batch: 77664 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-4 MSD	WS04	Soluble	Solid	300.0	77648

#### **Analysis Batch: 77665**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2136-6	WS06	Soluble	Solid	300.0	77428
885-2136-7	FS01	Soluble	Solid	300.0	77428
885-2136-8	FS02	Soluble	Solid	300.0	77428
885-2136-9	FS03	Soluble	Solid	300.0	77428
885-2136-10	FS04	Soluble	Solid	300.0	77428
885-2136-11	FS05	Soluble	Solid	300.0	77428
885-2136-12	FS06	Soluble	Solid	300.0	77428
885-2136-13	FS07	Soluble	Solid	300.0	77428
885-2136-14	FS08	Soluble	Solid	300.0	77428
885-2136-15	FS09	Soluble	Solid	300.0	77428
885-2136-16	FS10	Soluble	Solid	300.0	77428
885-2136-17	FS11	Soluble	Solid	300.0	77428
885-2136-18	FS12	Soluble	Solid	300.0	77428
885-2136-19	FS13	Soluble	Solid	300.0	77428
885-2136-20	FS14	Soluble	Solid	300.0	77428
885-2136-21	FS15	Soluble	Solid	300.0	77428
885-2136-22	FS16	Soluble	Solid	300.0	77428
885-2136-23	FS17	Soluble	Solid	300.0	77428
885-2136-24	FS18	Soluble	Solid	300.0	77428
MB 880-77428/1-A	Method Blank	Soluble	Solid	300.0	77428
LCS 880-77428/2-A	Lab Control Sample	Soluble	Solid	300.0	77428
LCSD 880-77428/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	77428
885-2136-6 MS	WS06	Soluble	Solid	300.0	77428
885-2136-6 MSD	WS06	Soluble	Solid	300.0	77428
885-2136-16 MS	FS10	Soluble	Solid	300.0	77428
885-2136-16 MSD	FS10	Soluble	Solid	300.0	77428

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Client: Hilcorp Energy Project/Site: Witt 1

**Client Sample ID: WS01** Date Collected: 04/01/24 09:10 Lab Sample ID: 885-2136-1

**Matrix: Solid** 

Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	<b>EET ALB</b>	04/03/24 21:18
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	<b>EET ALB</b>	04/03/24 21:18
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 12:23
Soluble	Leach	DI Leach			77648	SA	EET MID	04/08/24 15:40
Soluble	Analysis	300.0		1	77664	SMC	EET MID	04/08/24 19:29

Lab Sample ID: 885-2136-2

**Matrix: Solid** 

**Client Sample ID: WS02** Date Collected: 04/01/24 09:15

Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/03/24 22:28
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/03/24 22:28
Total/NA	Prep	SHAKE			2786	SB	<b>EET ALB</b>	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 12:48
Soluble	Leach	DI Leach			77648	SA	EET MID	04/08/24 15:40
Soluble	Analysis	300.0		1	77664	SMC	EET MID	04/08/24 19:35

Lab Sample ID: 885-2136-3 **Client Sample ID: WS03** Date Collected: 04/01/24 09:20

Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/03/24 23:39
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/03/24 23:39
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 13:12
Soluble	Leach	DI Leach			77648	SA	EET MID	04/08/24 15:40
Soluble	Analysis	300.0		1	77664	SMC	EET MID	04/08/24 19:41

**Client Sample ID: WS04** Lab Sample ID: 885-2136-4 **Matrix: Solid** 

Date Collected: 04/01/24 09:25

Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	<b>EET ALB</b>	04/04/24 00:02

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Matrix: Solid

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: WS04

Date Collected: 04/01/24 09:25 Date Received: 04/02/24 07:15 Lab Sample ID: 885-2136-4

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 00:02
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 18:25
Soluble	Leach	DI Leach			77648	SA	EET MID	04/08/24 15:40
Soluble	Analysis	300.0		1	77664	SMC	EET MID	04/08/24 19:47

**Client Sample ID: WS05** Lab Sample ID: 885-2136-5 Date Collected: 04/01/24 09:30

Date Received: 04/02/24 07:15

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	<b>EET ALB</b>	04/04/24 00:26
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 00:26
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 18:49
Soluble	Leach	DI Leach			77648	SA	EET MID	04/08/24 15:40
Soluble	Analysis	300.0		1	77664	SMC	EET MID	04/08/24 20:06

Lab Sample ID: 885-2136-6 **Client Sample ID: WS06** 

Date Collected: 04/01/24 09:35 **Matrix: Solid** Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	<b>EET ALB</b>	04/04/24 00:49
Total/NA	Prep	5030C			2652	JP	<b>EET ALB</b>	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	<b>EET ALB</b>	04/04/24 00:49
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	<b>EET ALB</b>	04/05/24 19:13
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		1	77665	SMC	EET MID	04/08/24 22:44

**Client Sample ID: FS01** Lab Sample ID: 885-2136-7

Date Collected: 04/01/24 10:00 **Matrix: Solid** Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/04/24 01:13
Total/NA	Prep	5030C			2652	JP	<b>EET ALB</b>	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 01:13

**Client Sample ID: FS01** 

Lab Sample ID: 885-2136-7

**Matrix: Solid** 

Date Collected: 04/01/24 10:00 Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 19:38
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		1	77665	SMC	EET MID	04/08/24 22:59

Lab Sample ID: 885-2136-8

Matrix: Solid

Date Collected: 04/01/24 10:05 Date Received: 04/02/24 07:15

**Client Sample ID: FS02** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/04/24 01:37
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 01:37
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 20:02
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		1	77665	SMC	EET MID	04/08/24 23:04

Lab Sample ID: 885-2136-9 **Client Sample ID: FS03** 

**Matrix: Solid** 

Date Collected: 04/01/24 10:10 Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/04/24 02:00
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 02:00
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 20:26
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		1	77665	SMC	EET MID	04/08/24 23:08

**Client Sample ID: FS04** Lab Sample ID: 885-2136-10 Date Collected: 04/01/24 10:15 **Matrix: Solid** 

Date Received: 04/02/24 07:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/04/24 02:24
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 02:24
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 20:50

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: FS04

Date Collected: 04/01/24 10:15 Date Received: 04/02/24 07:15 Lab Sample ID: 885-2136-10

**Matrix: Solid** 

Batch Dilution Batch **Prepared Prep Type** Method Factor Number Analyst or Analyzed Type Run Lab 04/05/24 07:50 Soluble Leach DI Leach 77428 SA EET MID 04/08/24 23:42 Soluble 300.0 77665 SMC **EET MID** Analysis 1

Client Sample ID: FS05 Lab Sample ID: 885-2136-11

Date Collected: 04/01/24 10:20 Matrix: Solid

Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C	<del></del> -	<del>-</del>	2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/04/24 03:11
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 03:11
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 21:14
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		1	77665	SMC	EET MID	04/08/24 23:13

Client Sample ID: FS06 Lab Sample ID: 885-2136-12

Date Collected: 04/01/24 10:25 Matrix: Solid

Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	<b>EET ALB</b>	04/04/24 03:34
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	<b>EET ALB</b>	04/04/24 03:34
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 21:38
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		1	77665	SMC	EET MID	04/08/24 23:28

Client Sample ID: FS07

Date Collected: 04/01/24 10:30

Lab Sample ID: 885-2136-13

Matrix: Solid

Date Collected: 04/01/24 10:30
Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/04/24 03:58
Total/NA	Prep	5030C			2652	JP	<b>EET ALB</b>	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 03:58
Total/NA	Prep	SHAKE			2786	SB	<b>EET ALB</b>	04/04/24 13:06
Total/NA	Analysis	8015D		1	2941	PD	EET ALB	04/08/24 15:51
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		1	77665	SMC	EET MID	04/08/24 23:32

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Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: FS08

Date Collected: 04/01/24 10:35 Date Received: 04/02/24 07:15 Lab Sample ID: 885-2136-14

**Matrix: Solid** 

Batch Batch Dilution Batch Prepared Method Factor Number Analyst or Analyzed **Prep Type** Type Run Lab Total/NA 5030C EET ALB 04/02/24 12:37 Prep 2652 Total/NA 8015D 2770 JP 04/04/24 04:21 Analysis 1 **EET ALB** Total/NA Prep 5030C 2652 **EET ALB** 04/02/24 12:37 Total/NA 8021B 04/04/24 04:21 Analysis 1 2771 JP **EET ALB** Total/NA SHAKE 2786 SB **EET ALB** 04/04/24 13:06 Prep Total/NA Analysis 8015D 1 2941 PD **EET ALB** 04/08/24 16:02 Soluble Leach DI Leach 77428 SA **EET MID** 04/05/24 07:50 Soluble Analysis 300.0 77665 SMC **EET MID** 04/08/24 23:37 1

Client Sample ID: FS09 Lab Sample ID: 885-2136-15

Date Collected: 04/01/24 10:40 Matrix: Solid

Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/04/24 04:45
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	<b>EET ALB</b>	04/04/24 04:45
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2941	PD	EET ALB	04/08/24 16:12
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		1	77665	SMC	EET MID	04/08/24 23:47

Client Sample ID: FS10

Date Collected: 04/01/24 11:00

Lab Sample ID: 885-2136-16

Matrix: Solid

Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/04/24 05:08
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 05:08
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2941	PD	EET ALB	04/08/24 16:23
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		5	77665	SMC	EET MID	04/08/24 23:52

Client Sample ID: FS11 Lab Sample ID: 885-2136-17

Date Collected: 04/01/24 11:03 Matrix: Solid

Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	<b>EET ALB</b>	04/04/24 05:32

Date Received: 04/02/24 07:15

Client: Hilcorp Energy

Project/Site: Witt 1

**Client Sample ID: FS11** Lab Sample ID: 885-2136-17 Date Collected: 04/01/24 11:03

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 05:32
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 18:01
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		5	77665	SMC	EET MID	04/09/24 00:06

**Client Sample ID: FS12** Lab Sample ID: 885-2136-18 Date Collected: 04/01/24 11:06 **Matrix: Solid** 

Date Received: 04/02/24 07:15

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/04/24 05:55
Total/NA	Prep	5030C			2652	JP	<b>EET ALB</b>	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 05:55
Total/NA	Prep	SHAKE			2786	SB	<b>EET ALB</b>	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 13:36
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		5	77665	SMC	EET MID	04/09/24 00:11

**Client Sample ID: FS13** Lab Sample ID: 885-2136-19

Date Collected: 04/01/24 11:09 Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/04/24 06:18
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 06:18
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 14:24
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		5	77665	SMC	EET MID	04/09/24 00:26

**Client Sample ID: FS14** Lab Sample ID: 885-2136-20

Date Collected: 04/01/24 11:12 **Matrix: Solid** Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8015D		1	2770	JP	EET ALB	04/04/24 06:42
Total/NA	Prep	5030C			2652	JP	EET ALB	04/02/24 12:37
Total/NA	Analysis	8021B		1	2771	JP	EET ALB	04/04/24 06:42

Client: Hilcorp Energy Project/Site: Witt 1

**Client Sample ID: FS14** 

Lab Sample ID: 885-2136-20

**Matrix: Solid** 

Date Collected: 04/01/24 11:12 Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	SHAKE			2786	SB	EET ALB	04/04/24 13:06
Total/NA	Analysis	8015D		1	2915	PD	EET ALB	04/05/24 15:12
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		5	77665	SMC	EET MID	04/09/24 00:30

Lab Sample ID: 885-2136-21

**Matrix: Solid** 

Date Collected: 04/01/24 11:15 Date Received: 04/02/24 07:15

**Client Sample ID: FS15** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2659	JR	EET ALB	04/02/24 13:30
Total/NA	Analysis	8015D		1	2819	JP	EET ALB	04/04/24 16:13
Total/NA	Prep	5030C			2659	JR	EET ALB	04/02/24 13:30
Total/NA	Analysis	8021B		1	2821	JP	EET ALB	04/04/24 16:13
Total/NA	Prep	SHAKE			2723	SB	EET ALB	04/03/24 13:15
Total/NA	Analysis	8015D		1	2812	JU	EET ALB	04/04/24 16:24
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		1	77665	SMC	EET MID	04/09/24 00:35

**Client Sample ID: FS16** Lab Sample ID: 885-2136-22

**Matrix: Solid** 

Date Collected: 04/01/24 11:18 Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2659	JR	EET ALB	04/02/24 13:30
Total/NA	Analysis	8015D		1	2819	JP	EET ALB	04/04/24 17:24
Total/NA	Prep	5030C			2659	JR	EET ALB	04/02/24 13:30
Total/NA	Analysis	8021B		1	2821	JP	EET ALB	04/04/24 17:24
Total/NA	Prep	SHAKE			2723	SB	<b>EET ALB</b>	04/03/24 13:15
Total/NA	Analysis	8015D		1	2992	JU	EET ALB	04/09/24 10:36
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		1	77665	SMC	EET MID	04/09/24 00:40

**Client Sample ID: FS17** Lab Sample ID: 885-2136-23 Date Collected: 04/01/24 11:21

Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5030C			2659	JR	EET ALB	04/02/24 13:30
Total/NA	Analysis	8015D		1	2819	JP	EET ALB	04/04/24 18:34
Total/NA	Prep	5030C			2659	JR	EET ALB	04/02/24 13:30
Total/NA	Analysis	8021B		1	2821	JP	EET ALB	04/04/24 18:34
Total/NA	Prep	SHAKE			2723	SB	<b>EET ALB</b>	04/03/24 13:15
Total/NA	Analysis	8015D		1	2812	JU	EET ALB	04/04/24 16:49

Eurofins Albuquerque

**Matrix: Solid** 

Client: Hilcorp Energy Project/Site: Witt 1

Client Sample ID: FS17

Lab Sample ID: 885-2136-23

**Matrix: Solid** 

Date Collected: 04/01/24 11:21 Date Received: 04/02/24 07:15

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			77428	SA	EET MID	04/05/24 07:50
Soluble	Analysis	300.0		1	77665	SMC	EET MID	04/09/24 00:45

Client Sample ID: FS18 Lab Sample ID: 885-2136-24

Matrix: Solid

Date Collected: 04/01/24 11:24 Date Received: 04/02/24 07:15

Batch Batch Dilution Batch Prepared **Prep Type** Method **Number Analyst** or Analyzed Type Run **Factor** Lab 04/02/24 13:30 Total/NA Prep 5030C 2659 JR **EET ALB** Total/NA Analysis 8015D 2819 JP 04/04/24 18:57 **EET ALB** 1 Total/NA Prep 5030C 2659 JR **EET ALB** 04/02/24 13:30 Total/NA 8021B Analysis 2821 JP **EET ALB** 04/04/24 18:57 1 Total/NA Prep SHAKE 2723 SB **EET ALB** 04/03/24 13:15 8015D Total/NA 2812 JU **EET ALB** 04/04/24 17:01 Analysis 1 Soluble DI Leach 77428 SA **EET MID** 04/05/24 07:50 Leach 300.0 77665 SMC **EET MID** 04/09/24 00:50 Soluble Analysis 1

**Laboratory References:** 

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

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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# **Accreditation/Certification Summary**

Client: Hilcorp Energy Job ID: 885-2136-1

Project/Site: Witt 1

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### **Laboratory: Eurofins Albuquerque**

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

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

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

Analysis Method	nalysis Method Prep Method		Analyte	
8015D	5030C Solid Gasolir		Gasoline Range Or	ganics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Orga	nics [C10-C28]
8015D	SHAKE		Motor Oil Range Or	ganics [C28-C40]
8021B	5030C	Solid	Benzene	
8021B	5030C	Solid	Ethylbenzene	
8021B	5030C	Solid	Toluene	
8021B	5030C	Solid	Xylenes, Total	
on	NELA	P	NM100001	02-26-25

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

Analysis Method	Prep Method	Matrix	Analyte
8015D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

#### **Laboratory: Eurofins Midland**

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	<b>Expiration Date</b>		
Texas	NELAP	T104704400-23-26	06-30-24		

Eurofins Albuquerque

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		- <del> </del>		Project #:						)5-34				•	-	345-					
Phone	#:											o fortilos apportan	analysis Request			885-	885-2136 COC				
email or Fax#: MKillough @ hilcorp-com			Project Manager:									SO4			int)						
QA/QC Package:   Standard □ Level 4 (Full Validation)			Sampler: E. Carroll				DRO/MRO)	PCB's		8270SIMS		PO₄,			(Present/Absent)						
Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other			Sampler: E. Carroll On Ice: Yes   No 100				_	ו∝ו	504.1)		s	3, NO <sub>2</sub> ,		OA)	(Prese						
ŜrEDD (Type) <u>xU</u>			# of Coolers: 1 Cooler Temp(including CF): 0.9 - 0.1 = 0.8 (°C)			**************************************	D(G	icide	poq	3310	/letal	NO	(F)	ni-V	orm	9					
				Cooler Letti	P(including CF): 0	(°C) 8.0 = 1.0 -		3015	Pest	Met	δ	181	Br,	(0/	(Ser	S	100				
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	<b>STEX</b>	TPH:8015D(GRO	8081	EDB (Method	PAHs by 8310 or	RCRA 8 Metals	CI, F, Br, NO <sub>3</sub> ,	8260 (VOA)	8270 (Semi-VOA)	Total Coliform	Chloride				
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**Chain-of-Custody Record** 

Hilcorp

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# HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE -	_	Albuquerque,	NM	8710	ę
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	Project #:						Te	el. 50	)5-34	45-39	975	F	ax :	505-	345-	-410 <sup>·</sup>	7					
Phone	#:			1					Analysis Request													
email o	email or Fax#: ME: 110(m) @ hilcorp. com				Project Manager:			<del></del>	6					SO4			nt)					
QA/QC Package:  ☐ Level 4 (Full Validation)			Stuart Hyde-Ersolum			TMB's (8024)	/ DRO / MRO)	PCB's		8270SIMS		PO4,			t/Abse							
Accreditation:   Az Compliance			Sampler: E. Corroll On Ice: Yes D No uco							504.1)			NO <sub>2</sub> ,		2	reser						
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Date	Time	Matrix	Sample Name	1	Container Preservative Type and # Type		" HEAL No.	KX3tg	TPH:8015D(GRO	8081 Pesticides/8082	EDB (Method	PAHs by 8310	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> ,	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chloride				
4-1	1030	50:1	FS07	1	402	Co		13	×	1									×			
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Turn-Around Time:

Witt

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

4/2/24 7:15

Via: Caliner







CC! @ carroll @ ensolum. com



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# Login Sample Receipt Checklist

Client: Hilcorp Energy Job Number: 885-2136-1

Login Number: 2136 List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

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

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### **Login Sample Receipt Checklist**

Client: Hilcorp Energy Job Number: 885-2136-1

Login Number: 2136
List Source: Eurofins Midland
List Number: 2
List Creation: 04/08/24 12:12 PM

Creator: Rodriguez, Leticia

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

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

January 08, 2024

Mitch Killough
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499

TEL: (505) 564-0733

FAX:

RE: Witt 1 OrderNo.: 2312B48

#### Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 12/20/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andy

4901 Hawkins NE

Albuquerque, NM 87109

# Analytical Report Lab Order 2312B48

Date Reported: 1/8/2024

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: BGT 5-Point

 Project:
 Witt 1
 Collection Date: 12/18/2023 9:06:00 AM

 Lab ID:
 2312B48-001
 Matrix: SOIL
 Received Date: 12/20/2023 6:50:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	970	9.8	mg/Kg	1	1/2/2024 10:56:50 AM
Motor Oil Range Organics (MRO)	270	49	mg/Kg	1	1/2/2024 10:56:50 AM
Surr: DNOP	74.9	69-147	%Rec	1	1/2/2024 10:56:50 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	1400	23	mg/Kg	5	12/28/2023 6:40:37 AM
Surr: BFB	1130	15-244	S %Rec	5	12/28/2023 6:40:37 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.12	mg/Kg	5	12/28/2023 6:40:37 AM
Toluene	1.1	0.23	mg/Kg	5	12/28/2023 6:40:37 AM
Ethylbenzene	3.8	0.23	mg/Kg	5	12/28/2023 6:40:37 AM
Xylenes, Total	110	4.6	mg/Kg	50	12/28/2023 11:30:29 AM
Surr: 4-Bromofluorobenzene	143	39.1-146	%Rec	5	12/28/2023 6:40:37 AM
EPA METHOD 300.0: ANIONS					Analyst: KCB
Chloride	410	60	mg/Kg	20	1/3/2024 4:05:11 PM

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

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

# **QC SUMMARY REPORT**

### Hall Environmental Analysis Laboratory, Inc.

WO#: **2312B48** *08-Jan-24* 

Client: HILCORP ENERGY

**Project:** Witt 1

Sample ID: MB-79720 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 79720 RunNo: 102238

Prep Date: 1/3/2024 Analysis Date: 1/3/2024 SeqNo: 3774164 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-79720 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 79720 RunNo: 102238

Prep Date: 1/3/2024 Analysis Date: 1/3/2024 SeqNo: 3774165 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 92.4 90 110

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

### **QC SUMMARY REPORT**

### Hall Environmental Analysis Laboratory, Inc.

WO#: **2312B48** *08-Jan-24* 

Client: HILCORP ENERGY

**Project:** Witt 1

Sample ID: LCS-79665 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 79665 RunNo: 102162 Units: mg/Kg Prep Date: 12/29/2023 Analysis Date: 1/1/2024 SeqNo: 3771004 PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Analyte Result Qual Diesel Range Organics (DRO) 50 10 50.00 n 101 61.9 130 Surr: DNOP 5.0 5.000 99.8 69 147

Sample ID: MB-79665 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: Batch ID: 79665 PBS RunNo: 102162 Prep Date: Analysis Date: 1/1/2024 12/29/2023 SeqNo: 3771007 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Diesel Range Organics (DRO) ND 10
Motor Oil Range Organics (MRO) ND 50

Surr: DNOP 8.5 10.00 84.7 69 147

- 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 Quantitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# **QC SUMMARY REPORT**

# Hall Environmental Analysis Laboratory, Inc.

SampType: MBLK

WO#: **2312B48** *08-Jan-24* 

**Client:** HILCORP ENERGY

**Project:** Witt 1

Sample ID: mb-79553

Sample ID: Ics-79594	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 79594	RunNo: 102084							
Prep Date: 12/24/2023	Analysis Date: 12/27/2023	SeqNo: 3768473 Units: mg/Kg							
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD	RPDLimit Qual						
Gasoline Range Organics (GRO)	24 5.0 25.00	0 95.6 70 130							
Surr: BFB	2100 1000	205 15 244							
Sample ID: mb-79594	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 79594	RunNo: 102084							
Prep Date: 12/24/2023	Analysis Date: 12/27/2023	SeqNo: 3768474 Units: mg/Kg							
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD	RPDLimit Qual						
Gasoline Range Organics (GRO)	ND 5.0								
Surr: BFB	950 1000	94.9 15 244							
Sample ID: Ics-79553	SampType: <b>LCS</b>	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 79553	RunNo: 102112							
Prep Date: 12/21/2023	Analysis Date: 12/28/2023	SeqNo: <b>3769854</b> Units: <b>%Rec</b>							
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD	RPDLimit Qual						
Surr: BFB	2000 1000	204 15 244							

Client ID: PBS	Batch ID: 7	9553	F	RunNo: 10	02112							
Prep Date: 12/21/2023	Analysis Date:	Analysis Date: 12/28/2023			769855	Units: %Rec	%Rec					
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Surr: BFB	970	1000		96.7	15	244						

TestCode: EPA Method 8015D: Gasoline Range

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

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312B48** *08-Jan-24* 

Client: HILCORP ENERGY

**Project:** Witt 1

Sample ID: LCS-79594	SampT	SampType: LCS TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch	h ID: <b>795</b>	594	F	RunNo: 10	02084				
Prep Date: 12/24/2023	Analysis D	Date: <b>12</b>	/27/2023	5	SeqNo: 37	768506	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	100	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Ethylbenzene	1.0	0.050	1.000	0	102	70	130			
Xylenes, Total	3.1	0.10	3.000	0	102	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	39.1	146			
Sample ID: mb-79594	sample ID: mb-79594 SampType: MBLK TestCode: EPA Method 8021B: Volatiles									
Client ID: PBS	Batch	h ID: <b>795</b>	594	F	RunNo: 10	02084				
Prep Date: 12/24/2023	Analysis D	Date: <b>12</b>	/27/2023	S	SeqNo: 37	768507	Units: mg/K	g		
Prep Date: 12/24/2023 Analyte	Analysis D	Date: <b>12</b> PQL		SPK Ref Val	·	768507 LowLimit	Units: mg/K HighLimit	g %RPD	RPDLimit	Qual
	·				·		•	•	RPDLimit	Qual
Analyte	Result	PQL			·		•	•	RPDLimit	Qual
Analyte Benzene	Result ND	PQL 0.025			·		•	•	RPDLimit	Qual
Analyte Benzene Toluene	Result ND ND	PQL 0.025 0.050			·		•	•	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene	Result ND ND ND	PQL 0.025 0.050 0.050			·		•	•	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene Xylenes, Total	Result  ND  ND  ND  ND  ND  O.92	PQL 0.025 0.050 0.050	SPK value	SPK Ref Val	%REC 92.0	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene	Result  ND  ND  ND  ND  O.92	PQL 0.025 0.050 0.050 0.10	SPK value	SPK Ref Val	%REC 92.0	LowLimit 39.1 PA Method	HighLimit	%RPD	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene  Sample ID: LCS-79553	Result  ND  ND  ND  ND  O.92	PQL 0.025 0.050 0.050 0.10	1.000 S 553	SPK Ref Val	%REC 92.0	39.1 PA Method 02112	HighLimit	%RPD	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene  Sample ID: LCS-79553 Client ID: LCSS	Result  ND  ND  ND  ND  O.92  Samp1	PQL 0.025 0.050 0.050 0.10	1.000 S 553	SPK Ref Val	92.0 etCode: EF	39.1 PA Method 02112	HighLimit  146  8021B: Volati	%RPD	RPDLimit  RPDLimit	Qual

Sample ID: <b>mb-79553</b>	SampType: I	MBLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 7	79553	F	RunNo: 10	02112				
Prep Date: 12/21/2023	Analysis Date:	12/28/2023	5	SeqNo: 37	769869	Units: %Rec			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.94	1.000		94.1	39.1	146			

#### 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



#### **Environment Testin**

Eurofins Environment Testing South Central, LLC 4901 Hawkins NE

Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 6/26/2024 10:01:42 AM

Client Name: Hilcorp Energy	Work Order Nun	nber: 2312B48		RcptNo: 1
Received By: Tracy Casarrubias	12/20/2023 6:50:0	0 AM		
Completed By: Tracy Casarrubias	12/20/2023 11:36:	55 AM		
Reviewed By: 72 12/20/23	3			
Chain of Custody			_	
1. Is Chain of Custody complete?		Yes 🔽	No 🗌	Not Present
2. How was the sample delivered?		Courier		
Log In			D	NA 🗆
3. Was an attempt made to cool the sample	es?	Yes 🔽	No 🗌	NA 📙
4. Were all samples received at a temperate	ure of >0° C to 6.0°C	Yes 🔽	No 🗌	na $\square$
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌	
6. Sufficient sample volume for indicated te	st(s)?	Yes 🗹	No 🗌	
7. Are samples (except VOA and ONG) pro	perly preserved?	Yes 🗹	No 🗌	
8. Was preservative added to bottles?		Yes 🗌	No 🗹	NA 🗆
9. Received at least 1 vial with headspace <	1/4" for AQ VOA?	Yes 🗌	No 🗌	NA ☑
10. Were any sample containers received br	oken?	Yes 🗌		# of preserved
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗸		bottles checked for pH: (<2 or >12 unless note
12. Are matrices correctly identified on Chain	of Custody?	Yes 🗸	No 🗌	Adjusted?
13. Is it clear what analyses were requested?	•	Yes 🗹	No 🗌	Took in to
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🔽	No 🗆	Checked by: TML 12/12
Special Handling (if applicable)			(	
15. Was client notified of all discrepancies w	rith this order?	Yes 🗌	No 🗌	NA 🗹
Person Notified:	Date	e:		
By Whom:	Via:	eMail P	hone 🗌 Fax [	In Person
Regarding:				
Client Instructions:				
16. Additional remarks:				
17. Cooler Information			4	
Cooler No Temp °C Condition	Seal Intact Seal No	Seal Date	Signed By	
1 0.8 Good	Yes Morty			

	hain	of-Cu	stody Record	Turn-Around らる						ш	AI	LE	: NIX	/TE	20		ME	- P.I.	TA		
Client:		Hilo	orp Energy	■ Standard	1.1		-		$\exists$			LY									
	****			Project Name														~ 1	Or	. 1	
Mailing	Address	202.0	R 3100 Aztec NM 87410	Witt 1								haller									
		302 0	R 3100 AZTEC NIVI 8/410	Project #:				490	)1 H	awki	ns NI	Ξ - /	Albuq	uero	erque, NM 87109						
				Project #:				Те	1. 50	5-34	5-39	75	Fax	50	5-34	5-41	107				
	~~~~	99-3400										Ana	lysis	Red	ques	t					
email o	r Fax#: n	killough	@hilcorp.com	Project Mana	ger:		$\equiv$	0		9		ø			£						
QA/QC I	Package:	lucero@	hilcorp.com	Mitch Killough			(8021)	/ MRO)	PCB's		N N				pse						
□ Stan	dard		☐ Level 4 (Full Validation)					0.1			3	14			TE			Ę			
Accredi	tation:	□ Az Co	mpliance	Sampler: C	Cardoza		TMB	/ DRO	8081 Pesticides/8082	$\exists$	PAHS by 8310 or 82/USIMS	NO <sub>2</sub> , PO <sub>2</sub> , 60 <sub>2</sub>			Total Coliform (Present/Absent)			Conductivity			
□ NEL		□ Other		On Ice:	On Ice: Yes D No mould .			8	8/s	EDB (Method 504.1)	ا ق			8270 (Semi-VOA)	P.		Ξį	ᅙ			
□ EDD	(Type)_			# of Coolers:			MTBE	TPH:8015D(GRO	흥	g	PAHS by 8310 C	CI) F, Br, NO3,	~	<u>:</u>	띭		pH/Corrosivity				
				Cooler Temp	(including CF):	3=0=0.8=		151	esti	Net	ء اج	<u> </u>	Ιģ	Ser	₩		E	ပ္ပ			
				Container	Preservative	HEAL No.	읾	1:80	프	8	<u>ا م</u>	٤IJ	8260 (VOA)	0	<u>=</u>	_	ပ္ခို	늉	ا پی		
Date	Time	Matrix	Sample Name	Type and #	Туре	2312348	BTEX/	直	8		<u> </u>	2 (2	38	827	ot la	RCI	핍	Electric (	SAR		
12/18/23	9:06	soil	BGT 5-Point	4oz glass/1	Cold	001															
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Date:	Time:	Relinquish	ad by:	Received by:	Via: ゴムム	12/10/- 1520		narks	s:												
Date:	Time:	Relinquishe	ed by:	Received by:	Via: Counter	Date Time (0:50)															
12/19/23	1193	NE!	well with all			- 12/20/23															

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



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

February 02, 2024

Mitch Killough
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499

TEL: (505) 564-0733

FAX:

RE: Witt 1 OrderNo.: 2401799

#### Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 15 sample(s) on 1/19/2024 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andy

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 2/2/2024

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH01 @1

 Project:
 Witt 1
 Collection Date: 1/17/2024 12:40:00 PM

 Lab ID:
 2401799-001
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS					Analyst: <b>JKU</b>
Diesel Range Organics (DRO)	530	9.9		mg/Kg	1	1/22/2024 4:58:11 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/22/2024 4:58:11 PM
Surr: DNOP	80.8	69-147		%Rec	1	1/22/2024 4:58:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	4000	230		mg/Kg	50	1/23/2024 3:36:02 AM
Surr: BFB	347	15-244	S	%Rec	50	1/23/2024 3:36:02 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	1.2		mg/Kg	50	1/23/2024 3:36:02 AM
Toluene	35	2.3		mg/Kg	50	1/23/2024 3:36:02 AM
Ethylbenzene	32	2.3		mg/Kg	50	1/23/2024 3:36:02 AM
Xylenes, Total	340	4.7		mg/Kg	50	1/23/2024 3:36:02 AM
Surr: 4-Bromofluorobenzene	100	39.1-146		%Rec	50	1/23/2024 3:36:02 AM
EPA METHOD 300.0: ANIONS						Analyst: RBC
Chloride	160	60		mg/Kg	20	1/19/2024 5:35:14 PM

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

Qualifiers:

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

Page 1 of 19

Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH01 @ 3.75

 Project:
 Witt 1
 Collection Date: 1/17/2024 12:43:00 PM

 Lab ID:
 2401799-002
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: <b>JKU</b>
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/22/2024 5:10:12 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/22/2024 5:10:12 PM
Surr: DNOP	86.9	69-147	%Rec	1	1/22/2024 5:10:12 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/23/2024 3:59:45 AM
Surr: BFB	98.1	15-244	%Rec	1	1/23/2024 3:59:45 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2024 3:59:45 AM
Toluene	ND	0.048	mg/Kg	1	1/23/2024 3:59:45 AM
Ethylbenzene	ND	0.048	mg/Kg	1	1/23/2024 3:59:45 AM
Xylenes, Total	ND	0.096	mg/Kg	1	1/23/2024 3:59:45 AM
Surr: 4-Bromofluorobenzene	83.4	39.1-146	%Rec	1	1/23/2024 3:59:45 AM
EPA METHOD 300.0: ANIONS					Analyst: RBC
Chloride	ND	60	mg/Kg	20	1/19/2024 6:20:44 PM

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

Qualifiers:

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

ple pH Not In Range Page 2 of 19

Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH02 @ 3

 Project:
 Witt 1
 Collection Date: 1/17/2024 12:45:00 PM

 Lab ID:
 2401799-003
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: <b>JKU</b>
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/22/2024 5:22:12 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/22/2024 5:22:12 PM
Surr: DNOP	84.8	69-147	%Rec	1	1/22/2024 5:22:12 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/23/2024 4:23:49 AM
Surr: BFB	98.8	15-244	%Rec	1	1/23/2024 4:23:49 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2024 4:23:49 AM
Toluene	ND	0.047	mg/Kg	1	1/23/2024 4:23:49 AM
Ethylbenzene	ND	0.047	mg/Kg	1	1/23/2024 4:23:49 AM
Xylenes, Total	ND	0.094	mg/Kg	1	1/23/2024 4:23:49 AM
Surr: 4-Bromofluorobenzene	86.6	39.1-146	%Rec	1	1/23/2024 4:23:49 AM
EPA METHOD 300.0: ANIONS					Analyst: RBC
Chloride	ND	60	mg/Kg	20	1/19/2024 7:39:23 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

H Holding times for preparation or analysis exceeded

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$ 

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 3 of 19

Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH02 @ 5

 Project:
 Witt 1
 Collection Date: 1/17/2024 1:33:00 PM

 Lab ID:
 2401799-004
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: <b>JKU</b>
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	1/22/2024 5:34:12 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/22/2024 5:34:12 PM
Surr: DNOP	87.8	69-147	%Rec	1	1/22/2024 5:34:12 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/23/2024 4:47:50 AM
Surr: BFB	97.0	15-244	%Rec	1	1/23/2024 4:47:50 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2024 4:47:50 AM
Toluene	ND	0.048	mg/Kg	1	1/23/2024 4:47:50 AM
Ethylbenzene	ND	0.048	mg/Kg	1	1/23/2024 4:47:50 AM
Xylenes, Total	ND	0.096	mg/Kg	1	1/23/2024 4:47:50 AM
Surr: 4-Bromofluorobenzene	85.2	39.1-146	%Rec	1	1/23/2024 4:47:50 AM
EPA METHOD 300.0: ANIONS					Analyst: RBC
Chloride	ND	60	mg/Kg	20	1/19/2024 7:56:17 PM

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

Qualifiers:

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

Page 4 of 19

Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH03 @ 3

 Project:
 Witt 1
 Collection Date: 1/17/2024 12:48:00 PM

 Lab ID:
 2401799-005
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS					Analyst: <b>JKU</b>
Diesel Range Organics (DRO)	200	9.7		mg/Kg	1	1/22/2024 5:46:09 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/22/2024 5:46:09 PM
Surr: DNOP	85.2	69-147		%Rec	1	1/22/2024 5:46:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	350	9.6		mg/Kg	2	1/24/2024 10:15:11 PM
Surr: BFB	1260	15-244	S	%Rec	2	1/24/2024 10:15:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.048		mg/Kg	2	1/24/2024 10:15:11 PM
Toluene	ND	0.096		mg/Kg	2	1/24/2024 10:15:11 PM
Ethylbenzene	0.99	0.096		mg/Kg	2	1/24/2024 10:15:11 PM
Xylenes, Total	15	1.9		mg/Kg	20	1/23/2024 5:11:50 AM
Surr: 4-Bromofluorobenzene	90.7	39.1-146		%Rec	20	1/23/2024 5:11:50 AM
EPA METHOD 300.0: ANIONS						Analyst: RBC
Chloride	ND	60		mg/Kg	20	1/19/2024 8:11:23 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
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

ple pH Not In Range Page 5 of 19

Date Reported: 2/2/2024

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH03 @ 4.5

 Project:
 Witt 1
 Collection Date: 1/17/2024 1:30:00 PM

 Lab ID:
 2401799-006
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: <b>JKU</b>
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/22/2024 5:58:01 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/22/2024 5:58:01 PM
Surr: DNOP	86.5	69-147	%Rec	1	1/22/2024 5:58:01 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/23/2024 5:35:47 AM
Surr: BFB	103	15-244	%Rec	1	1/23/2024 5:35:47 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/23/2024 5:35:47 AM
Toluene	ND	0.047	mg/Kg	1	1/23/2024 5:35:47 AM
Ethylbenzene	ND	0.047	mg/Kg	1	1/23/2024 5:35:47 AM
Xylenes, Total	ND	0.093	mg/Kg	1	1/23/2024 5:35:47 AM
Surr: 4-Bromofluorobenzene	87.8	39.1-146	%Rec	1	1/23/2024 5:35:47 AM
EPA METHOD 300.0: ANIONS					Analyst: RBC
Chloride	ND	60	mg/Kg	20	1/19/2024 8:26:32 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

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH04 @ 3

 Project:
 Witt 1
 Collection Date: 1/17/2024 12:52:00 PM

 Lab ID:
 2401799-007
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: <b>JKU</b>
Diesel Range Organics (DRO)	140	9.2	mg/Kg	, 1	1/22/2024 6:09:54 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/22/2024 6:09:54 PM
Surr: DNOP	86.0	69-147	%Rec	1	1/22/2024 6:09:54 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	26	4.5	mg/Kg	1	1/24/2024 9:51:32 PM
Surr: BFB	410	15-244	S %Rec	1	1/24/2024 9:51:32 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	, 1	1/24/2024 9:51:32 PM
Toluene	ND	0.045	mg/Kg	1	1/24/2024 9:51:32 PM
Ethylbenzene	0.069	0.045	mg/Kg	1	1/24/2024 9:51:32 PM
Xylenes, Total	0.33	0.091	mg/Kg	1	1/24/2024 9:51:32 PM
Surr: 4-Bromofluorobenzene	95.7	39.1-146	%Rec	1	1/24/2024 9:51:32 PM
EPA METHOD 300.0: ANIONS					Analyst: RBC
Chloride	ND	60	mg/Kg	20	1/19/2024 8:44:08 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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH04 @ 4.5

 Project:
 Witt 1
 Collection Date: 1/17/2024 12:55:00 PM

 Lab ID:
 2401799-008
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: <b>JKU</b>
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	1/22/2024 6:21:46 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/22/2024 6:21:46 PM
Surr: DNOP	87.0	69-147	%Rec	1	1/22/2024 6:21:46 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/23/2024 6:23:59 AM
Surr: BFB	96.8	15-244	%Rec	1	1/23/2024 6:23:59 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/23/2024 6:23:59 AM
Toluene	ND	0.047	mg/Kg	1	1/23/2024 6:23:59 AM
Ethylbenzene	ND	0.047	mg/Kg	1	1/23/2024 6:23:59 AM
Xylenes, Total	ND	0.093	mg/Kg	1	1/23/2024 6:23:59 AM
Surr: 4-Bromofluorobenzene	85.2	39.1-146	%Rec	1	1/23/2024 6:23:59 AM
EPA METHOD 300.0: ANIONS					Analyst: RBC
Chloride	ND	61	mg/Kg	20	1/19/2024 8:59:17 PM

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

Qualifiers:

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

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Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH05 @ 3

 Project:
 Witt 1
 Collection Date: 1/17/2024 1:00:00 PM

 Lab ID:
 2401799-009
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: <b>JKU</b>
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	1/22/2024 6:33:39 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/22/2024 6:33:39 PM
Surr: DNOP	87.8	69-147	%Rec	1	1/22/2024 6:33:39 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/23/2024 6:47:55 AM
Surr: BFB	94.7	15-244	%Rec	1	1/23/2024 6:47:55 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2024 6:47:55 AM
Toluene	ND	0.048	mg/Kg	1	1/23/2024 6:47:55 AM
Ethylbenzene	ND	0.048	mg/Kg	1	1/23/2024 6:47:55 AM
Xylenes, Total	ND	0.096	mg/Kg	1	1/23/2024 6:47:55 AM
Surr: 4-Bromofluorobenzene	83.6	39.1-146	%Rec	1	1/23/2024 6:47:55 AM
EPA METHOD 300.0: ANIONS					Analyst: RBC
Chloride	ND	60	mg/Kg	20	1/19/2024 9:14:26 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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH05 @ 4.5

 Project:
 Witt 1
 Collection Date: 1/17/2024 1:03:00 PM

 Lab ID:
 2401799-010
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE (	ORGANICS				Analyst: <b>JKU</b>
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	1/22/2024 6:45:32 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/22/2024 6:45:32 PM
Surr: DNOP	90.1	69-147	%Rec	1	1/22/2024 6:45:32 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/23/2024 7:11:49 AM
Surr: BFB	97.4	15-244	%Rec	1	1/23/2024 7:11:49 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/23/2024 7:11:49 AM
Toluene	ND	0.047	mg/Kg	1	1/23/2024 7:11:49 AM
Ethylbenzene	ND	0.047	mg/Kg	1	1/23/2024 7:11:49 AM
Xylenes, Total	ND	0.094	mg/Kg	1	1/23/2024 7:11:49 AM
Surr: 4-Bromofluorobenzene	85.5	39.1-146	%Rec	1	1/23/2024 7:11:49 AM
EPA METHOD 300.0: ANIONS					Analyst: RBC
Chloride	ND	60	mg/Kg	20	1/19/2024 9:29:36 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
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH06 @ 4

 Project:
 Witt 1
 Collection Date: 1/17/2024 1:07:00 PM

 Lab ID:
 2401799-011
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.0	mg/Kg	1	1/23/2024 1:06:12 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/23/2024 1:06:12 PM
Surr: DNOP	108	69-147	%Rec	1	1/23/2024 1:06:12 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/24/2024 1:45:16 AM
Surr: BFB	110	15-244	%Rec	1	1/24/2024 1:45:16 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2024 1:45:16 AM
Toluene	ND	0.047	mg/Kg	1	1/24/2024 1:45:16 AM
Ethylbenzene	ND	0.047	mg/Kg	1	1/24/2024 1:45:16 AM
Xylenes, Total	ND	0.094	mg/Kg	1	1/24/2024 1:45:16 AM
Surr: 4-Bromofluorobenzene	85.4	39.1-146	%Rec	1	1/24/2024 1:45:16 AM
EPA METHOD 300.0: ANIONS					Analyst: KCB
Chloride	76	60	mg/Kg	20	1/23/2024 3:49:09 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

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH06 @ 5

 Project:
 Witt 1
 Collection Date: 1/17/2024 1:18:00 PM

 Lab ID:
 2401799-012
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	1/23/2024 1:16:52 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/23/2024 1:16:52 PM
Surr: DNOP	102	69-147	%Rec	1	1/23/2024 1:16:52 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/24/2024 2:09:23 AM
Surr: BFB	103	15-244	%Rec	1	1/24/2024 2:09:23 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/24/2024 2:09:23 AM
Toluene	ND	0.049	mg/Kg	1	1/24/2024 2:09:23 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/24/2024 2:09:23 AM
Xylenes, Total	ND	0.098	mg/Kg	1	1/24/2024 2:09:23 AM
Surr: 4-Bromofluorobenzene	87.1	39.1-146	%Rec	1	1/24/2024 2:09:23 AM
EPA METHOD 300.0: ANIONS					Analyst: KCB
Chloride	ND	60	mg/Kg	20	1/23/2024 4:04:17 PM

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

Qualifiers:

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

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Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH07 @ 4

 Project:
 Witt 1
 Collection Date: 1/17/2024 1:10:00 PM

 Lab ID:
 2401799-013
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE (	ORGANICS					Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	740	8.9		mg/Kg	1	1/23/2024 1:38:05 PM
Motor Oil Range Organics (MRO)	100	45		mg/Kg	1	1/23/2024 1:38:05 PM
Surr: DNOP	106	69-147		%Rec	1	1/23/2024 1:38:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	150	4.8		mg/Kg	1	1/24/2024 2:32:59 AM
Surr: BFB	1700	15-244	S	%Rec	1	1/24/2024 2:32:59 AM
EPA METHOD 8021B: VOLATILES						Analyst: <b>JJP</b>
Benzene	ND	0.024		mg/Kg	1	1/24/2024 2:32:59 AM
Toluene	ND	0.048		mg/Kg	1	1/24/2024 2:32:59 AM
Ethylbenzene	0.90	0.048		mg/Kg	1	1/24/2024 2:32:59 AM
Xylenes, Total	4.3	0.096		mg/Kg	1	1/24/2024 2:32:59 AM
Surr: 4-Bromofluorobenzene	193	39.1-146	S	%Rec	1	1/24/2024 2:32:59 AM
EPA METHOD 300.0: ANIONS						Analyst: KCB
Chloride	ND	60		mg/Kg	20	1/23/2024 4:19:27 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

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH07 @ 5

 Project:
 Witt 1
 Collection Date: 1/17/2024 1:13:00 PM

 Lab ID:
 2401799-014
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	1/23/2024 1:59:22 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/23/2024 1:59:22 PM
Surr: DNOP	105	69-147	%Rec	1	1/23/2024 1:59:22 PM
EPA METHOD 8015D: GASOLINE RANGE	<u> </u>				Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/24/2024 2:56:36 AM
Surr: BFB	143	15-244	%Rec	1	1/24/2024 2:56:36 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2024 2:56:36 AM
Toluene	ND	0.046	mg/Kg	1	1/24/2024 2:56:36 AM
Ethylbenzene	ND	0.046	mg/Kg	1	1/24/2024 2:56:36 AM
Xylenes, Total	ND	0.091	mg/Kg	1	1/24/2024 2:56:36 AM
Surr: 4-Bromofluorobenzene	85.8	39.1-146	%Rec	1	1/24/2024 2:56:36 AM
EPA METHOD 300.0: ANIONS					Analyst: KCB
Chloride	ND	60	mg/Kg	20	1/23/2024 4:34:36 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
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 2/2/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: PH08 @ 5

 Project:
 Witt 1
 Collection Date: 1/17/2024 1:15:00 PM

 Lab ID:
 2401799-015
 Matrix: SOIL
 Received Date: 1/19/2024 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	8.8	mg/Kg	1	1/23/2024 2:10:18 PM
Motor Oil Range Organics (MRO)	ND	44	mg/Kg	1	1/23/2024 2:10:18 PM
Surr: DNOP	99.3	69-147	%Rec	1	1/23/2024 2:10:18 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/24/2024 3:44:09 AM
Surr: BFB	96.6	15-244	%Rec	1	1/24/2024 3:44:09 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/24/2024 3:44:09 AM
Toluene	ND	0.049	mg/Kg	1	1/24/2024 3:44:09 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/24/2024 3:44:09 AM
Xylenes, Total	ND	0.099	mg/Kg	1	1/24/2024 3:44:09 AM
Surr: 4-Bromofluorobenzene	82.6	39.1-146	%Rec	1	1/24/2024 3:44:09 AM
EPA METHOD 300.0: ANIONS					Analyst: KCB
Chloride	79	60	mg/Kg	20	1/23/2024 4:49:45 PM

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

Qualifiers:

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

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#### Hall Environmental Analysis Laboratory, Inc.

2401799 02-Feb-24

WO#:

**Client:** HILCORP ENERGY

**Project:** Witt 1

Sample ID: MB-80006 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Batch ID: **80006** RunNo: **102562** 

Prep Date: 1/19/2024 Analysis Date: 1/19/2024 SeqNo: 3790312 Units: mq/Kq

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

Chloride ND 1.5

Sample ID: LCS-80006 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 80006 RunNo: 102562

Prep Date: 1/19/2024 Analysis Date: 1/19/2024 SeqNo: 3790313 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.5 90 110

Sample ID: MB-80050 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 80050 RunNo: 102622

Prep Date: 1/23/2024 Analysis Date: 1/23/2024 SeqNo: 3792208 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-80050 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 80050 RunNo: 102622

Prep Date: 1/23/2024 Analysis Date: 1/23/2024 SeqNo: 3792209 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.7 90 110

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Hall Environmental Analysis Laboratory, Inc.

WO#: **2401799** *02-Feb-24* 

**Client:** HILCORP ENERGY

**Project:** Witt 1

Project: Witt 1									
Sample ID: LCS-80038	SampType: LCS	TestCode: EPA Method	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 80038	RunNo: 102621							
Prep Date: 1/22/2024	Analysis Date: 1/23/2024	SeqNo: 3791172	Units: mg/Kg						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual					
Diesel Range Organics (DRO)	54 10 50.00	0 109 61.9	130						
Surr: DNOP	5.6 5.000	111 69	147						
Sample ID: MB-80038	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range	Organics					
Client ID: PBS	Batch ID: 80038	RunNo: 102621							
Prep Date: 1/22/2024	Analysis Date: 1/23/2024	SeqNo: 3791173	Units: mg/Kg						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual					
Diesel Range Organics (DRO)	ND 10								
Motor Oil Range Organics (MRO)	ND 50								
Surr: DNOP	12 10.00	115 69	147						
Sample ID: MB-80003	SampType: MBLK	TestCode: EPA Method	d 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 80003	RunNo: 102589							
Prep Date: 1/19/2024	Analysis Date: 1/22/2024	SeqNo: <b>3791240</b>	Units: mg/Kg						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual					
Diesel Range Organics (DRO)	ND 10								
Motor Oil Range Organics (MRO)	ND 50								
Surr: DNOP	8.5 10.00	85.1 69	147						
Sample ID: LCS-80003	SampType: <b>LCS</b>	TestCode: EPA Method	8015M/D: Diesel Range	Organics					
Client ID: LCSS	Batch ID: 80003	RunNo: 102589							
Prep Date: 1/19/2024	Analysis Date: 1/22/2024	SeqNo: <b>3791241</b>	Units: mg/Kg						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual					
Diesel Range Organics (DRO)	44 10 50.00	0 87.6 61.9	130						
O DNOD	4.0	00.0							

#### Qualifiers:

Surr: DNOP

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.

4.2

5.000

B Analyte detected in the associated Method Blank

83.0

69

147

- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 17 of 19

## Hall Environmental Analysis Laboratory, Inc.

Result

ND

990

PQL

5.0

WO#: **2401799** *02-Feb-24* 

**Client:** HILCORP ENERGY

**Project:** Witt 1

Troject. Witt i										
Sample ID: Ics-80000	SampType: LCS		Tes	tCode: EF	PA Method	8015D: Gasol	ine Range			
Client ID: LCSS	Batch ID: 80000		F	RunNo: 10	02587					
Prep Date: 1/19/2024	Analysis Date: 1/22/2	024	5	SeqNo: 37	790762	Units: mg/Kg				
Analyte	Result PQL SI	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	28 5.0	25.00	0	110	70	130				
Surr: BFB	2200	1000		219	15	244				
Sample ID: mb-80000	SampType: MBLK		Tes	tCode: <b>EF</b>	PA Method	8015D: Gasol	ine Range			
Client ID: PBS	Batch ID: 80000		F	RunNo: 10	02587					
Prep Date: 1/19/2024	Analysis Date: 1/22/2	:024	5	SeqNo: 37	790763	Units: mg/Kg				
Analyte	Result PQL SI	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND 5.0									
Surr: BFB	960	1000		96.3	15	244				
Sample ID: LCS-80027	SampType: LCS		Tes	tCode: <b>EF</b>	PA Method	d 8015D: Gasoline Range				
Client ID: LCSS	Batch ID: 80027		F	RunNo: 10	02620					
Prep Date: 1/22/2024	Analysis Date: 1/23/2	024	5	SeqNo: 37	791789	Units: mg/K	g			
Analyte	Result PQL SI	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	26 5.0	25.00	0	104	70	130				
Surr: BFB	2100	1000		212	15	244				
Sample ID: mb-80027	SampType: MBLK		Tes	tCode: <b>EF</b>	PA Method	8015D: Gasol	ine Range		<u> </u>	
Client ID: PBS	Batch ID: 80027		RunNo: <b>102620</b>							
Prep Date: 1/22/2024	Analysis Date: 1/23/2	024	9	SeqNo: 37	791790	Units: mg/K	g			

SPK value SPK Ref Val %REC

1000

#### Qualifiers:

Analyte

Surr: BFB

Gasoline Range Organics (GRO)

- 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 Quantitative Limit
- B Analyte detected in the associated Method Blank

LowLimit

15

99.1

HighLimit

244

%RPD

**RPDLimit** 

Qual

- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 18 of 19

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2401799** 

02-Feb-24

**Client:** HILCORP ENERGY

**Project:** Witt 1

Sample ID: LCS-80000	Samp	SampType: LCS TestCode: EPA Method 80					8021B: Volati	iles			
Client ID: LCSS	Batcl	h ID: <b>800</b>	000	F	RunNo: 10	02587					
Prep Date: 1/19/2024	Analysis D	Date: 1/2	22/2024	\$	SeqNo: 37	790786	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.79	0.025	1.000	0	79.0	70	130				
Toluene	0.81	0.050	1.000	0	80.8	70	130				
Ethylbenzene	0.81	0.050	1.000	0	81.4	70	130				
Xylenes, Total	2.5	0.10	3.000	0	81.7	70	130				
Surr: 4-Bromofluorobenzene	0.92		1.000		91.5	39.1	146				

Sample ID: mb-80000	SampT	уре: МЕ	BLK	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: PBS	Batch	n ID: <b>80</b> 0	000	F	02587					
Prep Date: 1/19/2024	Analysis D	)ate: 1/2	22/2024	SeqNo: <b>3790787</b>			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.86		1.000		85.9	39.1	146			

Sample ID: LCS-80027	Samp	Type: <b>LC</b> :	S	Tes	tCode: <b>EF</b>	8021B: Volatiles				
Client ID: LCSS	Batcl	h ID: <b>800</b>	)27	F	RunNo: 10	2620				
Prep Date: 1/22/2024	Analysis [	Date: 1/2	23/2024	5	SeqNo: 37	791817	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.74	0.025	1.000	0	73.7	70	130			
Toluene	0.76	0.050	1.000	0	76.2	70	130			
Ethylbenzene	0.76	0.050	1.000	0	76.2	70	130			
Xylenes, Total	2.3	0.10	3.000	0	76.8	70	130			
Surr: 4-Bromofluorobenzene	0.87		1.000		87.4	39.1	146			

Sample ID: <b>mb-80027</b>	SampT	уре: МЕ	BLK	Tes	tCode: EF	PA Method	8021B: Volati	les						
Client ID: PBS	Batch	n ID: <b>80</b> 0	027	F	RunNo: <b>1</b> (	02620								
Prep Date: 1/22/2024	Analysis D	Date: 1/2	23/2024	5	SeqNo: 37	791818	Units: mg/K	g						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Benzene	ND	0.025												
Toluene	ND	0.050												
Ethylbenzene	ND	0.050												
Xylenes, Total	ND	0.10												
Surr: 4-Bromofluorobenzene	0.88		1.000		87.9	39.1	146							

#### 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 19 of 19



#### **Environment Testin**

Eurofins Environment Testing South Central, LLC 4901 Hawkins NE

Albuquerque, NM 87109 05-345-3975 FAX: 505-345-4107

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Released to Imaging: 6/26/2024 10:01:42 AM

Client Name: HILCORP ENERGY	Work Order Numbe	r: <b>2401799</b>		RcptNo: 1	
Received By: Cheyenne Cason	1/19/2024 8:00:00 AN	Λ	Chul		
Completed By: Cheyenne Cason	1/19/2024 9:13:28 AN	Л	Chul		
Reviewed By: 1/19/8	24				
Chain of Custody					
Is Chain of Custody complete?		Yes 🗸	No 🗌	Not Present	
2. How was the sample delivered?		Client			
<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 🗌	NA 🗌	
5. Sample(s) in proper container(s)?		Yes 🔽	No 🗆		
6. Sufficient sample volume for indicated test(s)?		Yes 🗸	No 🗆		
7. Are samples (except VOA and ONG) properly p	reserved?	Yes 🗸	No 🗌		
8. Was preservative added to bottles?		Yes 🗌	No 🗹	NA 🗌	
9. Received at least 1 vial with headspace <1/4" for	or AQ VOA?	Yes	No 🗌	NA 🗹	
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 🗆	bottles checked for pH: (<2 or >12	2 unless noted)
12. Are matrices correctly identified on Chain of Cu	ıstody?	Yes 🗹	No 🗆	Adjusted?	
13. Is it clear what analyses were requested?	•	Yes 🗹	No 🗌		11.
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No 🗆	Checked by:	1/19/29
Special Handling (if applicable)					
15. Was client notified of all discrepancies with thi	s order?	Yes 🗌	No 🗌	NA 🗹	
Person Notified:	Date:				
By Whom:	Via:	eMail [	] Phone [] Fax	In Person	
Regarding:					
Client Instructions:					
16. Additional remarks:					
17. Cooler Information					
	Intact Seal No	Seal Date	Signed By		
1 0.4 Good Not P	resent Morty				

C	hain-	of-Cu	stody Record	Turn-Around						н	A		FI	uν	TE	20	NIN	4 E	NT	ΔI	
Client: Hilcorp			Standard □ Rush			HALL ENVIRONMENTAL ANALYSIS LABORATORY															
			Project Nan	ne:											tal.cc						
	Address			V	VAL 1		4901 Hawkins NE - Albuquerque, NM 87109														
	##.L	1,000		Project #:			Tel. 505-345-3975 Fax 505-345-4107														
Phone #	<b>#</b> :						7					Α	naly	sis	Req	uest					
email o	Fax#:	nk: Vong	hehlop. co-	Project Mar	ager: Stun	rt Itale	£	2					g g	le se di la		ent)					
QA/QC I	Package:				- (	,	(80		CB's		8270SIMS		04,			Total Coliform (Present/Absent)					
□ Stan	dard		☐ Level 4 (Full Validation)		~	, A	123 123	똆	2 P(		708		4 Z			ent/					
			ompliance		recce it	U No Mark			808/	EDB (Method 504.1)	1 82		₽		8	res					
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						HEAL No.	A	89	1 Pe	<u>S</u>	d S	\$	1.	0	s) 0	2					
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	7401799	間	TPH:8015D(GRO/DRO/MRO)	808		PAHs by 8310 or	RCRA 8 Metals	( <del>5</del> )	826	8270 (Semi-VOA)	Tote		uji.			
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email o				Project Mana	ager:	L./le		[2]		ွ	EDB (Method 504.1)		١	C) F, Br, NO3, NO2, PO4, SO4	- 1		Total Coliform (Present/Absent)					
	Package:				start H	700		8		CB		Ĭ.		d			Abs					
□ Stan			☐ Level 4 (Full Validation)					SS S		12 P		202		1			ent					
			ompliance		Locce 14		A	₹	[3]	808	4.	r 82	-	¥	1	2	res		100			
□ NEL		□ Other		On Ice: # of Coolers:	y Yes	□ No Ma	art _	MTBE / TMB's (8021)	3RC	des/	d 50	PAHs by 8310 or 8270SIMS	<u>se</u>	6		8270 (Semi-VOA)	E)					
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				Container	Preservative			BTEXY	周	180	B	Ä	띬		8260 (VOA)	270	otal					
7 /	- /4	Matrix	Sample Name	Type and #		240176	19	(4)	A	<u></u>	<u> </u>	<del>-</del> -		9		-	-				$\vdash$	_
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1/18/24	11/4/	1/4	A Walls	Mr.	Can	1119/24	0800															



# APPENDIX D



#### **Photographic Log**

Hilcorp Energy Company Witt 1 nAPP2403723976



Photograph: 1

Description: Pothole PH01 View: North

Date: 1/17/2024

Photograph: 2

Description: Pothole PH07

View: West





Date: 4/1/2024 Photograph: 3

Description: Excavation activities

View: Southwest



Photograph: 4 Date: 5/6/2024

Description: Final excavation extent

View: East

<u>District I</u> 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 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462 **Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

**State of New Mexico** 

QUESTIONS

Action 347787

#### **QUESTIONS**

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	347787
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Prerequisites					
Incident ID (n#)	nAPP2403723976				
Incident Name	NAPP2403723976 WITT NO. 1 @ 30-045-13211				
Incident Type	Produced Water Release				
Incident Status	Remediation Closure Report Received				
Incident Well	[30-045-13211] WITT #001				

Location of Release Source						
Please answer all the questions in this group.						
Site Name	WITT NO. 1					
Date Release Discovered	02/02/2024					
Surface Owner	Private					

Incident Details	ncident Details					
Please answer all the questions in this group.						
Incident Type	Produced Water Release					
Did this release result in a fire or is the result of a fire	No					
Did this release result in any injuries	No					
Has this release reached or does it have a reasonable probability of reaching a watercourse	No					
Has this release endangered or does it have a reasonable probability of endangering public health	No					
Has this release substantially damaged or will it substantially damage property or the environment	No					
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No					

Nature and Volume of Release					
Material(s) released, please answer all that apply below. Any calculations or specific justifications f	or the volumes provided should be attached to the follow-up C-141 submission.				
Crude Oil Released (bbls) Details	Not answered.				
Produced Water Released (bbls) Details	Cause: Other   Tank (Any)   Produced Water   Released: 8 BBL   Recovered: 0 BBL   Lost: 8 BBL.				
Is the concentration of chloride in the produced water >10,000 mg/l	No				
Condensate Released (bbls) Details	Cause: Other   Tank (Any)   Condensate   Released: 8 BBL   Recovered: 0 BBL   Lost: 8 BBL.				
Natural Gas Vented (Mcf) Details	Not answered.				
Natural Gas Flared (Mcf) Details	Not answered.				
Other Released Details	Not answered.				
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	This is a historical release that was discovered during the removal of a BGT storage vessel. Upon initial removal on 12/18/2023, a 5-pt composite was collected, which indicated elevated Total BTEX and Total TPH. On 1/17/2024, a soil delineation was performed to determine a volume. Based on the lab report (dated 2/2/2024) and using an estimated release volume tool, the calculated volume release was determined to be 15.3 bbls (50% condensate, 50% produced water). Note that our entry was automatically estimated up to 16 bbls by the NMOCD.				

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** 

**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe NM 87505

QUESTIONS, Page 2

Action 347787

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462	. 1 0, 1411 07 000						
QUESTI	QUESTIONS (continued)						
Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171 Action Number: 347787 Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)						
QUESTIONS							
Nature and Volume of Release (continued)							
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.						
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No						
Reasons why this would be considered a submission for a notification of a major release	Unavailable.						
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e.	e. gas only) are to be submitted on the C-129 form.						
Initial Response  The responsible party must undertake the following actions immediately unless they could create a s  The source of the release has been stopped	safety hazard that would result in injury.						
The impacted area has been secured to protect human health and the environment	True						
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True						
All free liquids and recoverable materials have been removed and managed appropriately	True						
If all the actions described above have not been undertaken, explain why	Not answered.						
	iation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of ted or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of evaluation in the follow-up C-141 submission.						
to report and/or file certain release notifications and perform corrective actions for releathe OCD does not relieve the operator of liability should their operations have failed to a	knowledge and understand that pursuant to OCD rules and regulations all operators are required ases which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface t does not relieve the operator of responsibility for compliance with any other federal, state, or						
I hereby agree and sign off to the above statement	Name: Stuart Hyde Title: Senior Geologist						

Email: shyde@ensolum.com Date: 05/29/2024

District I
1625 N. French Dr., Hobbs, NM 88240
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811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III 1000 Rio Brazos Rd., Aztec, NM 87410

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**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

QUESTIONS, Page 3

Action 347787

#### **QUESTIONS** (continued)

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	347787
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approva release discovery date.	l and beyond). This information must be provided to the appropriate district office no later than 90 days after the
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release ar	nd the following surface areas:
A continuously flowing watercourse or any other significant watercourse	Between 200 and 300 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1000 (ft.) and ½ (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between ½ and 1 (mi.)
A wetland	Between 300 and 500 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	None
A 100-year floodplain	Between 300 and 500 (ft.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information m	nust be provided to the appropriate district office no later than 90 days after the release discovery date.
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of	f soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.
Have the lateral and vertical extents of contamination been fully de	elineated Yes
Was this release entirely contained within a lined containment are	ea No
Soil Contamination Sampling: (Provide the highest observable value	e for each, in milligrams per kilograms.)
Chloride (EPA 300.0 or SM4500 Cl B)	890
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	4530
GRO+DRO (EPA SW-846 Method 8015M)	4530
BTEX (EPA SW-846 Method 8021B or 8	8260B) 407
Benzene (EPA SW-846 Method 8021B or 8	8260B) 0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report i which includes the anticipated timelines for beginning and completing the rem	includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, rediation.
On what estimated date will the remediation commence	03/29/2024
On what date will (or did) the final sampling or liner inspection occ	cur 04/29/2024
On what date will (or was) the remediation complete(d)	04/24/2024
What is the estimated surface area (in square feet) that will be rec	claimed 0
What is the estimated volume (in cubic yards) that will be reclaimed	ed 0
What is the estimated surface area (in square feet) that will be rer	mediated 3600
What is the estimated volume (in cubic yards) that will be remedia	ated 926
These estimated dates and measurements are recognized to be the best guess	or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.
The OCD recognizes that proposed remediation measures may have to be mini	imally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to

significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

District I

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# State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505

QUESTIONS, Page 4

Action 347787

**QUESTIONS** (continued)

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	347787
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the	appropriate district office no later than 90 days after the release discovery date.
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	ENVIROTECH LANDFARM #2 [fEEM0112336756]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

I hereby agree and sign off to the above statement

Name: Stuart Hyde Title: Senior Geologist Email: shyde@ensolum.com Date: 05/29/2024

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

QUESTIONS, Page 5

Action 347787

**QUESTIONS** (continued)

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	347787
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

District I

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Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS, Page 6

Action 347787

#### QUESTIONS (continued)

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	347787
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	335364
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	04/24/2024
What was the (estimated) number of samples that were to be gathered	7
What was the sampling surface area in square feet	1400

Remediation Closure Request		
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.		
Requesting a remediation closure approval with this submission	Yes	
Have the lateral and vertical extents of contamination been fully delineated	Yes	
Was this release entirely contained within a lined containment area	No	
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes	
What was the total surface area (in square feet) remediated	3600	
What was the total volume (cubic yards) remediated	926	
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes	
What was the total surface area (in square feet) reclaimed	0	
What was the total volume (in cubic yards) reclaimed	0	
Summarize any additional remediation activities not included by answers (above)	On-pad remediation only. No off-pad areas impacted.	

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Name: Stuart Hyde
Title: Senior Geologist
Email: shyde@ensolum.com
Date: 05/29/2024

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QUESTIONS, Page 7

Action 347787

**QUESTIONS** (continued)

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	347787
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 347787

#### **CONDITIONS**

Operator:	OGRID:
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1111 Travis Street	Action Number:
Houston, TX 77002	347787
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### CONDITIONS

Created By		Condition Date
nvelez	None	6/26/2024