ENSOLUM

May 13, 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 Summary Report and Closure Request
Riverine 1
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident No: nAPP2406120215

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Site Summary Report and Closure Request* associated with a produced water release at the Riverine 1 natural gas production well (Site). The Site is located on private land in Unit O, Section 11, Township 29 North, Range 13 West, Aztec, New Mexico (Figure 1).

SITE BACKGROUND

On February 21, 2024, Hilcorp operations discovered a 9.5 barrel (bbl) produced water release at the Site during routine inspections. Upon arriving to the Site, the operator discovered produced water running from underneath the aboveground pit tank. After further inspection, it was determined that an equipment failure occurred at the pit tank resulting from corrosion, which led to the formation of a 2-inch hole at the bottom of the tank. Although the spilled fluids did not migrate horizontally outside of the secondary containment, none of the fluids were recovered.

Hilcorp informed the New Mexico Oil Conservation Division (NMOCD) on March 1, 2024, with a Notification of Release (NOR). NMOCD assigned the release incident number napp2406120215.

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 in Quaternary age alluvial deposits associated with the Animas River drainage. The alluvial sediment is likely underlain by the Nacimiento Geologic Formation. In the report titled *Hydrogeology and Water Resources of San Juan Basin, New Mexico* (Stone, et. al., 1983), the alluvial deposits vary greatly across the basin in both hydrogeologic properties and water quality. Wells installed in the alluvium are used for livestock, irrigation, and domestic purposes where there is an adequate quantity and high enough quality water available. The Nacimiento Formation is characterized by interbedded black carbonaceous mudstones and white, coarse-grained sandstones, which range in thickness from 418 feet to 2,232 feet. The hydrogeologic properties of the Nacimiento Formation vary

dependent on location. Where sufficient yield is present, the primary use of water from this formation is for domestic and/or livestock supply.

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 nearest significant watercourse to the Site is an intermittent stream located approximately 317 feet north of the wellhead. The Site is located 419 feet north-northwest of the Animas River and is located within a 100-year floodplain. The Site is also located 317 feet from the nearest wetland. The nearest data point for depth to groundwater to the Site is a pollution control well (NMOSE permit SJ-02024), located approximately 1,429 feet southwest of the Site. This well indicates the shallowest groundwater is approximately 4 feet below ground surface (bgs) in this area (Appendix A). The Site is located 179 feet from an active commercial business/structure. The Site is greater than 200 feet from any lakebed, sinkhole, or playa lake. The Site is not overlying a subsurface mine or located within an area underlain by unstable geology (area not designated as high potential karst by the Bureau of Land Management). A Site receptor map is shown 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)
- Benzene, toluene, ethylbenzene, and xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH) as a combination of gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO): 100 mg/kg
- Chloride: 600 mg/kg

2024 SITE ASSESSMENT AND REMEDIATION ACTIVITIES

To assess soil impacts from the release, Hilcorp and Ensolum advanced five potholes (PH01 through PH05) using a backhoe on March 11, 2024. The NMOCD was notified prior to commencing activities, with sampling notifications provided in Appendix B. Pothole PH01 was advanced in the center of the release under the aboveground pit tank to assess chloride concentrations and potential petroleum impacts at the release source. Potholes PH02 through PH05 were advanced laterally away from the source area to assess the lateral extent of the release. During pothole activities, an Ensolum geologist assessed and field screened the soil for petroleum hydrocarbon staining, odors, and chloride crusting, which none were noted. Soil samples were field screened for the presence of organic vapors using a calibrated photoionization detector (PID, see Table 1) and chloride using Hach® QuanTab® test strips. All potholes were advanced until field screening indicated the soil was presumed unimpacted by chloride and/or petroleum hydrocarbons (Figure 2).

Two soil samples were collected from each pothole: at depth intervals corresponding to the greatest potential for impacts based on field screening measurements, as well as the terminal depth of the pothole. 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-GRO, TPH-DRO, TPH-MRO 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 excavated impacted soil in the vicinity of pothole PH03 on March 22, 2024. Ensolum personnel also conducted excavation oversight and sampling activities during this work. Sampling notification was provided to the NMOCD, with correspondence attached in Appendix B. To direct excavation activities, Ensolum personnel field screened soil for chloride. Once field screening indicated impacted soil had likely been removed, composite soil samples were collected from the floor (FS01@5') and sidewall (CSW01@0-5') using the same methods described above and were submitted to Eurofins for laboratory analysis of TPH, BTEX, and chloride.

Laboratory analytical results from the excavation sampling completed on March 22, 2024, indicated both the floor and sidewall samples exceeded the NMOCD Closure Criteria for chloride. On April 4, 2024, Ensolum returned to the Site to expand the excavation and remove additional impacted soil. A new floor and sidewall sample was collected (FS01A@6' and WS01A@0-6') and submitted to the Envirotech. These samples also exceeded the NMOCD Closure Criteria for chloride and Hilcorp/Ensolum determined that additional vertical and lateral delineation would be necessary prior to additional excavation.

On April 10, 2024, Ensolum returned to the Site and advanced additional hand auger delineation boreholes (BH01 through BH04) were advanced to a depth of 6.5 feet within and surrounding the existing excavation. Samples were submitted to Envirotech following the procedures described above. Based on laboratory analytical results from the additional hand auger delineation, remaining impacts were delineated to an approximately 200 square foot area and a depth of 6 feet bgs. Hilcorp/Ensolum returned to the Site on April 17, 2024, to resume excavation activities. A representative from the NMOCD was also on Site during the April 17, 2024, excavation and sampling activities. Once additional impacted soil was removed from the floor and sidewalls, and based on the small size of the excavation, the NMOCD approved the collection of one four-point composite sample from the excavation sidewalls (CSW02@3-4') and one five-point composite sample from the excavation floor (FS02@4.5-6'). Samples were again submitted to Envirotech using the procedures and methods described above.

Concentrations of total BTEX and TPH were not detected in any of the soil samples collected during the March and April 2024 sampling events. Chloride concentrations were compliant with the NMOCD Table I Closure Criteria and the reclamation requirement in both confirmation soil samples collected on April 17, 2024, from the final excavation extents. Sampling notifications provided to the NMOCD are included in Appendix B. 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 17, 2024. 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 napp2406120215.

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.

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

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

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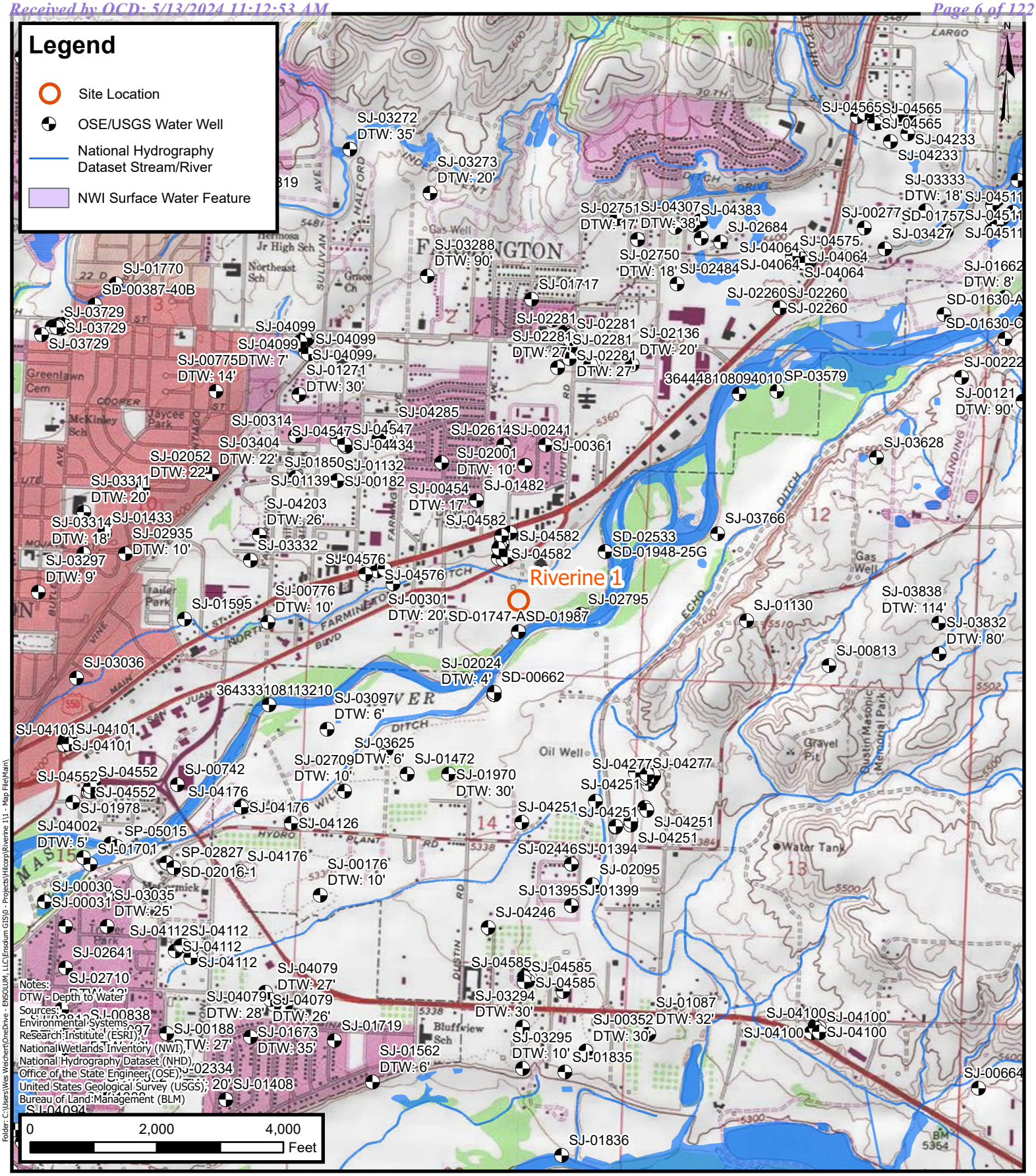
FIGURES



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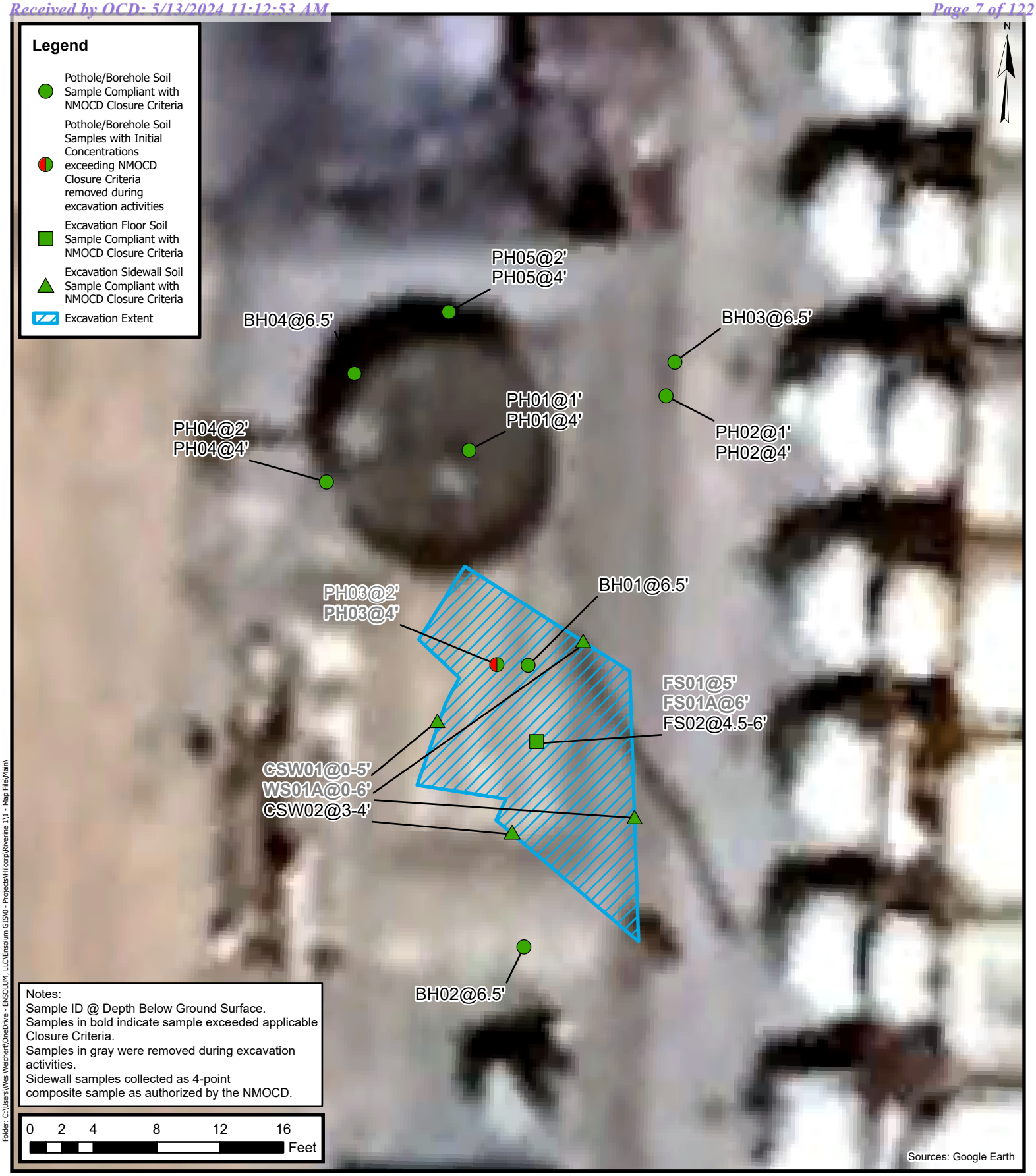
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

Hilcorp Energy Company
Riverine 1
Incident Number: nAPP2406120215
Unit O, Sec 11, T 29N, R 13W
San Juan County, New Mexico, United States

FIGURE 1



Folder: C:\Users\Wes Weichert\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\Hilcorp\Riverine 1\1 - Map File\Main\

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Environmental, Engineering and Hydrogeologic Consultants

Soil Sample Locations

Hilcorp Energy Company
Riverine 1
Incident Number: nAPP2406120215
Unit O, Sec 11, T 29N, R 13W
Aztec, New Mexico

FIGURE 2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Riverine 1
Hilcorp Energy Company
Aztec, New Mexico

Sample Identification	Date	Depth (feet bgs)	PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (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)	Chloride (mg/kg)
NMOCD Closure Criteria for Soils Impacted by a Release			NE	**10**	NE	NE	NE	**50**	NE	NE	NE	**100**	**600**
Delineation Soil Samples													
PH01 1'	3/11/2024	1	19.8	<0.029	<0.059	<0.059	<0.12	<0.12	<5.9	<9.8	<49	<49	300
PH01 4'	3/11/2024	4	6.2	<0.016	<0.032	<0.032	<0.063	<0.063	<3.2	<9.0	<45	<45	300
PH02 1'	3/11/2024	1	16.7	<0.021	<0.042	<0.042	<0.083	<0.083	<4.2	<9.5	<48	<48	260
PH02 4'	3/11/2024	4	4.1	<0.018	<0.036	<0.036	<0.071	<0.071	<3.6	<9.4	<47	<47	250
~~PH03 2'~~	~~3/11/2024~~	~~2~~	~~10.2~~	~~<0.021~~	~~<0.042~~	~~<0.042~~	~~<0.085~~	~~<0.085~~	~~<4.2~~	~~<9.0~~	~~<45~~	~~<45~~	~~310~~
~~PH03 4'~~	~~3/11/2024~~	~~4~~	~~2.3~~	~~<0.020~~	~~<0.039~~	~~<0.039~~	~~<0.078~~	~~<0.078~~	~~<3.9~~	~~<8.9~~	~~<45~~	~~<45~~	~~**890**~~
PH04 2'	3/11/2024	2	6.7	<0.014	<0.028	<0.028	<0.055	<0.055	<2.8	<8.9	<44	<44	450
PH04 4'	3/11/2024	4	2.8	<0.015	<0.030	<0.030	<0.060	<0.060	<3.0	<9.3	<46	<46	110
PH05 2'	3/11/2024	2	14.3	<0.017	<0.034	<0.034	<0.069	<0.069	<3.4	<8.8	<44	<44	400
PH05 4'	3/11/2024	4	3.1	<0.017	<0.034	<0.034	<0.069	<0.069	<3.4	<9.2	<46	<46	98
BH01 @ 6.5'	4/10/2024	6.5	3.6	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	129
BH02 @ 6.5'	4/10/2024	6.5	2.3	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	598
BH03 @ 6.5'	4/10/2024	6.5	2.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	65.7
BH04 @ 6.5'	4/10/2024	6.5	0.9	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	360
Confirmation Floor Soil Samples													
~~FS01 @ 5'~~	~~3/22/2024~~	~~5~~	~~NM~~	~~<0.018~~	~~<0.036~~	~~<0.036~~	~~<0.072~~	~~<0.072~~	~~<3.6~~	~~<9.1~~	~~<46~~	~~<46~~	~~**730**~~
~~FS 01 A~~	~~4/4/2024~~	~~6~~	~~NM~~	~~<0.0250~~	~~<0.0250~~	~~<0.0250~~	~~<0.0250~~	~~<0.0250~~	~~<20.0~~	~~<25.0~~	~~<50.0~~	~~<50.0~~	~~**1,260**~~
FS02 @ 4.5'-6'	4/17/2024	4.5-6	14.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	209
Confirmation Sidewalls Soil Samples													
~~CSW01 @ 0'-5'~~	~~3/22/2024~~	~~0-5~~	~~NM~~	~~<0.021~~	~~<0.042~~	~~<0.042~~	~~<0.084~~	~~<0.084~~	~~<4.2~~	~~<9.6~~	~~<48~~	~~<48~~	~~**880**~~
~~WS 01 A~~	~~4/4/2024~~	~~0-6~~	~~NM~~	~~<0.0250~~	~~<0.0250~~	~~<0.0250~~	~~<0.0250~~	~~<0.0250~~	~~<20.0~~	~~<25.0~~	~~<50.0~~	~~<50.0~~	~~**829**~~
CSW02 @ 3'-4'	4/17/2024	3-4	6.8	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	300

Notes:

bgs: below ground surface
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
mg/kg: milligrams per kilogram
ppm: parts per million
NE: not established
NM: not measured
': feet
~~Grey~~ text indicates soil sample removed during excavation activities
NMOCD: New Mexico Oil Conservation Division
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
MRO: Motor Oil/Lube Oil Range Organics
TPH: Total Petroleum Hydrocarbon
PID:Photoionization Detector
<: 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*

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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	X	Y
	SJ 02024 EXPLOR-1	1	1	2	14	29N	13W	216535	4069929*

Driller License: 1097 **Driller Company:** BEEMAN BROS. DRLG. INC.

Driller Name:

Drill Start Date:	02/03/1986	**Drill Finish Date:**	02/03/1986	**Plug Date:**	
Log File Date:	05/03/1988	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	10 GPM
Casing Size:	6.00	**Depth Well:**	12 feet	**Depth Water:**	4 feet

Water Bearing Stratifications:	Top	Bottom	Description
	0	10	Shallow Alluvium/Basin Fill

Casing Perforations:	Top	Bottom
	5	10

***UTM location was derived from PLSS - see Help**

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APPENDIX B

From: OCDOnline@state.nm.us
To: Stuart Hyde
Subject: The Oil Conservation Division (OCD) has accepted the application, Application ID: 320774
Date: Wednesday, March 6, 2024 10:43:52 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#) nAPP2406120215.

The sampling event is expected to take place:

When: 03/11/2024 @ 09:00
Where: O-11-29N-13W 1151 FSL 1995 FEL (36.7368126,-108.1729965)

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

Additional Instructions: Site Coordinates: 36.736880, -108.173275

Sampling being performed for delineation purposes. Sampling surface area does not constitute actual impacted area.

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: Velez, Nelson, EMNRD
To: Stuart Hyde
Cc: Mitch Killough
Subject: Re: [EXTERNAL] FW: The Oil Conservation Division (OCD) has accepted the application, Application ID: 325306
Date: Thursday, March 21, 2024 7:27:29 AM
Attachments: image001.png
image002.png
image003.png
image004.png
Outlook-nhizdhsf.png

[**EXTERNAL EMAIL**]
Good morning Stuart,

Thank you for the notice. Your variance request specifically addressing 19.15.29.12D (1a) NMAC is approved.

If an OCD representative is not on-site on the date &/or time given, please sample per 19.15.29 NMAC or from an OCD pre-approved sampling plan. For whatever reason, if the sampling timeframe is altered, please notify the OCD as soon as possible so we may adjust our schedule(s). Failure to notify the OCD of this change may result in the closure sample(s) not being accepted.

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: Wednesday, March 20, 2024 4:57 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: Mitch Killough <mkillough@hilcorp.com>
Subject: [EXTERNAL] FW: The Oil Conservation Division (OCD) has accepted the application,

Application ID: 325306

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Nelson,

As I mentioned on the phone, we are requesting a variance of the 2-business day sampling notification requirement set forth in 19.15.29.12.D.(1).(a) in order to collect confirmation samples on March 22, 2024 at 9 AM at the Riverine 1 site located in San Juan County. I went ahead and submitted the notification through the portal, which is attached below. Please reach out with any questions or comments and have a good evening.

Stuart Hyde, PG
(Licensed in WA/TX)
Senior Geologist
970-903-1607
Ensolum, LLC

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

---

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Wednesday, March 20, 2024 4:55 PM
To: Stuart Hyde <shyde@ensolum.com>
Subject: The Oil Conservation Division (OCD) has accepted the application, Application ID: 325306

[**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#) nAPP2406120215.

The sampling event is expected to take place:

When: 03/22/2024 @ 09:00
Where: O-11-29N-13W 1151 FSL 1995 FEL (36.7368126,-108.1729965)

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

Additional Instructions: Site Coordinates: 36.736880, -108.173275

Delineation results for the Hilcorp Riverine 1 site were just received and we would like to immediately remediate chloride impacts as soon as possible. As such, the remedial excavation is scheduled for Friday March 22, 2024 at 9 AM. We are requesting a variance of the 2-business day sampling notification requirement set forth in 19.15.29.12.D.(1).(a) in order to collect confirmation samples on March 22, 2024 at 9 AM.

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: 325306
Date: Wednesday, March 20, 2024 4:55:29 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#) nAPP2406120215.

The sampling event is expected to take place:

When: 03/22/2024 @ 09:00
Where: O-11-29N-13W 1151 FSL 1995 FEL (36.7368126,-108.1729965)

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

Additional Instructions: Site Coordinates: 36.736880, -108.173275

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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: 328596
Date: Monday, April 1, 2024 4:34:20 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#) nAPP2406120215.

The sampling event is expected to take place:

When: 04/04/2024 @ 09:00
Where: O-11-29N-13W 1151 FSL 1995 FEL (36.7368126,-108.1729965)

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

Additional Instructions: Riverine 1 Site Coordinates: 36.736880, -108.173275

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: 328597
Date: Monday, April 1, 2024 4:35:46 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#) nAPP2406120215.

The sampling event is expected to take place:

When: 04/05/2024 @ 09:00
Where: O-11-29N-13W 1151 FSL 1995 FEL (36.7368126,-108.1729965)

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

Additional Instructions: Riverine 1 Site Coordinates: 36.736880, -108.173275

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: 330711
Date: Friday, April 5, 2024 4:37:47 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#) nAPP2406120215.

The sampling event is expected to take place:

When: 04/10/2024 @ 09:00
Where: O-11-29N-13W 1151 FSL 1995 FEL (36.7368126,-108.1729965)

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

Additional Instructions: Riverine 1 Site Coordinates: 36.736880, -108.173275

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: Velez, Nelson, EMNRD
To: Mitch Killough
Cc: Stuart Hyde; Dale Crawford
Subject: Re: [EXTERNAL] The Oil Conservation Division (OCD) has accepted the application, Application ID: 333235
Date: Monday, April 15, 2024 11:06:31 AM
Attachments: Outlook-4wqfu3yz.png

[**EXTERNAL EMAIL**]
Good morning Mitch,

Thank you for the notice. Your variance request specifically addressing 19.15.29.12D (1a) NMAC is approved.

If an OCD representative is not on-site on the date &/or time given, please sample per 19.15.29 NMAC or from an OCD pre-approved sampling plan. For whatever reason, if the sampling timeframe is altered, please notify the OCD as soon as possible so we may adjust our schedule(s). Failure to notify the OCD of this change may result in the closure sample(s) not being accepted.

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: Mitch Killough <mkillough@hilcorp.com>
Sent: Monday, April 15, 2024 10:13 AM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: shyde@ensolum.com <shyde@ensolum.com>; Dale Crawford <dcrawford@hilcorp.com>
Subject: FW: [EXTERNAL] The Oil Conservation Division (OCD) has accepted the application, Application ID: 333235

Morning Nelson.

I am following up our phone conversation with the sampling notice shown in the email below. We are requesting a variance of the 2-business day sampling notification requirement set forth in 19.15.29.12.D.(1).(a) NMAC in order to collect confirmation samples on **Wednesday, April 17, 2024 at 9 AM (MT)** at the Riverine 1 site located in San Juan County.

Please reach out with any questions or comments.

Thanks.

Mitch Killough
Hilcorp Energy Company
713-757-5247 (Office)
281-851-2338 (Mobile)

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Monday, April 15, 2024 11:02 AM
To: Mitch Killough <mkillough@hilcorp.com>
Subject: [EXTERNAL] The Oil Conservation Division (OCD) has accepted the application, Application ID: 333235

To whom it may concern (c/o Mitch Killough for HILCORP ENERGY COMPANY),
The OCD has received the submitted *Notification for (Final) Sampling of a Release* (C-141N), for incident ID (n#) nAPP2406120215.

The sampling event is expected to take place:

When: 04/17/2024 @ 09:00
Where: O-11-29N-13W 1151 FSL 1995 FEL (36.7368126,-108.1729965)

Additional Information: If info is needed, please contact Ensolum Project Manager, Stuart Hyde, at 970-903-1607.

Additional Instructions: If info is needed, please contact Ensolum Project Manager, Stuart Hyde, at 970-903-1607. Also, Dale Crawford (Hilcorp) can be reached at 505-947-5731.

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: Danny Burns
To: Stuart Hyde
Subject: FW: [EXTERNAL] Riverine 1 Excavation 4/17/24
Date: Thursday, April 18, 2024 9:46:24 AM
Attachments: Outlook-nnzwougo.png
image001.png
image002.png
image003.png
image004.png

Sorry about the WSP email mishap.

Danny Burns
Senior Geologist
303-601-1420
Ensolum, LLC

From: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Sent: Thursday, April 18, 2024 9:45 AM
To: Danny Burns <dburns@ensolum.com>
Cc: mkillough@hilcorp.com; Hyde, Stuart <Stuart.Hyde@wsp.com>
Subject: Re: [EXTERNAL] Riverine 1 Excavation 4/17/24

[**EXTERNAL EMAIL**]

Good morning Danny,

Thank you for the correspondence. Your sampling was confirmed and approved while I was on-site.

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: Danny Burns <dburns@ensolum.com>
Sent: Wednesday, April 17, 2024 2:45 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: mkillough@hilcorp.com <mkillough@hilcorp.com>; Hyde, Stuart <Stuart.Hyde@wsp.com>
Subject: [EXTERNAL] Riverine 1 Excavation 4/17/24

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Nelson,

I wanted to follow up with you regarding sampling activities at the excavation at the Riverine 1 location. Per our conversation onsite, two confirmation samples were collected from the excavation:

- One, four-point composite sample consisting of aliquots from each of the four excavation sidewalls. CSW02 @ 3'-4'
- One, five-point composite sample from the excavation floor, ranging in depth from 4.5' to 6'. FS02 @ 4.5'-6'.

Samples will be submitted for laboratory analysis of BTEX, TPH, and Chlorides.

Let me know if you have any questions or concerns.

Danny Burns
303-601-1420

From: Velez, Nelson, EMNRD
To: Stuart Hyde
Cc: Mitch Killough
Subject: Re: [EXTERNAL] napp2406120215 - Riverine 1 Sampling Variance
Date: Friday, March 22, 2024 2:58:53 PM
Attachments: image001.png
image002.png
image003.png
image004.png
Outlook-nhkirsed.png

[**EXTERNAL EMAIL**]
Stuart,

Thank you for the correspondence. Your variance request is approved.

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

Have a safe and enjoyable weekend yourself.

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: Friday, March 22, 2024 2:55 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: Mitch Killough <mkillough@hilcorp.com>
Subject: [EXTERNAL] napp2406120215 - Riverine 1 Sampling Variance

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Nelson,

As discussed on site, the excavation at the Riverine 1 was approximately 7 feet by 8 feet in surface

dimensions (56 square feet) and 5 feet deep. Due to the small size of the excavation, we are requesting a variance to 19.15.29.12.D(1) of the New Mexico Administrative Code in order to collect four-point composite samples from the base and sidewalls of the excavation instead of five-point composite samples indicated in the rule.

Please let us know if you have any questions regarding this variance request. Thanks and have a great weekend.

Stuart Hyde, PG
(Licensed in WA/TX)
Senior Geologist
970-903-1607
Ensolum, LLC

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

ENSOLUM

APPENDIX C

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/10/2024 11:27:22 PM

JOB DESCRIPTION

Hilcorp Energy

JOB NUMBER

885-928-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

my EOL

Eurofins Albuquerque

Job Notes

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

Authorization

Generated
4/10/2024 11:27:22 PM

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

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Laboratory Job ID: 885-928-1

Table of Contents

Definitions/Glossary

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Glossary

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

Case Narrative

Client: Hilcorp Energy
Project: Hilcorp Energy

Job ID: 885-928-1

Job ID: 885-928-1 Eurofins Albuquerque

Job Narrative
885-928-1

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

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

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

Receipt
The samples were received on 3/12/2024 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 5.8°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
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.

Client Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH01 1'
Date Collected: 03/11/24 13:30
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.9		mg/Kg		03/12/24 09:22	03/12/24 10:39	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*03/12/24 09:22*	*03/12/24 10:39*	*2*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.029		mg/Kg		03/12/24 09:22	03/12/24 10:39	2
Ethylbenzene	ND		0.059		mg/Kg		03/12/24 09:22	03/12/24 10:39	2
Toluene	ND		0.059		mg/Kg		03/12/24 09:22	03/12/24 10:39	2
Xylenes, Total	ND		0.12		mg/Kg		03/12/24 09:22	03/12/24 10:39	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*39 - 146*	*03/12/24 09:22*	*03/12/24 10:39*	*2*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.8		mg/Kg		03/12/24 08:41	03/12/24 11:06	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		03/12/24 08:41	03/12/24 11:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*69 - 147*	*03/12/24 08:41*	*03/12/24 11:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**300**		60		mg/Kg		03/12/24 13:11	03/12/24 19:26	20

Client Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH01 4'
Date Collected: 03/11/24 13:33
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.2		mg/Kg		03/12/24 09:22	03/12/24 11:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*03/12/24 09:22*	*03/12/24 11:03*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		03/12/24 09:22	03/12/24 11:03	1
Ethylbenzene	ND		0.032		mg/Kg		03/12/24 09:22	03/12/24 11:03	1
Toluene	ND		0.032		mg/Kg		03/12/24 09:22	03/12/24 11:03	1
Xylenes, Total	ND		0.063		mg/Kg		03/12/24 09:22	03/12/24 11:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*	*03/12/24 09:22*	*03/12/24 11:03*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.0		mg/Kg		03/12/24 08:41	03/12/24 11:18	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		03/12/24 08:41	03/12/24 11:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*102*		*69 - 147*	*03/12/24 08:41*	*03/12/24 11:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**300**		60		mg/Kg		03/12/24 13:11	03/12/24 19:41	20

Client Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH02 1'
Date Collected: 03/11/24 13:40
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.2		mg/Kg		03/12/24 09:22	03/12/24 11:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*15 - 244*	*03/12/24 09:22*	*03/12/24 11:26*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		03/12/24 09:22	03/12/24 11:26	1
Ethylbenzene	ND		0.042		mg/Kg		03/12/24 09:22	03/12/24 11:26	1
Toluene	ND		0.042		mg/Kg		03/12/24 09:22	03/12/24 11:26	1
Xylenes, Total	ND		0.083		mg/Kg		03/12/24 09:22	03/12/24 11:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*39 - 146*	*03/12/24 09:22*	*03/12/24 11:26*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		03/12/24 08:41	03/12/24 11:30	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		03/12/24 08:41	03/12/24 11:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*69 - 147*	*03/12/24 08:41*	*03/12/24 11:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**260**		60		mg/Kg		03/12/24 13:11	03/12/24 19:57	20

Client Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH02 4
Date Collected: 03/11/24 13:43
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.6		mg/Kg		03/12/24 09:22	03/12/24 11:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*03/12/24 09:22*	*03/12/24 11:50*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		03/12/24 09:22	03/12/24 11:50	1
Ethylbenzene	ND		0.036		mg/Kg		03/12/24 09:22	03/12/24 11:50	1
Toluene	ND		0.036		mg/Kg		03/12/24 09:22	03/12/24 11:50	1
Xylenes, Total	ND		0.071		mg/Kg		03/12/24 09:22	03/12/24 11:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*39 - 146*	*03/12/24 09:22*	*03/12/24 11:50*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		03/12/24 08:41	03/12/24 11:42	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		03/12/24 08:41	03/12/24 11:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*105*		*69 - 147*	*03/12/24 08:41*	*03/12/24 11:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**250**		60		mg/Kg		03/12/24 13:11	03/12/24 20:12	20

Client Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH03 2'
Date Collected: 03/11/24 13:45
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.2		mg/Kg		03/12/24 09:22	03/12/24 12:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*15 - 244*	*03/12/24 09:22*	*03/12/24 12:13*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		03/12/24 09:22	03/12/24 12:13	1
Ethylbenzene	ND		0.042		mg/Kg		03/12/24 09:22	03/12/24 12:13	1
Toluene	ND		0.042		mg/Kg		03/12/24 09:22	03/12/24 12:13	1
Xylenes, Total	ND		0.085		mg/Kg		03/12/24 09:22	03/12/24 12:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*39 - 146*	*03/12/24 09:22*	*03/12/24 12:13*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.0		mg/Kg		03/12/24 08:41	03/12/24 11:54	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		03/12/24 08:41	03/12/24 11:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*105*		*69 - 147*	*03/12/24 08:41*	*03/12/24 11:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**310**		60		mg/Kg		03/12/24 13:11	03/12/24 20:57	20

Client Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH03 4'
Date Collected: 03/11/24 13:48
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.9		mg/Kg		03/12/24 09:22	03/12/24 12:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*03/12/24 09:22*	*03/12/24 12:37*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		03/12/24 09:22	03/12/24 12:37	1
Ethylbenzene	ND		0.039		mg/Kg		03/12/24 09:22	03/12/24 12:37	1
Toluene	ND		0.039		mg/Kg		03/12/24 09:22	03/12/24 12:37	1
Xylenes, Total	ND		0.078		mg/Kg		03/12/24 09:22	03/12/24 12:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*	*03/12/24 09:22*	*03/12/24 12:37*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.9		mg/Kg		03/12/24 08:41	03/12/24 12:18	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		03/12/24 08:41	03/12/24 12:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*105*		*69 - 147*	*03/12/24 08:41*	*03/12/24 12:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**890**		60		mg/Kg		03/12/24 13:11	03/12/24 21:12	20

Client Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH04 2'
Date Collected: 03/11/24 13:50
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		2.8		mg/Kg		03/12/24 09:22	03/12/24 13:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*03/12/24 09:22*	*03/12/24 13:00*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.014		mg/Kg		03/12/24 09:22	03/12/24 13:00	1
Ethylbenzene	ND		0.028		mg/Kg		03/12/24 09:22	03/12/24 13:00	1
Toluene	ND		0.028		mg/Kg		03/12/24 09:22	03/12/24 13:00	1
Xylenes, Total	ND		0.055		mg/Kg		03/12/24 09:22	03/12/24 13:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*	*03/12/24 09:22*	*03/12/24 13:00*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.9		mg/Kg		03/12/24 08:41	03/12/24 12:30	1
Motor Oil Range Organics [C28-C40]	ND		44		mg/Kg		03/12/24 08:41	03/12/24 12:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*69 - 147*	*03/12/24 08:41*	*03/12/24 12:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**450**		60		mg/Kg		03/12/24 13:11	03/12/24 21:27	20

Client Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH04 4'
Date Collected: 03/11/24 13:55
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.0		mg/Kg		03/12/24 09:22	03/12/24 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*03/12/24 09:22*	*03/12/24 13:24*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.015		mg/Kg		03/12/24 09:22	03/12/24 13:24	1
Ethylbenzene	ND		0.030		mg/Kg		03/12/24 09:22	03/12/24 13:24	1
Toluene	ND		0.030		mg/Kg		03/12/24 09:22	03/12/24 13:24	1
Xylenes, Total	ND		0.060		mg/Kg		03/12/24 09:22	03/12/24 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*39 - 146*	*03/12/24 09:22*	*03/12/24 13:24*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		03/12/24 08:41	03/12/24 12:42	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		03/12/24 08:41	03/12/24 12:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*69 - 147*	*03/12/24 08:41*	*03/12/24 12:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		60		mg/Kg		03/12/24 13:11	03/12/24 21:43	20

Client Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH05 2'
Date Collected: 03/11/24 14:00
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-9
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.4		mg/Kg		03/12/24 09:22	03/12/24 13:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 244*	*03/12/24 09:22*	*03/12/24 13:47*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		03/12/24 09:22	03/12/24 13:47	1
Ethylbenzene	ND		0.034		mg/Kg		03/12/24 09:22	03/12/24 13:47	1
Toluene	ND		0.034		mg/Kg		03/12/24 09:22	03/12/24 13:47	1
Xylenes, Total	ND		0.069		mg/Kg		03/12/24 09:22	03/12/24 13:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*39 - 146*	*03/12/24 09:22*	*03/12/24 13:47*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.8		mg/Kg		03/12/24 08:41	03/12/24 12:54	1
Motor Oil Range Organics [C28-C40]	ND		44		mg/Kg		03/12/24 08:41	03/12/24 12:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*109*		*69 - 147*	*03/12/24 08:41*	*03/12/24 12:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**400**		60		mg/Kg		03/12/24 13:11	03/12/24 21:58	20

Client Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH05 4'
Date Collected: 03/11/24 14:03
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-10
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.4		mg/Kg		03/12/24 09:22	03/12/24 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*15 - 244*	*03/12/24 09:22*	*03/12/24 14:11*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		03/12/24 09:22	03/12/24 14:11	1
Ethylbenzene	ND		0.034		mg/Kg		03/12/24 09:22	03/12/24 14:11	1
Toluene	ND		0.034		mg/Kg		03/12/24 09:22	03/12/24 14:11	1
Xylenes, Total	ND		0.069		mg/Kg		03/12/24 09:22	03/12/24 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*03/12/24 09:22*	*03/12/24 14:11*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		03/12/24 08:41	03/12/24 13:06	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		03/12/24 08:41	03/12/24 13:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*69 - 147*	*03/12/24 08:41*	*03/12/24 13:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**98**		60		mg/Kg		03/12/24 13:11	03/12/24 22:13	20

QC Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

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

Lab Sample ID: MB 885-1567/1-A
Matrix: Solid
Analysis Batch: 1654

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1567

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		03/12/24 09:22	03/12/24 10:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*03/12/24 09:22*	*03/12/24 10:15*	*1*

Lab Sample ID: LCS 885-1567/2-A
Matrix: Solid
Analysis Batch: 1654

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1567

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	24.7		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*201*		*15 - 244*

Lab Sample ID: 885-928-1 MS
Matrix: Solid
Analysis Batch: 1654

Client Sample ID: PH01 1'
Prep Type: Total/NA
Prep Batch: 1567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		14.7	14.3		mg/Kg		97	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*199*		*15 - 244*

Lab Sample ID: 885-928-1 MSD
Matrix: Solid
Analysis Batch: 1654

Client Sample ID: PH01 1'
Prep Type: Total/NA
Prep Batch: 1567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		14.7	14.4		mg/Kg		98	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*204*		*15 - 244*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-1567/1-A
Matrix: Solid
Analysis Batch: 1655

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1567

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/12/24 09:22	03/12/24 10:15	1
Ethylbenzene	ND		0.050		mg/Kg		03/12/24 09:22	03/12/24 10:15	1
Toluene	ND		0.050		mg/Kg		03/12/24 09:22	03/12/24 10:15	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

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

Lab Sample ID: MB 885-1567/1-A
Matrix: Solid
Analysis Batch: 1655

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1567

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		03/12/24 09:22	03/12/24 10:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*	*03/12/24 09:22*	*03/12/24 10:15*	*1*

Lab Sample ID: LCS 885-1567/3-A
Matrix: Solid
Analysis Batch: 1655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1567

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.812		mg/Kg		81	70 - 130		
Ethylbenzene			1.00	0.879		mg/Kg		88	70 - 130		
o-Xylene			1.00	0.878		mg/Kg		88	70 - 130		
Toluene			1.00	0.848		mg/Kg		85	70 - 130		
Xylenes, Total			3.00	2.67		mg/Kg		89	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*39 - 146*

Lab Sample ID: 885-928-2 MS
Matrix: Solid
Analysis Batch: 1655

Client Sample ID: PH01 4'
Prep Type: Total/NA
Prep Batch: 1567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.632	0.508		mg/Kg		80	70 - 130		
Ethylbenzene	ND		0.632	0.551		mg/Kg		87	70 - 130		
o-Xylene	ND		0.632	0.550		mg/Kg		87	70 - 130		
Toluene	ND		0.632	0.532		mg/Kg		84	70 - 130		
Xylenes, Total	ND		1.90	1.67		mg/Kg		88	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*39 - 146*

Lab Sample ID: 885-928-2 MSD
Matrix: Solid
Analysis Batch: 1655

Client Sample ID: PH01 4'
Prep Type: Total/NA
Prep Batch: 1567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.632	0.505		mg/Kg		80	70 - 130	1	20
Ethylbenzene	ND		0.632	0.541		mg/Kg		86	70 - 130	2	20
o-Xylene	ND		0.632	0.540		mg/Kg		85	70 - 130	2	20
Toluene	ND		0.632	0.525		mg/Kg		83	70 - 130	1	20
Xylenes, Total	ND		1.90	1.64		mg/Kg		86	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*39 - 146*

QC Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

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

Lab Sample ID: MB 885-1556/1-A
Matrix: Solid
Analysis Batch: 1646

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1556

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		03/12/24 08:41	03/12/24 10:42	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		03/12/24 08:41	03/12/24 10:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*69 - 147*	*03/12/24 08:41*	*03/12/24 10:42*	*1*

Lab Sample ID: LCS 885-1556/2-A
Matrix: Solid
Analysis Batch: 1646

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1556

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	36.7		mg/Kg		73	62 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*100*		*69 - 147*

Lab Sample ID: 885-928-10 MS
Matrix: Solid
Analysis Batch: 1646

Client Sample ID: PH05 4'
Prep Type: Total/NA
Prep Batch: 1556

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		44.6	36.1		mg/Kg		81	54 - 135		
Diesel Range Organics [C10-C28]	ND		44.6	36.1		mg/Kg		81	54 - 135		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*104*		*69 - 147*
Di-n-octyl phthalate (Surr)	*104*		*69 - 147*

Lab Sample ID: 885-928-10 MSD
Matrix: Solid
Analysis Batch: 1646

Client Sample ID: PH05 4'
Prep Type: Total/NA
Prep Batch: 1556

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		43.6	34.4		mg/Kg		79	54 - 135	5	29
Diesel Range Organics [C10-C28]	ND		43.6	34.4		mg/Kg		79	54 - 135	5	29

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*100*		*69 - 147*
Di-n-octyl phthalate (Surr)	*100*		*69 - 147*

QC Sample Results

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-1587/1-A
Matrix: Solid
Analysis Batch: 1637

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1587

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5		mg/Kg		03/12/24 13:11	03/12/24 14:54	1

Lab Sample ID: LCS 885-1587/2-A
Matrix: Solid
Analysis Batch: 1637

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1587

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			15.0	14.2		mg/Kg		94	90 - 110		

QC Association Summary

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

GC VOA

Prep Batch: 1567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-928-1	PH01 1'	Total/NA	Solid	5035	
885-928-2	PH01 4'	Total/NA	Solid	5035	
885-928-3	PH02 1'	Total/NA	Solid	5035	
885-928-4	PH02 4	Total/NA	Solid	5035	
885-928-5	PH03 2'	Total/NA	Solid	5035	
885-928-6	PH03 4'	Total/NA	Solid	5035	
885-928-7	PH04 2'	Total/NA	Solid	5035	
885-928-8	PH04 4'	Total/NA	Solid	5035	
885-928-9	PH05 2'	Total/NA	Solid	5035	
885-928-10	PH05 4'	Total/NA	Solid	5035	
MB 885-1567/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-1567/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-1567/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-928-1 MS	PH01 1'	Total/NA	Solid	5035	
885-928-1 MSD	PH01 1'	Total/NA	Solid	5035	
885-928-2 MS	PH01 4'	Total/NA	Solid	5035	
885-928-2 MSD	PH01 4'	Total/NA	Solid	5035	

Analysis Batch: 1654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-928-1	PH01 1'	Total/NA	Solid	8015D	1567
885-928-2	PH01 4'	Total/NA	Solid	8015D	1567
885-928-3	PH02 1'	Total/NA	Solid	8015D	1567
885-928-4	PH02 4	Total/NA	Solid	8015D	1567
885-928-5	PH03 2'	Total/NA	Solid	8015D	1567
885-928-6	PH03 4'	Total/NA	Solid	8015D	1567
885-928-7	PH04 2'	Total/NA	Solid	8015D	1567
885-928-8	PH04 4'	Total/NA	Solid	8015D	1567
885-928-9	PH05 2'	Total/NA	Solid	8015D	1567
885-928-10	PH05 4'	Total/NA	Solid	8015D	1567
MB 885-1567/1-A	Method Blank	Total/NA	Solid	8015D	1567
LCS 885-1567/2-A	Lab Control Sample	Total/NA	Solid	8015D	1567
885-928-1 MS	PH01 1'	Total/NA	Solid	8015D	1567
885-928-1 MSD	PH01 1'	Total/NA	Solid	8015D	1567

Analysis Batch: 1655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-928-1	PH01 1'	Total/NA	Solid	8021B	1567
885-928-2	PH01 4'	Total/NA	Solid	8021B	1567
885-928-3	PH02 1'	Total/NA	Solid	8021B	1567
885-928-4	PH02 4	Total/NA	Solid	8021B	1567
885-928-5	PH03 2'	Total/NA	Solid	8021B	1567
885-928-6	PH03 4'	Total/NA	Solid	8021B	1567
885-928-7	PH04 2'	Total/NA	Solid	8021B	1567
885-928-8	PH04 4'	Total/NA	Solid	8021B	1567
885-928-9	PH05 2'	Total/NA	Solid	8021B	1567
885-928-10	PH05 4'	Total/NA	Solid	8021B	1567
MB 885-1567/1-A	Method Blank	Total/NA	Solid	8021B	1567
LCS 885-1567/3-A	Lab Control Sample	Total/NA	Solid	8021B	1567
885-928-2 MS	PH01 4'	Total/NA	Solid	8021B	1567
885-928-2 MSD	PH01 4'	Total/NA	Solid	8021B	1567

QC Association Summary

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

GC Semi VOA

Prep Batch: 1556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-928-1	PH01 1'	Total/NA	Solid	SHAKE	
885-928-2	PH01 4'	Total/NA	Solid	SHAKE	
885-928-3	PH02 1'	Total/NA	Solid	SHAKE	
885-928-4	PH02 4	Total/NA	Solid	SHAKE	
885-928-5	PH03 2'	Total/NA	Solid	SHAKE	
885-928-6	PH03 4'	Total/NA	Solid	SHAKE	
885-928-7	PH04 2'	Total/NA	Solid	SHAKE	
885-928-8	PH04 4'	Total/NA	Solid	SHAKE	
885-928-9	PH05 2'	Total/NA	Solid	SHAKE	
885-928-10	PH05 4'	Total/NA	Solid	SHAKE	
MB 885-1556/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-1556/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-928-10 MS	PH05 4'	Total/NA	Solid	SHAKE	
885-928-10 MSD	PH05 4'	Total/NA	Solid	SHAKE	

Analysis Batch: 1646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-928-1	PH01 1'	Total/NA	Solid	8015D	1556
885-928-2	PH01 4'	Total/NA	Solid	8015D	1556
885-928-3	PH02 1'	Total/NA	Solid	8015D	1556
885-928-4	PH02 4	Total/NA	Solid	8015D	1556
885-928-5	PH03 2'	Total/NA	Solid	8015D	1556
885-928-6	PH03 4'	Total/NA	Solid	8015D	1556
885-928-7	PH04 2'	Total/NA	Solid	8015D	1556
885-928-8	PH04 4'	Total/NA	Solid	8015D	1556
885-928-9	PH05 2'	Total/NA	Solid	8015D	1556
885-928-10	PH05 4'	Total/NA	Solid	8015D	1556
MB 885-1556/1-A	Method Blank	Total/NA	Solid	8015D	1556
LCS 885-1556/2-A	Lab Control Sample	Total/NA	Solid	8015D	1556
885-928-10 MS	PH05 4'	Total/NA	Solid	8015D	1556
885-928-10 MSD	PH05 4'	Total/NA	Solid	8015D	1556

HPLC/IC

Prep Batch: 1587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-928-1	PH01 1'	Total/NA	Solid	300_Prep	
885-928-2	PH01 4'	Total/NA	Solid	300_Prep	
885-928-3	PH02 1'	Total/NA	Solid	300_Prep	
885-928-4	PH02 4	Total/NA	Solid	300_Prep	
885-928-5	PH03 2'	Total/NA	Solid	300_Prep	
885-928-6	PH03 4'	Total/NA	Solid	300_Prep	
885-928-7	PH04 2'	Total/NA	Solid	300_Prep	
885-928-8	PH04 4'	Total/NA	Solid	300_Prep	
885-928-9	PH05 2'	Total/NA	Solid	300_Prep	
885-928-10	PH05 4'	Total/NA	Solid	300_Prep	
MB 885-1587/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-1587/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

QC Association Summary

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

HPLC/IC

Analysis Batch: 1637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-928-1	PH01 1'	Total/NA	Solid	300.0	1587
885-928-2	PH01 4'	Total/NA	Solid	300.0	1587
885-928-3	PH02 1'	Total/NA	Solid	300.0	1587
885-928-4	PH02 4	Total/NA	Solid	300.0	1587
885-928-5	PH03 2'	Total/NA	Solid	300.0	1587
885-928-6	PH03 4'	Total/NA	Solid	300.0	1587
885-928-7	PH04 2'	Total/NA	Solid	300.0	1587
885-928-8	PH04 4'	Total/NA	Solid	300.0	1587
885-928-9	PH05 2'	Total/NA	Solid	300.0	1587
885-928-10	PH05 4'	Total/NA	Solid	300.0	1587
MB 885-1587/1-A	Method Blank	Total/NA	Solid	300.0	1587
LCS 885-1587/2-A	Lab Control Sample	Total/NA	Solid	300.0	1587

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH01 1'
Date Collected: 03/11/24 13:30
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8015D		2	1654	JP	EET ALB	03/12/24 10:39
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8021B		2	1655	JP	EET ALB	03/12/24 10:39
Total/NA	Prep	SHAKE			1556	JU	EET ALB	03/12/24 08:41
Total/NA	Analysis	8015D		1	1646	JU	EET ALB	03/12/24 11:06
Total/NA	Prep	300_Prep			1587	KB	EET ALB	03/12/24 13:11
Total/NA	Analysis	300.0		20	1637	KB	EET ALB	03/12/24 19:26

Client Sample ID: PH01 4'
Date Collected: 03/11/24 13:33
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8015D		1	1654	JP	EET ALB	03/12/24 11:03
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8021B		1	1655	JP	EET ALB	03/12/24 11:03
Total/NA	Prep	SHAKE			1556	JU	EET ALB	03/12/24 08:41
Total/NA	Analysis	8015D		1	1646	JU	EET ALB	03/12/24 11:18
Total/NA	Prep	300_Prep			1587	KB	EET ALB	03/12/24 13:11
Total/NA	Analysis	300.0		20	1637	KB	EET ALB	03/12/24 19:41

Client Sample ID: PH02 1'
Date Collected: 03/11/24 13:40
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8015D		1	1654	JP	EET ALB	03/12/24 11:26
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8021B		1	1655	JP	EET ALB	03/12/24 11:26
Total/NA	Prep	SHAKE			1556	JU	EET ALB	03/12/24 08:41
Total/NA	Analysis	8015D		1	1646	JU	EET ALB	03/12/24 11:30
Total/NA	Prep	300_Prep			1587	KB	EET ALB	03/12/24 13:11
Total/NA	Analysis	300.0		20	1637	KB	EET ALB	03/12/24 19:57

Client Sample ID: PH02 4
Date Collected: 03/11/24 13:43
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8015D		1	1654	JP	EET ALB	03/12/24 11:50

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH02 4
Date Collected: 03/11/24 13:43
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8021B		1	1655	JP	EET ALB	03/12/24 11:50
Total/NA	Prep	SHAKE			1556	JU	EET ALB	03/12/24 08:41
Total/NA	Analysis	8015D		1	1646	JU	EET ALB	03/12/24 11:42
Total/NA	Prep	300_Prep			1587	KB	EET ALB	03/12/24 13:11
Total/NA	Analysis	300.0		20	1637	KB	EET ALB	03/12/24 20:12

Client Sample ID: PH03 2'
Date Collected: 03/11/24 13:45
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8015D		1	1654	JP	EET ALB	03/12/24 12:13
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8021B		1	1655	JP	EET ALB	03/12/24 12:13
Total/NA	Prep	SHAKE			1556	JU	EET ALB	03/12/24 08:41
Total/NA	Analysis	8015D		1	1646	JU	EET ALB	03/12/24 11:54
Total/NA	Prep	300_Prep			1587	KB	EET ALB	03/12/24 13:11
Total/NA	Analysis	300.0		20	1637	KB	EET ALB	03/12/24 20:57

Client Sample ID: PH03 4'
Date Collected: 03/11/24 13:48
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8015D		1	1654	JP	EET ALB	03/12/24 12:37
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8021B		1	1655	JP	EET ALB	03/12/24 12:37
Total/NA	Prep	SHAKE			1556	JU	EET ALB	03/12/24 08:41
Total/NA	Analysis	8015D		1	1646	JU	EET ALB	03/12/24 12:18
Total/NA	Prep	300_Prep			1587	KB	EET ALB	03/12/24 13:11
Total/NA	Analysis	300.0		20	1637	KB	EET ALB	03/12/24 21:12

Client Sample ID: PH04 2'
Date Collected: 03/11/24 13:50
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8015D		1	1654	JP	EET ALB	03/12/24 13:00
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8021B		1	1655	JP	EET ALB	03/12/24 13:00

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH04 2'
Date Collected: 03/11/24 13:50
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			1556	JU	EET ALB	03/12/24 08:41
Total/NA	Analysis	8015D		1	1646	JU	EET ALB	03/12/24 12:30
Total/NA	Prep	300_Prep			1587	KB	EET ALB	03/12/24 13:11
Total/NA	Analysis	300.0		20	1637	KB	EET ALB	03/12/24 21:27

Client Sample ID: PH04 4'
Date Collected: 03/11/24 13:55
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8015D		1	1654	JP	EET ALB	03/12/24 13:24
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8021B		1	1655	JP	EET ALB	03/12/24 13:24
Total/NA	Prep	SHAKE			1556	JU	EET ALB	03/12/24 08:41
Total/NA	Analysis	8015D		1	1646	JU	EET ALB	03/12/24 12:42
Total/NA	Prep	300_Prep			1587	KB	EET ALB	03/12/24 13:11
Total/NA	Analysis	300.0		20	1637	KB	EET ALB	03/12/24 21:43

Client Sample ID: PH05 2'
Date Collected: 03/11/24 14:00
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8015D		1	1654	JP	EET ALB	03/12/24 13:47
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8021B		1	1655	JP	EET ALB	03/12/24 13:47
Total/NA	Prep	SHAKE			1556	JU	EET ALB	03/12/24 08:41
Total/NA	Analysis	8015D		1	1646	JU	EET ALB	03/12/24 12:54
Total/NA	Prep	300_Prep			1587	KB	EET ALB	03/12/24 13:11
Total/NA	Analysis	300.0		20	1637	KB	EET ALB	03/12/24 21:58

Client Sample ID: PH05 4'
Date Collected: 03/11/24 14:03
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8015D		1	1654	JP	EET ALB	03/12/24 14:11
Total/NA	Prep	5035			1567	JP	EET ALB	03/12/24 09:22
Total/NA	Analysis	8021B		1	1655	JP	EET ALB	03/12/24 14:11
Total/NA	Prep	SHAKE			1556	JU	EET ALB	03/12/24 08:41
Total/NA	Analysis	8015D		1	1646	JU	EET ALB	03/12/24 13:06

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Client Sample ID: PH05 4'

Date Collected: 03/11/24 14:03
Date Received: 03/12/24 07:15

Lab Sample ID: 885-928-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			1587	KB	EET ALB	03/12/24 13:11
Total/NA	Analysis	300.0		20	1637	KB	EET ALB	03/12/24 22:13

Laboratory References:

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

Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: Hilcorp Energy

Job ID: 885-928-1

Laboratory: Eurofins Albuquerque

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	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
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Chain-of-Custody Record

Client: Hilcorp

Mitch Killough

Mailing Address:

Phone #:

email or Fax#: mkillough@hilcorp.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☐ Standard ☒ Rush 3-13-24

Project Name:

Riverine 1

Project #:

Project Manager:

Stuart Hyde - Ensolum

Sampler: E. Carroll

On Ice: ☒ Yes ☐ No Yogi

# of Coolers: 1

Cooler Temp(including CF): 6.0-0.2=5.8 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / ~~MTBE~~ / ~~TMB's~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chloride
3-11	1330	Soil	PH01 1'	1402	Cool	885-928 COC	X	X									X
	1333		PH01 4'														
	1340		PH02 1'														
	1343		PH02 4'														
	1345		PH03 2'														
	1348		PH03 4'														
	1350		PH04 2'														
	1355		PH04 4'														
	1400		PH05 2'														
↓	1403	↓	PH05 4'	↓	↓		↓	↓									↓

Date.	Time.	Relinquished by.	Received by·	Via·	Date	Time
3-11	1500		Chat Ward		3/11/24	1500
Date	Time·	Relinquished by	Received by·	Via· Courier	Date	Time
3/11/24	1800	Chat Walk			3/12/24	7:15

Remarks:

CC: shyde@ensolum.com

ecarroll@ensolum.com

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

Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-928-1
SDG Number:

Login Number: 928
List Number: 1
Creator: Casarrubias, Tracy

List Source: Eurofins Albuquerque

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/2/2024 4:26:41 PM

JOB DESCRIPTION

Riverine 1

JOB NUMBER

885-1702-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

my EOL

Eurofins Albuquerque

Job Notes

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

Authorization

Generated
4/2/2024 4:26:41 PM

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

Client: Hilcorp Energy
Project/Site: Riverine 1

Laboratory Job ID: 885-1702-1

Table of Contents

Definitions/Glossary

Client: Hilcorp Energy
Project/Site: Riverine 1

Job ID: 885-1702-1

Glossary

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

Case Narrative

Client: Hilcorp Energy
Project: Riverine 1

Job ID: 885-1702-1

Job ID: 885-1702-1 Eurofins Albuquerque

Job Narrative
885-1702-1

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

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

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

Receipt
The samples were received on 3/23/2024 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 2.9°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
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.

Client Sample Results

Client: Hilcorp Energy
Project/Site: Riverine 1

Job ID: 885-1702-1

Client Sample ID: FS01@5'
Date Collected: 03/22/24 10:30
Date Received: 03/23/24 06:45

Lab Sample ID: 885-1702-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.6		mg/Kg		03/25/24 09:44	03/25/24 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*15 - 244*	*03/25/24 09:44*	*03/25/24 13:51*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		03/25/24 09:44	03/25/24 13:51	1
Ethylbenzene	ND		0.036		mg/Kg		03/25/24 09:44	03/25/24 13:51	1
Toluene	ND		0.036		mg/Kg		03/25/24 09:44	03/25/24 13:51	1
Xylenes, Total	ND		0.072		mg/Kg		03/25/24 09:44	03/25/24 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*39 - 146*	*03/25/24 09:44*	*03/25/24 13:51*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1		mg/Kg		03/25/24 08:48	03/25/24 12:39	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		03/25/24 08:48	03/25/24 12:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*	*03/25/24 08:48*	*03/25/24 12:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**730**		60		mg/Kg		03/25/24 10:32	03/25/24 15:15	20

Client Sample ID: CSW01@0'-5'
Date Collected: 03/22/24 10:40
Date Received: 03/23/24 06:45

Lab Sample ID: 885-1702-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.2		mg/Kg		03/25/24 09:44	03/25/24 14:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*15 - 244*	*03/25/24 09:44*	*03/25/24 14:14*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		03/25/24 09:44	03/25/24 14:14	1
Ethylbenzene	ND		0.042		mg/Kg		03/25/24 09:44	03/25/24 14:14	1
Toluene	ND		0.042		mg/Kg		03/25/24 09:44	03/25/24 14:14	1
Xylenes, Total	ND		0.084		mg/Kg		03/25/24 09:44	03/25/24 14:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*39 - 146*	*03/25/24 09:44*	*03/25/24 14:14*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		03/25/24 08:48	03/25/24 12:51	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		03/25/24 08:48	03/25/24 12:51	1

Client Sample Results

Client: Hilcorp Energy
Project/Site: Riverine 1

Job ID: 885-1702-1

Client Sample ID: CSW01@0'-5'
Date Collected: 03/22/24 10:40
Date Received: 03/23/24 06:45

Lab Sample ID: 885-1702-2
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*	*03/25/24 08:48*	*03/25/24 12:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**880**		60		mg/Kg		03/25/24 10:32	03/25/24 16:31	20

QC Sample Results

Client: Hilcorp Energy
Project/Site: Riverine 1

Job ID: 885-1702-1

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

Lab Sample ID: MB 885-2213/1-A
Matrix: Solid
Analysis Batch: 2264

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 2213

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		03/25/24 09:44	03/25/24 10:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*15 - 244*	*03/25/24 09:44*	*03/25/24 10:42*	*1*

Lab Sample ID: LCS 885-2213/2-A
Matrix: Solid
Analysis Batch: 2264

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 2213

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	27.6		mg/Kg		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*212*		*15 - 244*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-2213/1-A
Matrix: Solid
Analysis Batch: 2265

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 2213

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/25/24 09:44	03/25/24 10:42	1
Ethylbenzene	ND		0.050		mg/Kg		03/25/24 09:44	03/25/24 10:42	1
Toluene	ND		0.050		mg/Kg		03/25/24 09:44	03/25/24 10:42	1
Xylenes, Total	ND		0.10		mg/Kg		03/25/24 09:44	03/25/24 10:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*39 - 146*	*03/25/24 09:44*	*03/25/24 10:42*	*1*

Lab Sample ID: LCS 885-2213/3-A
Matrix: Solid
Analysis Batch: 2265

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 2213

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.889		mg/Kg		89	70 - 130		
Ethylbenzene			1.00	0.907		mg/Kg		91	70 - 130		
m&p-Xylene			2.00	1.83		mg/Kg		92	70 - 130		
o-Xylene			1.00	0.894		mg/Kg		89	70 - 130		
Toluene			1.00	0.898		mg/Kg		90	70 - 130		
Xylenes, Total			3.00	2.73		mg/Kg		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*

QC Sample Results

Client: Hilcorp Energy
Project/Site: Riverine 1

Job ID: 885-1702-1

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

Lab Sample ID: MB 885-2209/1-A
Matrix: Solid
Analysis Batch: 2263

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 2209

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		03/25/24 08:48	03/25/24 10:50	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		03/25/24 08:48	03/25/24 10:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*03/25/24 08:48*	*03/25/24 10:50*	*1*

Lab Sample ID: LCS 885-2209/2-A
Matrix: Solid
Analysis Batch: 2263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 2209

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	42.9		mg/Kg		86	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-2223/1-A
Matrix: Solid
Analysis Batch: 2273

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 2223

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5		mg/Kg		03/25/24 10:32	03/25/24 12:59	1

Lab Sample ID: LCS 885-2223/2-A
Matrix: Solid
Analysis Batch: 2273

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 2223

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			15.0	14.4		mg/Kg		96	90 - 110		

QC Association Summary

Client: Hilcorp Energy
Project/Site: Riverine 1

Job ID: 885-1702-1

GC VOA

Prep Batch: 2213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1702-1	FS01@5'	Total/NA	Solid	5035	
885-1702-2	CSW01@0'-5'	Total/NA	Solid	5035	
MB 885-2213/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-2213/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-2213/3-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 2264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1702-1	FS01@5'	Total/NA	Solid	8015D	2213
885-1702-2	CSW01@0'-5'	Total/NA	Solid	8015D	2213
MB 885-2213/1-A	Method Blank	Total/NA	Solid	8015D	2213
LCS 885-2213/2-A	Lab Control Sample	Total/NA	Solid	8015D	2213

Analysis Batch: 2265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1702-1	FS01@5'	Total/NA	Solid	8021B	2213
885-1702-2	CSW01@0'-5'	Total/NA	Solid	8021B	2213
MB 885-2213/1-A	Method Blank	Total/NA	Solid	8021B	2213
LCS 885-2213/3-A	Lab Control Sample	Total/NA	Solid	8021B	2213

GC Semi VOA

Prep Batch: 2209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1702-1	FS01@5'	Total/NA	Solid	SHAKE	
885-1702-2	CSW01@0'-5'	Total/NA	Solid	SHAKE	
MB 885-2209/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-2209/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 2263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1702-1	FS01@5'	Total/NA	Solid	8015D	2209
885-1702-2	CSW01@0'-5'	Total/NA	Solid	8015D	2209
MB 885-2209/1-A	Method Blank	Total/NA	Solid	8015D	2209
LCS 885-2209/2-A	Lab Control Sample	Total/NA	Solid	8015D	2209

HPLC/IC

Prep Batch: 2223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1702-1	FS01@5'	Total/NA	Solid	300_Prep	
885-1702-2	CSW01@0'-5'	Total/NA	Solid	300_Prep	
MB 885-2223/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-2223/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 2273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1702-1	FS01@5'	Total/NA	Solid	300.0	2223
885-1702-2	CSW01@0'-5'	Total/NA	Solid	300.0	2223
MB 885-2223/1-A	Method Blank	Total/NA	Solid	300.0	2223
LCS 885-2223/2-A	Lab Control Sample	Total/NA	Solid	300.0	2223

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Riverine 1

Job ID: 885-1702-1

Client Sample ID: FS01@5'
Date Collected: 03/22/24 10:30
Date Received: 03/23/24 06:45

Lab Sample ID: 885-1702-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			2213	JP	EET ALB	03/25/24 09:44
Total/NA	Analysis	8015D		1	2264	JP	EET ALB	03/25/24 13:51
Total/NA	Prep	5035			2213	JP	EET ALB	03/25/24 09:44
Total/NA	Analysis	8021B		1	2265	JP	EET ALB	03/25/24 13:51
Total/NA	Prep	SHAKE			2209	JU	EET ALB	03/25/24 08:48
Total/NA	Analysis	8015D		1	2263	JU	EET ALB	03/25/24 12:39
Total/NA	Prep	300_Prep			2223	KB	EET ALB	03/25/24 10:32
Total/NA	Analysis	300.0		20	2273	KB	EET ALB	03/25/24 15:15

Client Sample ID: CSW01@0'-5'
Date Collected: 03/22/24 10:40
Date Received: 03/23/24 06:45

Lab Sample ID: 885-1702-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			2213	JP	EET ALB	03/25/24 09:44
Total/NA	Analysis	8015D		1	2264	JP	EET ALB	03/25/24 14:14
Total/NA	Prep	5035			2213	JP	EET ALB	03/25/24 09:44
Total/NA	Analysis	8021B		1	2265	JP	EET ALB	03/25/24 14:14
Total/NA	Prep	SHAKE			2209	JU	EET ALB	03/25/24 08:48
Total/NA	Analysis	8015D		1	2263	JU	EET ALB	03/25/24 12:51
Total/NA	Prep	300_Prep			2223	KB	EET ALB	03/25/24 10:32
Total/NA	Analysis	300.0		20	2273	KB	EET ALB	03/25/24 16:31

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

Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: Riverine 1

Job ID: 885-1702-1

Laboratory: Eurofins Albuquerque

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	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
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Chain-of-Custody Record

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

Turn-Around Time: Next Results Day. by 3-26-2024
☐ Standard ☒ Rush
Project Name: Riverine 1
Project #:
Project Manager: Stuart Hyde
Sampler: Danny Burns
On Ice: ☒ Yes ☐ No marty
# of Coolers: 1
Cooler Temp(Including CF): 2.9+0=2.9 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
885-1702 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D GRO / DRO / MRO	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3-22-2024	10:30	SOIL	FS01@5'	1-4oz	COOL		X	X					X			
3-22-2024	10:40	SOIL	CSW01@0'-5'	1-4oz	COOL		X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time	Remarks:
3-22-2024	1341				3/22/24	1341	
3/22/24	1800			Courier	3/23/24	0745	

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

Login Sample Receipt Checklist

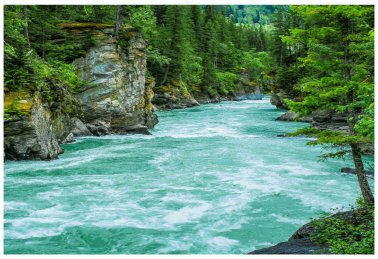
Client: Hilcorp Energy Job Number: 885-1702-1

Login Number: 1702 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

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

Report to:

Mitch Killough



5796 U.S. Hwy 64
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Phone: (505) 632-1881
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Practical Solutions for a Better Tomorrow

Analytical Report

Hilcorp Energy Co

Project Name:	Riverine 1
Work Order:	E404028
Job Number:	17051-0002
Received:	4/4/2024

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/5/24

Date Reported: 4/5/24

Mitch Killough
PO Box 61529
Houston, TX 77208

Project Name: Riverine 1
Workorder: E404028
Date Received: 4/4/2024 12:03:00PM

Mitch Killough,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/4/2024 12:03:00PM, under the Project Name: Riverine 1.

The analytical test results summarized in this report with the Project Name: Riverine 1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

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Client Representative
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mgonzales@envirotech-inc.com

Envirotech Web Address: www.envirotech-inc.com

Table of Contents

Sample Summary

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	04/05/24 14:25

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
WS 01 A	E404028-01A	Soil	04/04/24	04/04/24	Glass Jar, 4 oz.
FS 01 A	E404028-02A	Soil	04/04/24	04/04/24	Glass Jar, 4 oz.

Sample Data

Hilcorp Energy Co	Project Name:	Riverine 1	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/5/2024 2:25:09PM

WS 01 A

E404028-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RAS			Batch: 2414064
Benzene	ND	0.0250	1	04/04/24	04/04/24	
Ethylbenzene	ND	0.0250	1	04/04/24	04/04/24	
Toluene	ND	0.0250	1	04/04/24	04/04/24	
o-Xylene	ND	0.0250	1	04/04/24	04/04/24	
p,m-Xylene	ND	0.0500	1	04/04/24	04/04/24	
Total Xylenes	ND	0.0250	1	04/04/24	04/04/24	
Surrogate: 4-Bromochlorobenzene-PID		*94.8 %*	*70-130*	*04/04/24*	*04/04/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RAS			Batch: 2414064
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/04/24	04/04/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*96.1 %*	*70-130*	*04/04/24*	*04/04/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2414039
Diesel Range Organics (C10-C28)	ND	25.0	1	04/04/24	04/04/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/04/24	04/04/24	
Surrogate: n-Nonane		*116 %*	*50-200*	*04/04/24*	*04/04/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2414063
Chloride	**829**	20.0	1	04/04/24	04/05/24	

Sample Data

Hilcorp Energy Co	Project Name:	Riverine 1	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/5/2024 2:25:09PM

FS 01 A

E404028-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RAS			Batch: 2414064
Benzene	ND	0.0250	1	04/04/24	04/05/24	
Ethylbenzene	ND	0.0250	1	04/04/24	04/05/24	
Toluene	ND	0.0250	1	04/04/24	04/05/24	
o-Xylene	ND	0.0250	1	04/04/24	04/05/24	
p,m-Xylene	ND	0.0500	1	04/04/24	04/05/24	
Total Xylenes	ND	0.0250	1	04/04/24	04/05/24	
Surrogate: 4-Bromochlorobenzene-PID		*93.8 %*	*70-130*	*04/04/24*	*04/05/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RAS			Batch: 2414064
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/04/24	04/05/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*95.9 %*	*70-130*	*04/04/24*	*04/05/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2414039
Diesel Range Organics (C10-C28)	ND	25.0	1	04/04/24	04/05/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/04/24	04/05/24	
Surrogate: n-Nonane		*115 %*	*50-200*	*04/04/24*	*04/05/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2414063
Chloride	**1260**	40.0	2	04/04/24	04/05/24	

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/5/2024 2:25:09PM

Volatile Organics by EPA 8021B

Analyst: RAS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2414064-BLK1)									Prepared: 04/04/24 Analyzed: 04/04/24
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	*7.55*		*8.00*		*94.4*	*70-130*			
LCS (2414064-BS1)									Prepared: 04/04/24 Analyzed: 04/04/24
Benzene	5.17	0.0250	5.00		103	70-130			
Ethylbenzene	5.13	0.0250	5.00		103	70-130			
Toluene	5.13	0.0250	5.00		103	70-130			
o-Xylene	5.07	0.0250	5.00		101	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.4	0.0250	15.0		103	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*7.53*		*8.00*		*94.1*	*70-130*			
Matrix Spike (2414064-MS1)				**Source: E404028-01**					Prepared: 04/04/24 Analyzed: 04/04/24
Benzene	5.61	0.0250	5.00	ND	112	54-133			
Ethylbenzene	5.55	0.0250	5.00	ND	111	61-133			
Toluene	5.57	0.0250	5.00	ND	111	61-130			
o-Xylene	5.50	0.0250	5.00	ND	110	63-131			
p,m-Xylene	11.1	0.0500	10.0	ND	111	63-131			
Total Xylenes	16.6	0.0250	15.0	ND	111	63-131			
Surrogate: 4-Bromochlorobenzene-PID	*7.56*		*8.00*		*94.5*	*70-130*			
Matrix Spike Dup (2414064-MSD1)				**Source: E404028-01**					Prepared: 04/04/24 Analyzed: 04/05/24
Benzene	5.50	0.0250	5.00	ND	110	54-133	2.05	20	
Ethylbenzene	5.46	0.0250	5.00	ND	109	61-133	1.57	20	
Toluene	5.47	0.0250	5.00	ND	109	61-130	1.74	20	
o-Xylene	5.42	0.0250	5.00	ND	108	63-131	1.44	20	
p,m-Xylene	11.0	0.0500	10.0	ND	110	63-131	1.54	20	
Total Xylenes	16.4	0.0250	15.0	ND	109	63-131	1.50	20	
Surrogate: 4-Bromochlorobenzene-PID	*7.58*		*8.00*		*94.7*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/5/2024 2:25:09PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RAS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2414064-BLK1)									Prepared: 04/04/24 Analyzed: 04/04/24
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.68*		*8.00*		*96.0*	*70-130*			
LCS (2414064-BS2)									Prepared: 04/04/24 Analyzed: 04/04/24
Gasoline Range Organics (C6-C10)	51.7	20.0	50.0		103	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.76*		*8.00*		*96.9*	*70-130*			
Matrix Spike (2414064-MS2)				**Source: E404028-01**					Prepared: 04/04/24 Analyzed: 04/05/24
Gasoline Range Organics (C6-C10)	54.6	20.0	50.0	ND	109	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.76*		*8.00*		*97.0*	*70-130*			
Matrix Spike Dup (2414064-MSD2)				**Source: E404028-01**					Prepared: 04/04/24 Analyzed: 04/05/24
Gasoline Range Organics (C6-C10)	50.5	20.0	50.0	ND	101	70-130	7.82	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.73*		*8.00*		*96.6*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/5/2024 2:25:09PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2414039-BLK1)									Prepared: 04/04/24 Analyzed: 04/04/24
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*63.1*		*50.0*		*126*	*50-200*			
LCS (2414039-BS1)									Prepared: 04/04/24 Analyzed: 04/04/24
Diesel Range Organics (C10-C28)	309	25.0	250		124	38-132			
Surrogate: n-Nonane	*61.8*		*50.0*		*124*	*50-200*			
Matrix Spike (2414039-MS1)				**Source: E404014-03**					Prepared: 04/04/24 Analyzed: 04/04/24
Diesel Range Organics (C10-C28)	322	25.0	250	ND	129	38-132			
Surrogate: n-Nonane	*64.3*		*50.0*		*129*	*50-200*			
Matrix Spike Dup (2414039-MSD1)				**Source: E404014-03**					Prepared: 04/04/24 Analyzed: 04/04/24
Diesel Range Organics (C10-C28)	323	25.0	250	ND	129	38-132	0.439	20	
Surrogate: n-Nonane	*64.1*		*50.0*		*128*	*50-200*			

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/5/2024 2:25:09PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2414063-BLK1)									Prepared: 04/04/24 Analyzed: 04/04/24
Chloride	ND	20.0							
LCS (2414063-BS1)									Prepared: 04/04/24 Analyzed: 04/04/24
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2414063-MS1)				**Source: E404021-04**					Prepared: 04/04/24 Analyzed: 04/04/24
Chloride	13300	400	250	11000	931	80-120			M4
Matrix Spike Dup (2414063-MSD1)				**Source: E404021-04**					Prepared: 04/04/24 Analyzed: 04/04/24
Chloride	11600	400	250	11000	262	80-120	13.4	20	M4

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Definitions and Notes

Hilcorp Energy Co	Project Name:	Riverine 1	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	04/05/24 14:25

M4	Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite
DNR	Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Chain of Custody

Client Information	Invoice Information	Lab Use Only	TAT	State
Client: Hilcorp	Company: Hilcorp	Lab WO# E404028	Job Number 17051-0002	1D X 2D 3D Std	NM CO UT TX
Project Name: Riverine 1	Address: 382 Rd 3100			
Project Manager: Mitch Killough	City, State, Zip: Aztec, NM			
Address:	Phone:			
City, State, Zip:	Email: mkillough@hilcorp.com			
Phone:	Miscellaneous:			
Email: mkillough@hilcorp.com				

Sample Information

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals	Cation/Anion Pkg			Remarks
10:20	4/4/24	Soil	1	WS01A		1	X	X	X		X							
10:30	4/4/24	Soil	1	FS01A		2	X	X	X		X							

Analysis and Method

EPA Program

SDWA	CWA	RCRA

Compliance Y or N

PWSID #

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: Eric Carroll

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	4/4/24	12:00		4/4/24	12:03
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6°C on subsequent days.

Lab Use Only

Received on ice: (Y) N

T1 T2 T3

AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

Envirotech Analytical Laboratory

Printed: 4/4/2024 2:08:43PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Hilcorp Energy Co	Date Received:	04/04/24 12:03	Work Order ID:	E404028
Phone:	-	Date Logged In:	04/04/24 12:13	Logged In By:	Angelina Pineda
Email:	mkillough@hilcorp.com	Due Date:	04/05/24 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: Eric Carroll
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

Comments/Resolution

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?	Yes

Sample Cooler

7. Was a sample cooler received?	Yes
8. If yes, was cooler received in good condition?	Yes
9. Was the sample(s) received intact, i.e., not broken?	Yes
10. Were custody/security seals present?	No
11. If yes, were custody/security seals intact?	NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes
13. If no visible ice, record the temperature. Actual sample temperature: 4°C	

Sample Container

14. Are aqueous VOC samples present?	No
15. Are VOC samples collected in VOA Vials?	NA
16. Is the head space less than 6-8 mm (pea sized or less)?	NA
17. Was a trip blank (TB) included for VOC analyses?	NA
18. Are non-VOC samples collected in the correct containers?	Yes
19. Is the appropriate volume/weight or number of sample containers collected?	Yes

Field Label

20. Were field sample labels filled out with the minimum information:	
Sample ID?	Yes
Date/Time Collected?	Yes
Collectors name?	Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved?	No
22. Are sample(s) correctly preserved?	NA
24. Is lab filteration required and/or requested for dissolved metals?	No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase?	No
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA

Client Instruction

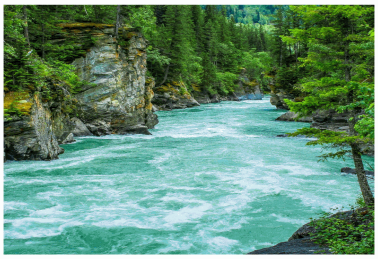
Signature of client authorizing changes to the COC or sample disposition.

Date

envirotech Inc.

Report to:

Mitch Killough



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Practical Solutions for a Better Tomorrow

Analytical Report

Hilcorp Energy Co

Project Name:	Riverine 1
Work Order:	E404081
Job Number:	17051-0002
Received:	4/10/2024

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/12/24

Date Reported: 4/12/24

Mitch Killough
PO Box 61529
Houston, TX 77208

Project Name: Riverine 1
Workorder: E404081
Date Received: 4/10/2024 2:35:00PM

Mitch Killough,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/10/2024 2:35:00PM, under the Project Name: Riverine 1.

The analytical test results summarized in this report with the Project Name: Riverine 1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

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Table of Contents

Sample Summary

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	04/12/24 15:31

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH01@6.5'	E404081-01A	Soil	04/10/24	04/10/24	Glass Jar, 4 oz.
BH02@6.5'	E404081-02A	Soil	04/10/24	04/10/24	Glass Jar, 4 oz.
BH03@6.5'	E404081-03A	Soil	04/10/24	04/10/24	Glass Jar, 4 oz.
BH04@6.5'	E404081-04A	Soil	04/10/24	04/10/24	Glass Jar, 4 oz.

Sample Data

Hilcorp Energy Co	Project Name:	Riverine 1	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/12/2024 3:31:06PM

BH01@6.5'

E404081-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: EG			Batch: 2415045
Benzene	ND	0.0250	1	04/11/24	04/11/24	
Ethylbenzene	ND	0.0250	1	04/11/24	04/11/24	
Toluene	ND	0.0250	1	04/11/24	04/11/24	
o-Xylene	ND	0.0250	1	04/11/24	04/11/24	
p,m-Xylene	ND	0.0500	1	04/11/24	04/11/24	
Total Xylenes	ND	0.0250	1	04/11/24	04/11/24	
Surrogate: 4-Bromochlorobenzene-PID		*94.9 %*	*70-130*	*04/11/24*	*04/11/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: EG			Batch: 2415045
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/11/24	04/11/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*97.2 %*	*70-130*	*04/11/24*	*04/11/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2415049
Diesel Range Organics (C10-C28)	ND	25.0	1	04/11/24	04/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/11/24	04/11/24	
Surrogate: n-Nonane		*91.9 %*	*50-200*	*04/11/24*	*04/11/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2415060
Chloride	**129**	20.0	1	04/11/24	04/11/24	

Sample Data

Hilcorp Energy Co	Project Name:	Riverine 1	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/12/2024 3:31:06PM

BH02@6.5'

E404081-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: EG			Batch: 2415045
Benzene	ND	0.0250	1	04/11/24	04/11/24	
Ethylbenzene	ND	0.0250	1	04/11/24	04/11/24	
Toluene	ND	0.0250	1	04/11/24	04/11/24	
o-Xylene	ND	0.0250	1	04/11/24	04/11/24	
p,m-Xylene	ND	0.0500	1	04/11/24	04/11/24	
Total Xylenes	ND	0.0250	1	04/11/24	04/11/24	
Surrogate: 4-Bromochlorobenzene-PID		*95.3 %*	*70-130*	*04/11/24*	*04/11/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: EG			Batch: 2415045
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/11/24	04/11/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*96.0 %*	*70-130*	*04/11/24*	*04/11/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2415049
Diesel Range Organics (C10-C28)	ND	25.0	1	04/11/24	04/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/11/24	04/11/24	
Surrogate: n-Nonane		*81.2 %*	*50-200*	*04/11/24*	*04/11/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2415060
Chloride	**598**	20.0	1	04/11/24	04/11/24	

Sample Data

Hilcorp Energy Co	Project Name:	Riverine 1	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/12/2024 3:31:06PM

BH03@6.5'

E404081-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: EG			Batch: 2415045
Benzene	ND	0.0250	1	04/11/24	04/11/24	
Ethylbenzene	ND	0.0250	1	04/11/24	04/11/24	
Toluene	ND	0.0250	1	04/11/24	04/11/24	
o-Xylene	ND	0.0250	1	04/11/24	04/11/24	
p,m-Xylene	ND	0.0500	1	04/11/24	04/11/24	
Total Xylenes	ND	0.0250	1	04/11/24	04/11/24	
Surrogate: 4-Bromochlorobenzene-PID		*96.5 %*	*70-130*	*04/11/24*	*04/11/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: EG			Batch: 2415045
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/11/24	04/11/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*96.4 %*	*70-130*	*04/11/24*	*04/11/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2415049
Diesel Range Organics (C10-C28)	ND	25.0	1	04/11/24	04/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/11/24	04/11/24	
Surrogate: n-Nonane		*83.9 %*	*50-200*	*04/11/24*	*04/11/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2415060
Chloride	**65.7**	20.0	1	04/11/24	04/11/24	

Sample Data

Hilcorp Energy Co	Project Name:	Riverine 1	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/12/2024 3:31:06PM

BH04@6.5'

E404081-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: EG			Batch: 2415045
Benzene	ND	0.0250	1	04/11/24	04/11/24	
Ethylbenzene	ND	0.0250	1	04/11/24	04/11/24	
Toluene	ND	0.0250	1	04/11/24	04/11/24	
o-Xylene	ND	0.0250	1	04/11/24	04/11/24	
p,m-Xylene	ND	0.0500	1	04/11/24	04/11/24	
Total Xylenes	ND	0.0250	1	04/11/24	04/11/24	
Surrogate: 4-Bromochlorobenzene-PID		*96.3 %*	*70-130*	*04/11/24*	*04/11/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: EG			Batch: 2415045
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/11/24	04/11/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*95.6 %*	*70-130*	*04/11/24*	*04/11/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2415049
Diesel Range Organics (C10-C28)	ND	25.0	1	04/11/24	04/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/11/24	04/11/24	
Surrogate: n-Nonane		*88.4 %*	*50-200*	*04/11/24*	*04/11/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2415060
Chloride	**360**	40.0	2	04/11/24	04/11/24	

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/12/2024 3:31:06PM

Volatile Organics by EPA 8021B

Analyst: EG

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2415045-BLK1)									Prepared: 04/11/24 Analyzed: 04/11/24
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	*7.72*		*8.00*		*96.6*	*70-130*			
LCS (2415045-BS1)									Prepared: 04/11/24 Analyzed: 04/11/24
Benzene	4.80	0.0250	5.00		96.0	70-130			
Ethylbenzene	5.11	0.0250	5.00		102	70-130			
Toluene	5.00	0.0250	5.00		100	70-130			
o-Xylene	5.07	0.0250	5.00		101	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.4	0.0250	15.0		102	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*7.62*		*8.00*		*95.3*	*70-130*			
Matrix Spike (2415045-MS1)				**Source: E404081-02**					Prepared: 04/11/24 Analyzed: 04/11/24
Benzene	4.75	0.0250	5.00	ND	95.0	54-133			
Ethylbenzene	5.06	0.0250	5.00	ND	101	61-133			
Toluene	4.95	0.0250	5.00	ND	99.1	61-130			
o-Xylene	5.04	0.0250	5.00	ND	101	63-131			
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131			
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131			
Surrogate: 4-Bromochlorobenzene-PID	*7.65*		*8.00*		*95.6*	*70-130*			
Matrix Spike Dup (2415045-MSD1)				**Source: E404081-02**					Prepared: 04/11/24 Analyzed: 04/11/24
Benzene	4.78	0.0250	5.00	ND	95.5	54-133	0.512	20	
Ethylbenzene	5.10	0.0250	5.00	ND	102	61-133	0.779	20	
Toluene	4.99	0.0250	5.00	ND	99.7	61-130	0.677	20	
o-Xylene	5.06	0.0250	5.00	ND	101	63-131	0.454	20	
p,m-Xylene	10.3	0.0500	10.0	ND	103	63-131	0.607	20	
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131	0.556	20	
Surrogate: 4-Bromochlorobenzene-PID	*7.57*		*8.00*		*94.7*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/12/2024 3:31:06PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: EG

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2415045-BLK1)									Prepared: 04/11/24 Analyzed: 04/11/24
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.61*		*8.00*		*95.1*	*70-130*			
LCS (2415045-BS2)									Prepared: 04/11/24 Analyzed: 04/11/24
Gasoline Range Organics (C6-C10)	51.7	20.0	50.0		103	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.68*		*8.00*		*96.0*	*70-130*			
Matrix Spike (2415045-MS2)				**Source: E404081-02**					Prepared: 04/11/24 Analyzed: 04/11/24
Gasoline Range Organics (C6-C10)	51.8	20.0	50.0	ND	104	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.66*		*8.00*		*95.8*	*70-130*			
Matrix Spike Dup (2415045-MSD2)				**Source: E404081-02**					Prepared: 04/11/24 Analyzed: 04/11/24
Gasoline Range Organics (C6-C10)	52.1	20.0	50.0	ND	104	70-130	0.546	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.73*		*8.00*		*96.6*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/12/2024 3:31:06PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2415049-BLK1)									Prepared: 04/11/24 Analyzed: 04/11/24
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*45.5*		*50.0*		*90.9*	*50-200*			
LCS (2415049-BS1)									Prepared: 04/11/24 Analyzed: 04/11/24
Diesel Range Organics (C10-C28)	259	25.0	250		103	38-132			
Surrogate: n-Nonane	*45.4*		*50.0*		*90.8*	*50-200*			
Matrix Spike (2415049-MS1)				**Source: E404080-04**					Prepared: 04/11/24 Analyzed: 04/11/24
Diesel Range Organics (C10-C28)	249	25.0	250	ND	99.4	38-132			
Surrogate: n-Nonane	*46.2*		*50.0*		*92.3*	*50-200*			
Matrix Spike Dup (2415049-MSD1)				**Source: E404080-04**					Prepared: 04/11/24 Analyzed: 04/11/24
Diesel Range Organics (C10-C28)	257	25.0	250	ND	103	38-132	3.23	20	
Surrogate: n-Nonane	*47.3*		*50.0*		*94.6*	*50-200*			

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/12/2024 3:31:06PM

Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2415060-BLK1)									Prepared: 04/11/24 Analyzed: 04/11/24
Chloride	ND	20.0							
LCS (2415060-BS1)									Prepared: 04/11/24 Analyzed: 04/11/24
Chloride	248	20.0	250		99.2	90-110			
Matrix Spike (2415060-MS1)				**Source: E404089-03**					Prepared: 04/11/24 Analyzed: 04/11/24
Chloride	272	20.0	250	20.8	101	80-120			
Matrix Spike Dup (2415060-MSD1)				**Source: E404089-03**					Prepared: 04/11/24 Analyzed: 04/11/24
Chloride	275	20.0	250	20.8	102	80-120	0.913	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Definitions and Notes

Hilcorp Energy Co	Project Name:	Riverine 1	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	04/12/24 15:31

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite
DNR	Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Chain of Custody

Client Information	Invoice Information	Lab Use Only	TAT	State
Client: Hilcorp Energy Co	Company: Hilcorp	Lab WO# E404081	Job Number 17051-0002	1D X, 2D, 3D, Std	NM X, CO, UT, TX
Project Name: Riverine 2	Address: 382 Rd 3100			
Project Manager: Mitch Killough	City, State, Zip: Aztec, NM			
Address:	Phone:			
City, State, Zip:	Email: mKillough@hilcorp.com			
Phone:	Miscellaneous:			
Email: ~~mKillough~~ DD mKillough@hilcorp.com				

Sample Information

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals	Cation/Anion Pkg			Remarks
10:00	4-10-24	soil	1	BH01 @ 6.5'		1	X	X	X		X							
11:00	4-10-24	soil	1	BH02 @ 6.5'		2	X	X	X		X							
11:40	4-10-24	soil	1	BH03 @ 6.5'		3	X	X	X		X							
12:30	4-10-24	soil	1	BH04 @ 6.5'		4	X	X	X		X							

Analysis and Method	EPA Program			
	SDWA	CWA	RCRA	
Compliance	Y	or	N	
PWSID #				

Additional Instructions: cc: dburns@ensolum.com + shyde@ensolum.com

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: Danny Burns

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	4-10-24	14:35		4/10/24	14:35
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6°C on subsequent days.

Lab Use Only

Received on ice: (Y) / N

T1 _____ T2 _____ T3 _____

AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

Envirotech Analytical Laboratory

Printed: 4/10/2024 3:34:31PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Hilcorp Energy Co	Date Received:	04/10/24 14:35	Work Order ID:	E404081
Phone:	-	Date Logged In:	04/10/24 15:31	Logged In By:	Alexa Michaels
Email:	mkillough@hilcorp.com	Due Date:	04/11/24 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: Danny Burns
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

Comments/Resolution

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?	Yes

Sample Cooler

7. Was a sample cooler received?	Yes
8. If yes, was cooler received in good condition?	Yes
9. Was the sample(s) received intact, i.e., not broken?	Yes
10. Were custody/security seals present?	No
11. If yes, were custody/security seals intact?	NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes
13. If no visible ice, record the temperature. Actual sample temperature: 4°C	

Sample Container

14. Are aqueous VOC samples present?	No
15. Are VOC samples collected in VOA Vials?	NA
16. Is the head space less than 6-8 mm (pea sized or less)?	NA
17. Was a trip blank (TB) included for VOC analyses?	NA
18. Are non-VOC samples collected in the correct containers?	Yes
19. Is the appropriate volume/weight or number of sample containers collected?	Yes

Field Label

20. Were field sample labels filled out with the minimum information:	
Sample ID?	Yes
Date/Time Collected?	Yes
Collectors name?	Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved?	No
22. Are sample(s) correctly preserved?	NA
24. Is lab filteration required and/or requested for dissolved metals?	No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase?	No
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA

Client Instruction

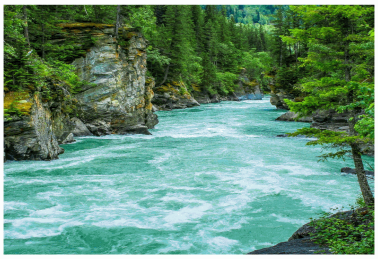
Signature of client authorizing changes to the COC or sample disposition.

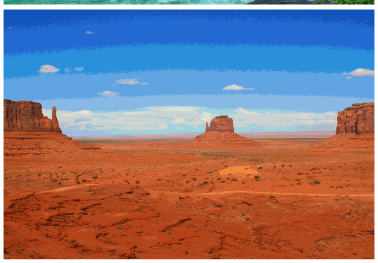
Date

envirotech Inc.

Report to:

Mitch Killough





5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com

envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Hilcorp Energy Co

Project Name:	Riverine 1
Work Order:	E404142
Job Number:	17051-0002
Received:	4/17/2024

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/19/24

Date Reported: 4/19/24

Mitch Killough
PO Box 61529
Houston, TX 77208

Project Name: Riverine 1
Workorder: E404142
Date Received: 4/17/2024 1:07:00PM

Mitch Killough,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/17/2024 1:07:00PM, under the Project Name: Riverine 1.

The analytical test results summarized in this report with the Project Name: Riverine 1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Field Offices:

Southern New Mexico Area

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Laboratory Technical Representative
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mgonzales@envirotech-inc.com

Envirotech Web Address: www.envirotech-inc.com

Table of Contents

Sample Summary

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	04/19/24 12:04

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
CSW 02 @ 3'-4'	E404142-01A	Soil	04/17/24	04/17/24	Glass Jar, 4 oz.
FS02 @ 4.5'-6'	E404142-02A	Soil	04/17/24	04/17/24	Glass Jar, 4 oz.

Sample Data

Hilcorp Energy Co	Project Name:	Riverine 1	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/19/2024 12:04:18PM

CSW 02 @ 3'-4'

E404142-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: EG			Batch: 2416085
Benzene	ND	0.0250	1	04/18/24	04/18/24	
Ethylbenzene	ND	0.0250	1	04/18/24	04/18/24	
Toluene	ND	0.0250	1	04/18/24	04/18/24	
o-Xylene	ND	0.0250	1	04/18/24	04/18/24	
p,m-Xylene	ND	0.0500	1	04/18/24	04/18/24	
Total Xylenes	ND	0.0250	1	04/18/24	04/18/24	
Surrogate: 4-Bromochlorobenzene-PID		*90.3 %*	*70-130*	*04/18/24*	*04/18/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: EG			Batch: 2416085
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/24	04/18/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*90.5 %*	*70-130*	*04/18/24*	*04/18/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV			Batch: 2416088
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/24	04/18/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/24	04/18/24	
Surrogate: n-Nonane		*121 %*	*50-200*	*04/18/24*	*04/18/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2416092
Chloride	**300**	20.0	1	04/18/24	04/19/24	

Sample Data

Hilcorp Energy Co	Project Name:	Riverine 1	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/19/2024 12:04:18PM

FS02 @ 4.5'-6'

E404142-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: EG			Batch: 2416085
Benzene	ND	0.0250	1	04/18/24	04/18/24	
Ethylbenzene	ND	0.0250	1	04/18/24	04/18/24	
Toluene	ND	0.0250	1	04/18/24	04/18/24	
o-Xylene	ND	0.0250	1	04/18/24	04/18/24	
p,m-Xylene	ND	0.0500	1	04/18/24	04/18/24	
Total Xylenes	ND	0.0250	1	04/18/24	04/18/24	
Surrogate: 4-Bromochlorobenzene-PID		*90.1 %*	*70-130*	*04/18/24*	*04/18/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: EG			Batch: 2416085
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/24	04/18/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*88.7 %*	*70-130*	*04/18/24*	*04/18/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV			Batch: 2416088
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/24	04/18/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/24	04/18/24	
Surrogate: n-Nonane		*118 %*	*50-200*	*04/18/24*	*04/18/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2416092
Chloride	**209**	20.0	1	04/18/24	04/18/24	

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/19/2024 12:04:18PM

Volatile Organics by EPA 8021B

Analyst: EG

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2416085-BLK1)									Prepared: 04/18/24 Analyzed: 04/18/24
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	*6.94*		*8.00*		*86.7*	*70-130*			
LCS (2416085-BS1)									Prepared: 04/18/24 Analyzed: 04/18/24
Benzene	5.09	0.0250	5.00		102	70-130			
Ethylbenzene	5.19	0.0250	5.00		104	70-130			
Toluene	5.18	0.0250	5.00		104	70-130			
o-Xylene	5.11	0.0250	5.00		102	70-130			
p,m-Xylene	10.4	0.0500	10.0		104	70-130			
Total Xylenes	15.5	0.0250	15.0		104	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*7.19*		*8.00*		*89.8*	*70-130*			
Matrix Spike (2416085-MS1)				**Source: E404142-02**					Prepared: 04/18/24 Analyzed: 04/18/24
Benzene	4.97	0.0250	5.00	ND	99.4	54-133			
Ethylbenzene	5.03	0.0250	5.00	ND	101	61-133			
Toluene	5.01	0.0250	5.00	ND	100	61-130			
o-Xylene	4.97	0.0250	5.00	ND	99.5	63-131			
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131			
Total Xylenes	15.1	0.0250	15.0	ND	101	63-131			
Surrogate: 4-Bromochlorobenzene-PID	*7.28*		*8.00*		*91.0*	*70-130*			
Matrix Spike Dup (2416085-MSD1)				**Source: E404142-02**					Prepared: 04/18/24 Analyzed: 04/18/24
Benzene	5.02	0.0250	5.00	ND	100	54-133	0.992	20	
Ethylbenzene	5.08	0.0250	5.00	ND	102	61-133	1.01	20	
Toluene	5.06	0.0250	5.00	ND	101	61-130	0.924	20	
o-Xylene	5.01	0.0250	5.00	ND	100	63-131	0.822	20	
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131	0.980	20	
Total Xylenes	15.2	0.0250	15.0	ND	102	63-131	0.928	20	
Surrogate: 4-Bromochlorobenzene-PID	*7.25*		*8.00*		*90.6*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/19/2024 12:04:18PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: EG

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2416085-BLK1)									Prepared: 04/18/24 Analyzed: 04/18/24
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.07*		*8.00*		*88.4*	*70-130*			
LCS (2416085-BS2)									Prepared: 04/18/24 Analyzed: 04/18/24
Gasoline Range Organics (C6-C10)	47.2	20.0	50.0		94.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.19*		*8.00*		*89.9*	*70-130*			
Matrix Spike (2416085-MS2)				**Source: E404142-02**					Prepared: 04/18/24 Analyzed: 04/18/24
Gasoline Range Organics (C6-C10)	47.1	20.0	50.0	ND	94.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.23*		*8.00*		*90.4*	*70-130*			
Matrix Spike Dup (2416085-MSD2)				**Source: E404142-02**					Prepared: 04/18/24 Analyzed: 04/18/24
Gasoline Range Organics (C6-C10)	47.0	20.0	50.0	ND	94.0	70-130	0.277	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.24*		*8.00*		*90.5*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/19/2024 12:04:18PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2416088-BLK1)									Prepared: 04/18/24 Analyzed: 04/18/24
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*63.4*		*50.0*		*127*	*50-200*			
LCS (2416088-BS1)									Prepared: 04/18/24 Analyzed: 04/19/24
Diesel Range Organics (C10-C28)	312	25.0	250		125	38-132			
Surrogate: n-Nonane	*59.4*		*50.0*		*119*	*50-200*			
Matrix Spike (2416088-MS1)				**Source: E404146-01**					Prepared: 04/18/24 Analyzed: 04/18/24
Diesel Range Organics (C10-C28)	21700	500	250	22100	NR	38-132			M4
Surrogate: n-Nonane	*62.6*		*50.0*		*125*	*50-200*			
Matrix Spike Dup (2416088-MSD1)				**Source: E404146-01**					Prepared: 04/18/24 Analyzed: 04/18/24
Diesel Range Organics (C10-C28)	24200	500	250	22100	839	38-132	10.6	20	M4
Surrogate: n-Nonane	*62.1*		*50.0*		*124*	*50-200*			

QC Summary Data

Hilcorp Energy Co	Project Name:	Riverine 1	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/19/2024 12:04:18PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2416092-BLK1)									Prepared: 04/18/24 Analyzed: 04/18/24
Chloride	ND	20.0							
LCS (2416092-BS1)									Prepared: 04/18/24 Analyzed: 04/18/24
Chloride	252	20.0	250		101	90-110			
Matrix Spike (2416092-MS1)				**Source: E404146-01**					Prepared: 04/18/24 Analyzed: 04/18/24
Chloride	11800	200	250	12200	NR	80-120			M4
Matrix Spike Dup (2416092-MSD1)				**Source: E404146-01**					Prepared: 04/18/24 Analyzed: 04/18/24
Chloride	11300	200	250	12200	NR	80-120	4.39	20	M4

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Definitions and Notes

Hilcorp Energy Co	Project Name:	Riverine 1	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	04/19/24 12:04

M4	Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite
DNR	Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Chain of Custody

Client Information	Invoice Information	Lab Use Only	TAT	State
Client: Hilcorp Energy Co	Company:	Lab WO# E404142	Job Number 17051-0002	1D 2D 3D Std: X	NM X CO UT TX
Project Name: Riverine 1	Address:			
Project Manager: Mitch Killough	City, State, Zip:			
Address:	Phone:			
City, State, Zip:	Email:			
Phone:	Miscellaneous:			
Email: mKillough@hilcorp.com				

Sample Information

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals	Cation/Anion Pkg			Remarks
11:00	4-17-24	soil	1	CSW 02 @ 3'-4'		1	X	X	X		X							
11:05	4-17-24	soil	1	FS 02 @ 4.5'-6'		2	X	X	X		X							

Analysis and Method

EPA Program

SDWA	CWA	RCRA

Compliance Y or N

PWSID #

Additional Instructions: cc: shyde@ensolum.com, dburns@ensolum.com

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: Danny Burns

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	4-17-24	13:07	Raiq Lang	4/17/24	13:07
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6°C on subsequent days.

Lab Use Only

Received on ice: (Y) / N

T1 _____ T2 _____ T3 _____

AVG Temp °C 4

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other _____

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, v - VOA

Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

Envirotech Analytical Laboratory

Printed: 4/17/2024 2:30:18PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Hilcorp Energy Co	Date Received:	04/17/24 13:07	Work Order ID:	E404142
Phone:	-	Date Logged In:	04/17/24 14:21	Logged In By:	Alexa Michaels
Email:	mkillough@hilcorp.com	Due Date:	04/18/24 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: Danny Burns
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

Comments/Resolution

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?	Yes

Sample Cooler

7. Was a sample cooler received?	Yes
8. If yes, was cooler received in good condition?	Yes
9. Was the sample(s) received intact, i.e., not broken?	Yes
10. Were custody/security seals present?	No
11. If yes, were custody/security seals intact?	NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes
13. If no visible ice, record the temperature. Actual sample temperature: 4°C	

Sample Container

14. Are aqueous VOC samples present?	No
15. Are VOC samples collected in VOA Vials?	NA
16. Is the head space less than 6-8 mm (pea sized or less)?	NA
17. Was a trip blank (TB) included for VOC analyses?	NA
18. Are non-VOC samples collected in the correct containers?	Yes
19. Is the appropriate volume/weight or number of sample containers collected?	Yes

Field Label

20. Were field sample labels filled out with the minimum information:	
Sample ID?	Yes
Date/Time Collected?	Yes
Collectors name?	Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved?	No
22. Are sample(s) correctly preserved?	NA
24. Is lab filteration required and/or requested for dissolved metals?	No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase?	No
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date

envirotech Inc.

ENSOLUM

APPENDIX D

ENSOLUM

Photographic Log
Hilcorp Energy Company
Riverine 1
napp2406120215

Photograph: 1 Date: 3/22/2024
Description: Excavation activities on March 22, 2024
View: Southwest

Photograph: 2 Date: 4/4/2024
Description: Expanded excavation on April 4, 2024
View: West

Photograph: 3 Date: 4/10/2024
Description: Hand auger borehole BH02
View: South

Photograph: 4 Date: 4/17/2024
Description: Additional excavation on April 17, 2024
View: North

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS

Action 343539

QUESTIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 343539
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2406120215**
Incident Name	**NAPP2406120215 RIVERINE 1 @ 30-045-29344**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-045-29344] RIVERINE #001**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	RIVERINE 1
Date Release Discovered	02/21/2024
Surface Owner	Private

Incident 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 for 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: Corrosion | Tank (Any) | Produced Water | Released: 10 BBL | Recovered: 0 BBL | Lost: 10 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
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)	On 2/21/2024 at 10:00 am (MT), Hilcorp operations discovered a 9.5-bbl produced water release at the Riverine 1 in San Juan County, NM. Upon arriving on location for a routine check, the operator discovered produced water running from underneath the aboveground pit tank. After further inspection, it was determined that an equipment failure occurred at the pit tank due to a 2-inch pinhole leak at the bottom of the pit tank, most likely due to corrosion. Although the spilled fluids did not migrate horizontally outside of secondary containment, none of the fluids could be recovered since the secondary containment area is unlined. Area 2 operations will work with Integrity to assess the tank and re-coat.

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QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 343539
	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. 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 safety hazard that would result in injury.	
The source of the release has been stopped	True
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.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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: 05/13/2024

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QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 343539
	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 approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Less than or equal 25 (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 and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 300 and 500 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 100 and 200 (ft.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 500 and 1000 (ft.)
Any other fresh water well or spring	Between 300 and 500 (ft.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 500 and 1000 (ft.)
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	Zero feet, overlying, or within area
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 must 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 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 delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	598
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
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.	
On what estimated date will the remediation commence	03/11/2024
On what date will (or did) the final sampling or liner inspection occur	04/17/2024
On what date will (or was) the remediation complete(d)	04/17/2024
What is the estimated surface area (in square feet) that will be reclaimed	0
What is the estimated volume (in cubic yards) that will be reclaimed	0
What is the estimated surface area (in square feet) that will be remediated	200
What is the estimated volume (in cubic yards) that will be remediated	45
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 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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QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 343539
	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)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
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: 05/13/2024
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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QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 343539
	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

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QUESTIONS (continued)

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	Action Number: 343539
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**333235**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**04/17/2024**
What was the (estimated) number of samples that were to be gathered	**4**
What was the sampling surface area in square feet	**100**

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	200
What was the total volume (cubic yards) remediated	45
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)	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 17, 2024. 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.

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.

I hereby agree and sign off to the above statement	Name: Stuart Hyde Title: Senior Geologist Email: shyde@ensolum.com Date: 05/13/2024

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QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 343539
	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 343539

CONDITIONS

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	372171
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CONDITIONS

Created By	Condition	Condition Date
nvelez	None	5/31/2024