



October 9, 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: Remediation Report and Closure Request**

San Juan 27-5 Unit 111  
Rio Arriba County, New Mexico  
Hilcorp Energy Company  
NMOCD Incident Number: NAPP2300554747

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Remediation Report and Closure Request* associated with the release at the San Juan 27-5 Unit 111 natural gas production well (Site). The Site is located on New Mexico State Trust Land (STL) in Unit L, Section 2, Township 27 North, Range 5 West in Rio Arriba County, New Mexico (Figure 1).

**SITE BACKGROUND**

On December 21, 2022, Hilcorp discovered a release of 9.0 barrels (bbls) of produced water and 90.5 bbls of condensate due to corrosion at the bottom of the on-Site condensate aboveground storage tank (AST). Fluids stayed within the secondary containment berm, but none were recovered. Upon discovery, the tank was immediately emptied. The release volume was determined based on the operator's monthly tank gauging data. Hilcorp reported the release via email to the New Mexico Oil Conservation Division (NMOCD) on December 22, 2022, and subsequently submitted a Form C-141, *Release Notification* to the NMOCD on January 5, 2023. The release was assigned NMOCD Incident Number NAPP2300554747.

Pothole and drilling activities were performed in December 2022, January 2023, and May 2023 in attempts to delineate the lateral and vertical extents of soil impacts at the Site. Based on the results gathered during these activities, a *Site Investigation Report and Remediation Work Plan*, dated June 20, 2023, was prepared summarizing activities performed to date and recommending pilot testing soil vapor extraction (SVE) techniques to remediate subsurface impacts at the Site. Ensolum performed the SVE pilot test on July 14, 2023. Based on the pilot test results, SVE was determined to be infeasible at the Site due to insufficient subsurface airflow and vacuum response between the extraction and observation wells. As such, Hilcorp moved forward with additional delineation activities at the Site which were completed in November 2023 to further delineate impacts from the release.



Details regarding all previous sampling/delineation efforts and presentation of the Site characterization information, including a sensitive receptor and geology/hydrogeology review are summarized in the June 2023 *Site Investigation Report and Remediation Work Plan* and March 2024 *Updated Remediation Work Plan*.

## SITE CHARACTERIZATION AND CLOSURE CRITERIA

As presented in the June 2023 *Site Investigation Report and Remediation Work Plan*, the following Closure Criteria for constituents of concern (COCs) have been applied to the Site.

- Total Petroleum Hydrocarbons (TPH) as a combination of gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO): 2,500 mg/kg
- TPH-GRO + TPH-DRO: 1,000 mg/kg
- A combination of benzene, toluene, ethylbenzene, and xylenes (BTEX): 50 mg/kg
- Benzene: 10 mg/kg

Portions of the release impacted soil in off-pad, undisturbed locations and as such, a reclamation requirement of 100 mg/kg TPH was applied to the top 4 feet of the off-pad area that was impacted by the release per Title 19, Chapter 15, Part 29, Subpart 13.D(1) of the New Mexico Administrative Code (NMAC).

## EXCAVATION AND CONFIRMATION SOIL SAMPLING ACTIVITIES

Because of the areal extent of impacts, volume of impacted soil, and remote location of the Site, soil shredding was utilized to remediate impacted soil at the Site. Soil shredding is an ex-situ and on-site treatment of impacted soil through which impacted material is chemically treated using a chemical oxidant (hydrogen peroxide) applied to the soil. Impacted material is excavated from the ground using standard construction techniques and placed onto a soil screening unit using a special shredding bucket. The impacted soil is conveyed by the screening unit and chemical treatment is applied simultaneously. The treated soil is then placed in 100 cubic yard stockpiles and allowed to process for 24 to 48 hours in order for the oxidant to degrade the petroleum hydrocarbon contaminants in the soil. Notification to the New Mexico State Land Office (NMSLO) was provided prior to moving remediation equipment to the Site, as requested by the NMSLO (attached in Appendix A).

Based on delineation activities previously performed at the Site, clean overburden soil was stockpiled at the Site to be used for eventual backfill material. Impacted soil was excavated and treated as stated above and was stockpiled in the areas on the well pad. As soil was removed, the excavation sidewalls and floors were field screened using a photoionization detector (PID). Once field screening indicated impacted soil had been removed, 5-point composite samples were collected from the sidewalls and floor of the excavation at a frequency of one sample per 400 square feet, as approved by the NMOCD. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The 5-point composite samples were collected into laboratory-provided jars and immediately placed on ice. Samples were submitted to Envirotech Laboratory or Eurofins Environment Testing (Eurofins) for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B, TPH-GRO, TPH-DRO, and TPH-MRO following EPA Method 8015M/D. Notifications were provided to the NMOCD prior to sampling activities and are also attached as Appendix A.

Analytical results from the excavation indicated concentrations of TPH and BTEX were compliant with NMOCD Table I Closure Criteria in all confirmation samples. Additionally, concentrations of



TPH and BTEX collected from sidewalls between ground surface and 4 feet bgs were compliant with the NMOCD reclamation requirement. Excavation sample locations are indicated on Figure 2. In total, approximately 2,050 cubic yards of impacted soil was removed and treated. Soil sample results are summarized in Table 1, with complete laboratory analytical reports attached as Appendix B. Photographs taken by Ensolum during the excavation work are included in Appendix C.

## SOIL SHREDDING STOCKPILE AND VADOSE ZONE SOIL SAMPLING ACTIVITIES

Once treated, 5-point composite samples were collected for analysis from each 100 cubic yard stockpile (TSP01 through TSP21). The 5-point composite samples were collected in the manner described above and submitted to Eurofins for TPH and BTEX analysis. Based on analytical results, only treated stockpile TSP15 initially contained concentrations of COCs above the NMOCD Table I Closure Criteria. As such, stockpile TSP15 was allowed to process for an additional 4 days prior to resampling. Sample TSP15A was recollected from this stockpile on June 25, 2024 and indicated that TPH and BTEX concentrations were compliant with the NMOCD Table I Closure Criteria. Soil sample results are summarized in Table 2, with complete laboratory analytical reports attached in Appendix B.

Once the treated stockpile soil was removed from the ground surface and placed back into the excavation as backfill, vadose zone soil from below the treatment areas were sampled to assess if petroleum-hydrocarbon constituents had leached into the subsurface during the treatment process. One 5-point composite soil sample was collected from beneath each treatment stockpile (shown on Figure 3) from depths between ground surface and 1-foot bgs. Samples VZ01 through VZ21 were collected using the manner described above and also submitted for TPH and BTEX analysis. Analytical results from all vadose zone samples indicated concentrations of TPH and BTEX were compliant with the NMOCD reclamation requirement. Soil sample results are summarized in Table 3, with complete laboratory analytical reports attached in Appendix B.

## RECLAMATION PLAN

During the excavation, clean topsoil and overburden material located in off-pad areas were removed, segregated, and stockpiled in order to reuse for backfill and reclamation once the excavation was complete. Once confirmation soil samples from both the excavation and treated soil met NMOCD Table I Closure Criteria, the excavation was backfilled using the treated soil from the excavation terminus up to a depth of 4 feet bgs. Clean overburden and topsoil stockpiled during the excavation was placed from 4 feet bgs to the ground surface for reclamation purposes and the ground was recontoured to match pre-existing Site conditions. Facilities on the well pad will be placed back in their previous locations.

The release migrated from the well pad, through the subsurface, and to the west of the well pad. As such, a reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of soil in the off-pad area per 19.15.29.13.D (1) NMAC. The following Reclamation Plan addresses reclamation of the off-pad area:

- The excavation was backfilled with the treated soil up to a depth of 4 feet bgs. Clean overburden and topsoil stockpiled during the excavation was placed from 4 feet bgs to the ground surface.
- The backfilled areas will be seeded utilizing a weed-free seed mix designed by the United States Bureau of Land Management (BLM) to meet reclamation standards for this region, which will be:



Common Name	Scientific Name	Drilled Application Rate* (pounds/acre)
Indian Ricegrass	<i>Oryzopsis hymenoides</i>	3
Squirrel tail	<i>Elymus elymoides</i>	2
Western Wheatgrass	<i>Pascopyrum smithii</i>	2
Sand Dropseed	<i>Sporobolus cryptandrus</i>	1
Winterfat	<i>Krascheninnikovia lanata</i>	0.5
Sagebrush	<i>Artemisia tridentata</i>	0.1

\*These are drilled rates. These rates shall be doubled for broadcast seeding.

- Weed-free seeds will be planted in the amount specified in pounds of pure live seed (PLS) per acre. Seeding rate should be doubled for broadcast application. Re-vegetation will be initiated as soon as practical following approval of this report.
- The preferred seeding method is rangeland drill. In areas with slopes greater than 3%, imprinting of the seed bed is recommended. Imprinting can be in the form of dozer tracks or furrows perpendicular to the direction of slope. When hydro-seeding or mulching, imprinting should be done prior to seeding unless the mulch is to be crimped into the soil surface. If mulch is used, seeded areas would be covered with straw or hay at a rate of 1.5 tons per acre. If broadcast seeding and harrowing are necessary, imprinting should be done as part of the harrowing. Furrowing can be done by several methods, the simplest of which is to drill seed perpendicular to the direction of slope in a prepared bed. Other simple imprinting methods include deep hand raking and harrowing, always perpendicular to the direction of slope.
- Erosion control best management practices (BMP) will be utilized as necessary to support timely and healthy regrowth of vegetation in disturbed areas.
- Seeding is anticipated to be completed by the Spring of 2025.
- Annual inspections (at a minimum) will take place on the location until revegetation is consistent with local natural vegetation density. The Site will be inspected the following Spring to assess the success of regrowth. If necessary, an additional application of the pure live seed mixture will be applied and any needed BMPs will be installed to support growth and limit erosion.
- The NMSLO will be notified upon completion of revegetation activities.

## CLOSURE REQUEST

Corrective actions and soil sampling activities were conducted at the Site to address the release discovered on December 21, 2022. Laboratory analytical results for the confirmation soil samples, collected from the final extents of the excavation, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement (where applicable) and no further remediation is required. Additionally, all soil samples collected from the treated stockpiles and the vadose zone below the treatment stockpiles were also compliant with the applicable Site Closure Criteria and the reclamation requirement. The corrective action initiated by Hilcorp has mitigated impacts at this Site and these remedial actions have been protective of human health, the environment, and groundwater. As such, Hilcorp respectfully request closure for Incident Number NAPP2300554747.



Hilcorp Energy Company  
Remediation Report and Closure Request  
San Juan 27-5 Unit 111

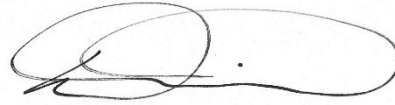
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We appreciate the opportunity to provide this report to the NMOCD and SLO. If you should have any questions or comments regarding this document, please contact the undersigned.

Sincerely,  
**Ensolum, LLC**



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



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

**Attachments:**

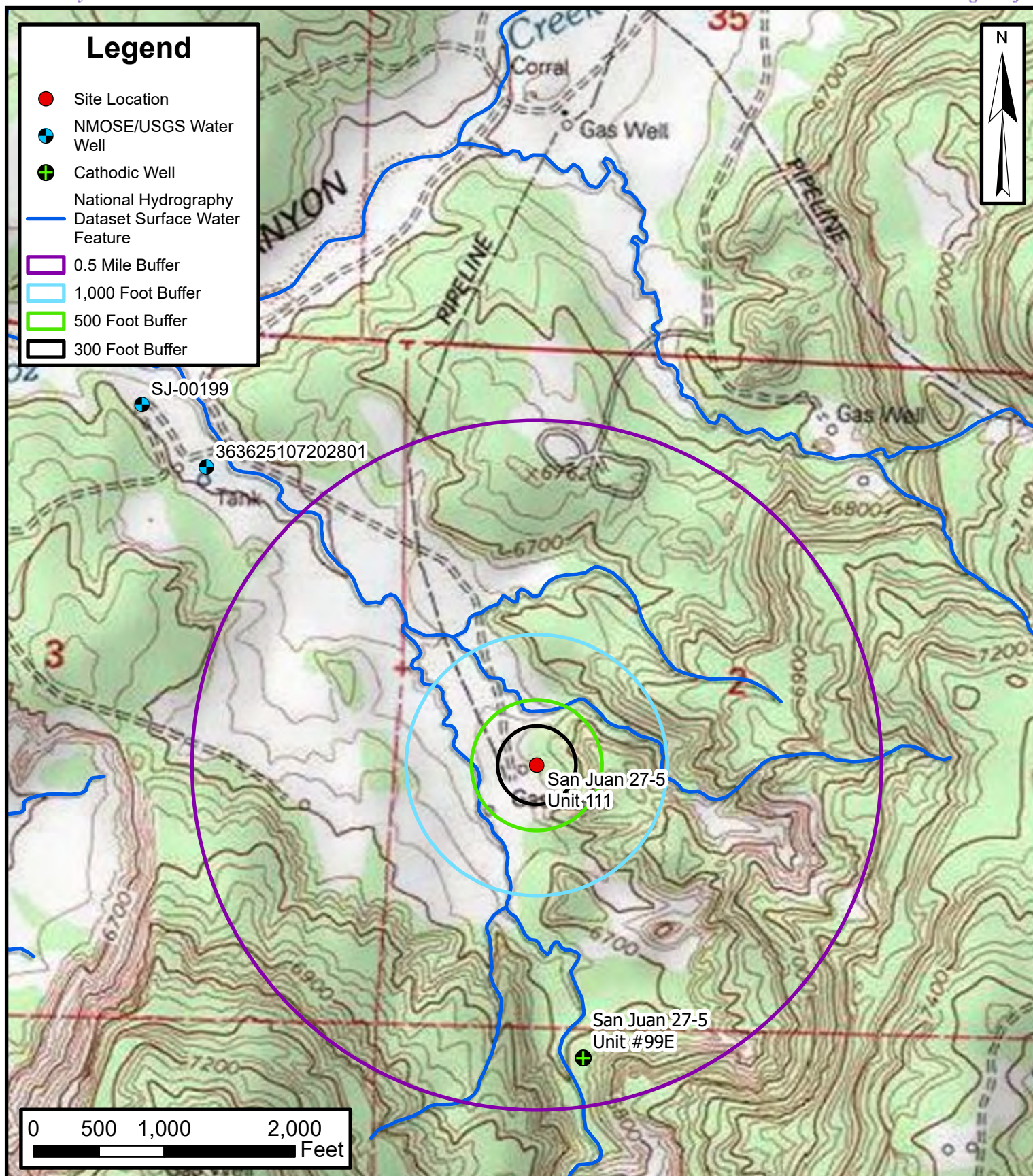
- Figure 1: Site Receptor Map
- Figure 2: Excavation Soil Sample Locations
- Figure 3: Vadose Zone Soil Sample Locations
  
- Table 1: Excavation Soil Sample Analytical Results
- Table 2: Treated Stockpile Soil Sample Analytical Results
- Table 3: Treatment Area Vadose Zone Soil Sample Analytical Results
  
- Appendix A: Agency Notifications
- Appendix B: Laboratory Analytical Reports
- Appendix C: Photographic Log





FIGURES



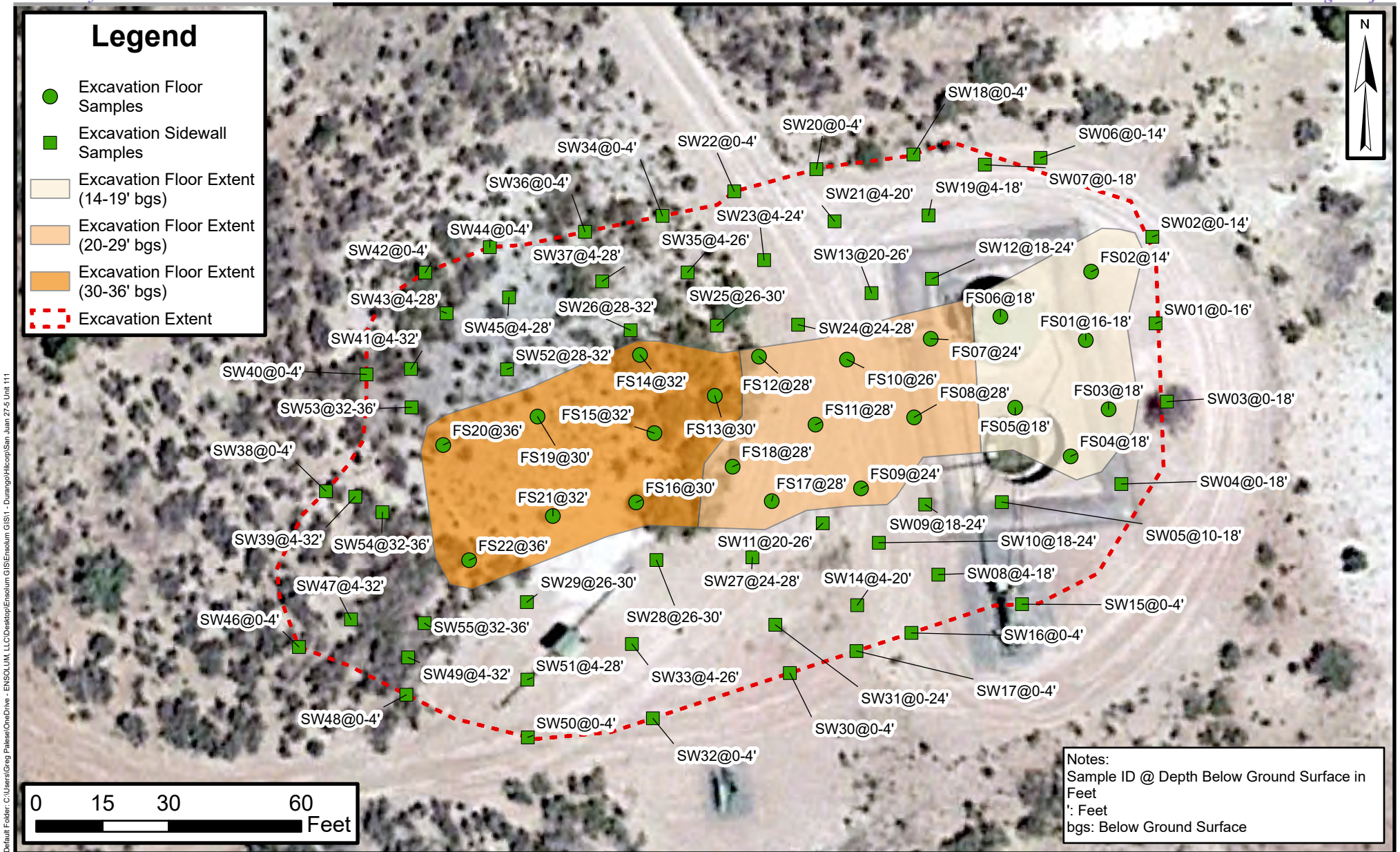


## Site Receptor Map

San Juan 27-5 Unit 111  
 Hilcorp Energy Company  
 Unit L, Sec 2, T27N, R5W  
 36.60065, -107.332672  
 Rio Arriba County, New Mexico

FIGURE  
 1





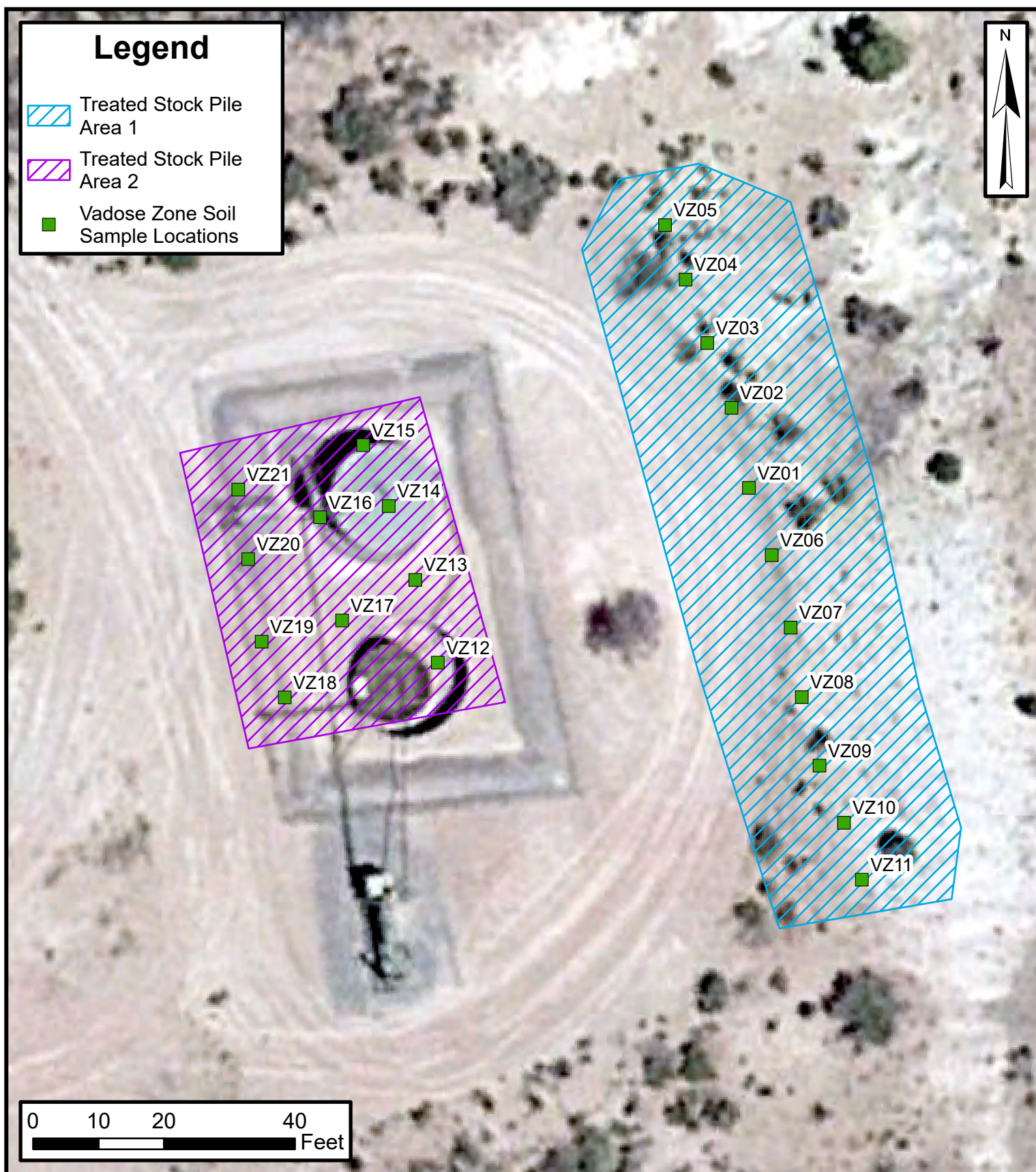
## Excavation Soil Sample Locations

San Juan 27-5 Unit 111  
Hilcorp Energy Company

Unit L, Sec 2, T27N, R5W  
36.60065, -107.332672  
Rio Arriba County, New Mexico

FIGURE  
**2**





## Vadose Zone Soil Sample Locations

San Juan 27-5 Unit 111  
Hilcorp Energy Company  
Unit L, Sec 2, T27N, R5W  
36.60065, -107.332672  
Rio Arriba County, New Mexico

FIGURE  
3





TABLES





**TABLE 1**  
**EXCAVATION SOIL SAMPLE ANALYTICAL RESULTS**  
 San Juan 27-5 Unit 111  
 Hilcorp Energy Company  
 Rio Arriba County, New Mexico

Sample Identification	Date	Depth (feet bgs)	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)	GRO+DRO (mg/kg)	Total TPH (mg/kg)
NMOCD Closure Criteria for Soils Impacted by a Release			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500
Excavation Floor Samples												
FS01	5/14/2024	16 - 18	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0
FS02	5/15/2024	14	<0.0250	0.028	<0.0250	0.139	0.1670	<20.0	<25.0	<50.0	<25.0	<50.0
FS03	5/16/2024	18	0.0432	0.733	0.1250	2.02	2.9212	24.8	133	<50.0	157.8	157.8
FS04	5/16/2024	18	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0
FS05	5/17/2024	18	<0.0250	<0.0250	<0.0250	0.141	0.141	<20.0	25.7	<50.0	25.7	25.7
FS06	5/17/2024	18	<0.0250	<0.0250	<0.0250	0.317	0.317	<20.0	29.8	<50.0	29.8	29.8
FS07	5/30/2024	24	<0.034	<0.067	<0.067	<0.13	<0.13	<6.7 F1	<8.5	<42	<8.5	<42
FS08	5/30/2024	28	<0.037	<0.073	<0.073	<0.15	<0.15	<7.3	<9.2	<46	<9.2	<46
FS09	5/30/2024	24	<0.019	<0.038	<0.038	0.11	0.11	<3.8	10	<43	10	10
FS10	5/30/2024	26	0.050	0.160	<0.033	0.17	0.380	<3.3	<9.6	<48	<9.6	<48
FS11	5/30/2024	28	0.039	0.180	0.055	0.84	1.114	9.1	14	<49	23.1	23.1
FS12	6/10/2024	28	<0.043	<0.085	<0.085	<0.17	<0.17	<8.5 F1	<9.8	<49	<9.8	<49
FS13	6/10/2024	30	<0.042	<0.084	<0.084	<0.17	<0.17	<8.4	<8.7	<43	<8.7	<43
FS14	6/10/2024	32	<0.042	<0.084	<0.084	<0.17	<0.17	<8.4	<9.8	<49	<9.8	<49
FS15	6/10/2024	32	<0.023	<0.047	<0.047	<0.093	<0.093	<4.7	<10	<50	<10	<50
FS16	6/10/2024	30	<0.022	<0.043	<0.043	0.12	0.12	12	19	<47	31	31
FS17	6/10/2024	28	<0.025	<0.050	<0.050	0.11	0.11	12	15	<49	27	27
FS18	6/10/2024	28	<0.019	0.051	0.041	0.24	0.332	16	17	<46	33	33
FS19	6/11/2024	30	<0.022	<0.044	<0.044	<0.088	<0.088	<4.4	<8.6	<43	<8.6	<43
FS20	6/11/2024	36	<0.022	<0.045	<0.045	<0.089	<0.089	<4.5	<8.5	<43	<8.5	<43
FS21	6/11/2024	32	<0.017	0.067	0.13	1.3	1.497	38	110	<47	148	148
FS22	6/11/2024	36	<0.089	<0.18	<0.18	0.50	0.50	28	130	<45	158	158
Excavation Sidewall Samples												
SW01	5/14/2024	0 - 16	<0.0250	<0.0250	<0.0250	0.168	0.168	<20.0	39.0	<50.0	39.0	39.0
SW02	5/15/2024	0 - 14	<0.0250	0.0530	<0.0250	0.258	0.3110	<20.0	<25.0	<50.0	<25.0	<50.0
SW03	5/16/2024	0 - 18	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0
SW04	5/16/2024	0 - 18	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0
SW05	5/17/2024	10 - 18	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0
SW06	5/17/2024	0 - 14	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0
SW07	5/17/2024	0 - 18	<0.0250	<0.0250	<0.0250	1.82	1.82	38.9	87.0	<50.0	125.9	125.9
SW08	5/30/2024	4 - 18	<0.021	0.056	0.052	0.63	0.738	15	<9.7	<48	15	15
SW09	5/30/2024	18 - 24	<0.021	<0.042	<0.042	<0.084	<0.084	<4.2	<9.4	<47	<9.4	<47
SW10	5/30/2024	18 - 24	<0.017	<0.034	<0.034	<0.068	<0.068	<3.4	<8.9	<45	<8.9	<45
SW11	5/30/2024	20 - 26	<0.018	<0.037	<0.037	<0.073	<0.073	<3.7	<8.8	<44	<8.8	<44
SW12	5/30/2024	18 - 24	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	<9.1	<45	<9.1	<45
SW13	5/30/2024	20 - 26	<0.017	<0.035	<0.035	<0.069	<0.069	<3.5	9.9	<50	9.9	9.9
SW14	5/30/2024	4 - 20	<0.018	<0.035	<0.035	<0.070	<0.070	<3.5	<9.8	<49	<9.8	<49
SW15	5/30/2024	0 - 4	<0.022	<0.044	<0.044	0.21	0.21	14	<9.2	<46	14	14
SW16	5/30/2024	0 - 4	<0.023	<0.045	<0.045	<0.090	<0.090	<4.5	<8.9	<45	<8.9	<45
SW17	5/30/2024	0 - 4	<0.020	<0.040	<0.040	<0.079	<0.079	<4.0	<9.5	<48	<9.5	<48
SW18	5/30/2024	0 - 4	<0.026	<0.052	<0.052	<0.10	<0.10	<5.2	<9.2	<46	<9.2	<46
SW19	5/30/2024	4-18	<0.020	<0.039	<0.039	<0.079	<0.079	<3.9	<9.7	<49	<9.7	<49
SW20	5/30/2024	0 - 4	<0.019	<0.037	<0.037	<0.074	<0.074	<3.7	<9.0	<45	<9.0	<45
SW21	5/30/2024	4 - 20	<0.021	<0.043	<0.043	<0.086	<0.086	<4.3	<9.0	<45	<9.0	<45
SW22	5/30/2024	0 - 4	<0.021	<0.042	<0.042	<0.085	<0.085	<4.2	<8.9	<44	<8.9	<44





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**EXCAVATION SOIL SAMPLE ANALYTICAL RESULTS**  
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Sample Identification	Date	Depth (feet bgs)	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)	GRO+DRO (mg/kg)	Total TPH (mg/kg)
<b>NMOCD Closure Criteria for Soils Impacted by a Release</b>			<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>
SW23	5/30/2024	4 - 24	<0.021	<0.041	<0.041	<0.083	<0.083	<4.1	<9.6	<48	<9.6	<48
SW24	6/10/2024	24 - 28	0.070	0.64	1.8	9.2	11.71	140	67	<44	207	207
SW25	6/10/2024	26 - 30	<0.022	<0.045	<0.045	<0.089	<0.089	<4.5	<9.6	<48	<9.6	<48
SW26	6/10/2024	28 - 32	<0.020	<0.040	<0.040	<0.080	<0.080	<4.0	<9.7	<48	<9.7	<48
SW27	6/10/2024	24 - 28	<0.018	<0.036	<0.036	<0.071	<0.071	<3.6	<9.1	<45	<9.1	<45
SW28	6/10/2024	26 - 30	<0.018	0.037	<0.036	0.36	0.397	10	15	<44	25	25
SW29	6/10/2024	26 - 30	<0.019	<0.038	<0.038	0.12	0.12	5.6	19	<46	24.6	24.6
SW30	6/10/2024	0 - 4	<0.019	<0.037	0.046	0.13	0.176	<3.7	<9.5	<48	<9.5	<48
SW31	6/10/2024	4-24	<0.018	0.045	<0.036	0.11	0.155	<3.6	<9.3	<46	<9.3	<46
SW32	6/10/2024	0 - 4	<0.017	<0.034	<0.034	0.089	0.089	<3.4	<9.2	<46	<9.2	<46
SW33	6/10/2024	4 - 26	<0.020	<0.040	<0.040	<0.080	<0.080	<4.0	<8.8	<44	<8.8	<44
SW34	6/10/2024	0 - 4	<0.018	<0.036	<0.036	<0.071	<0.071	<3.6	<8.5	<43	<8.5	<43
SW35	6/10/2024	4 - 26	<0.017	<0.034	<0.034	<0.069	<0.069	<3.4	<9.7	<48	<9.7	<48
SW36	6/10/2024	0 - 4	<0.019	<0.037	<0.037	<0.075	<0.075	<3.7	<9.3	<46	<9.3	<46
SW37	6/10/2024	4 - 28	<0.017	<0.035	<0.035	<0.069	<0.069	<3.5	<9.6	<48	<9.6	<48
SW38	6/11/2024	0 - 4	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.0	<45	<9.0	<45
SW39	6/11/2024	4 - 32	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	15	<48	15	15
SW40	6/11/2024	0 - 4	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.7	<49	<9.7	<49
SW41	6/11/2024	4 - 32	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.3	<47	<9.3	<47
SW42	6/11/2024	0 - 4	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<9.5	<47	<9.5	<47
SW43	6/11/2024	4 - 28	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<9.1	<46	<9.1	<46
SW44	6/11/2024	0 - 4	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<9.8	<49	<9.8	<49
SW45	6/11/2024	4 - 28	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.9	<50	<9.9	<50
SW46	6/11/2024	0 - 4	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<9.4	<47	<9.4	<47
SW47	6/11/2024	4 - 32	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	50	<46	50	50
SW48	6/11/2024	0 - 4	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.3	<46	<9.3	<46
SW49	6/11/2024	4 - 32	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	<9.5	<48	<9.5	<48
SW50	6/11/2024	0 - 4	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.2	<46	<9.2	<46
SW51	6/11/2024	4 - 28	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<8.6	<43	<8.6	<43
SW52	6/11/2024	28 - 32	<0.018	<0.035	<0.035	0.13	0.13	11	53	<48	64	64
SW53	6/11/2024	32 - 36	<0.093	<0.19	<0.19	<0.37	<0.37	<19	69	<46	69	69
SW54	6/11/2024	32 - 36	<0.10	<0.20	<0.20	0.75	0.75	68	14	<45	82	82
SW55	6/11/2024	32 - 36	<0.087	<0.17	<0.17	0.38	0.38	40	120	<47	160	160

**Notes:**

bgs: Below ground surface

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

mg/kg: Milligrams per kilogram

NE: Not Established

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

&lt;: Indicates result less than the stated laboratory reporting limit (RL)

F1: MS and/or MSD recovery exceeds control limits.





**TABLE 2**  
**TREATED STOCKPILE SOIL SAMPLE ANALYTICAL RESULTS**  
 San Juan 27-5 Unit 111  
 Hilcorp Energy Company  
 Rio Arriba County, New Mexico

Sample Identification	Date	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)	GRO+DRO (mg/kg)	Total TPH (mg/kg)
<b>NMOCDClosure Criteria for Soils Impacted by a Release</b>		<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>
TSP01	5/22/2024	<0.016	<0.032	0.10	0.071	0.171	24	30	<47	54	54
TSP02	5/22/2024	<0.017	<0.034	0.098	<0.067	0.098	21	51	<44	72	72
TSP03	5/23/2024	<0.020	<0.040	0.12	0.10	0.22	23	72	<44	95	95
TSP04	5/23/2024	<0.021	<0.041	0.082	0.089	0.171	18	63	<46	81	81
TSP05	5/23/2024	<0.020	<0.040	0.15	0.17	0.32	32	54	<50	86	86
TSP06	5/23/2024	<0.027	<0.054	0.11	<0.11	0.11	24	53	<45	77	77
TSP07	5/23/2024	<0.021	<0.043	0.12	0.11	0.23	25	41	<46	66	66
TSP08	5/24/2024	<0.019	<0.038	0.078	<0.075	0.078	21 F1	35	<48	56	56
TSP09	5/24/2024	<0.018	<0.036	0.095	<0.073	0.095	25	47	<46	72	72
TSP10	5/24/2024	<0.019	<0.039	0.13	0.16	0.29	34	36	<47	70	70
TSP11	5/24/2024	<0.018	<0.037	0.12	<0.073	0.12	28	38	<47	66	66
TSP12	6/21/2024	0.031	0.86	0.52	7.1	8.511	170	44	<47	214	214
TSP13	6/21/2024	<0.033	0.12	0.39 F1	2.7	3.21	130	35	<50	165	165
TSP14	6/21/2024	<0.045	0.14	0.48	2.4	3.02	150	32	<49	182	182
TSP15*	6/21/2024	0.18	8.4	2.6	44	<b>55.18</b>	740	45	<49	785	785
TSP15A	6/25/2024	<0.033	0.088	0.49 F1	6.8	7.378	180	160	<48	340	340
TSP16	6/21/2024	<0.090	<0.18	0.44	4.1	4.54	150	94	<50	244	244
TSP17	6/21/2024	<0.081	2.0	1.4	23	26.4	490	130	<49	620	620
TSP18	6/21/2024	<0.036	0.12	0.47	6.2	6.79	190	130	<49	320	320
TSP19	6/21/2024	<0.090	0.58	0.69	7.5	8.77	220	79	<48	299	299
TSP20	6/21/2024	<0.037	0.18	0.48	6.4	7.06	190	86	<50	276	276
TSP21	6/21/2024	<0.035	0.069	0.24	1.4	1.709	78	70	<50	148	148

**Notes:**

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

mg/kg: Milligrams per kilogram

NE: Not Established

NMOCDClosure Criteria for Soils Impacted by a Release

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

MRO: Motor Oil/Lube Oil Range Organics

TPH: Total Petroleum Hydrocarbon

F1: MS and/or MSD recovery exceeds control limits

&lt;: 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

\*: Soil from TSP15 was allowed to process for additional time and resampled as TSP15A





<b>TABLE 3</b> <b>TREATMENT AREA VADOSE ZONE SOIL SAMPLE ANALYTICAL RESULTS</b> San Juan 27-5 Unit 111 Hilcorp Energy Company Rio Arriba County, New Mexico										
Sample Identification	Date	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)
NMOCD Reclamation Criteria for Soils Impacted by a Release		10	NE	NE	NE	50	NE	NE	NE	100
VZ01	7/10/2024	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<9.9	<50	<50
VZ02	7/10/2024	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	<9.9	<50	<50
VZ03	7/10/2024	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<9.9	<49	<49
VZ04	7/10/2024	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	<9.2	<46	<46
VZ05	7/10/2024	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	<9.8	<49	<49
VZ06	7/10/2024	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	10	<50	10
VZ07	7/10/2024	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	15	<46	15
VZ08	7/10/2024	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<10	<50	<50
VZ09	7/10/2024	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<9.3	<47	<47
VZ10	7/10/2024	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	<8.8	<44	<44
VZ11	7/10/2024	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<9.8	<49	<49
VZ12	7/10/2024	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	<9.6	<48	<48
VZ13	7/10/2024	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.8	<49	<49
VZ14	7/10/2024	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<9.7	<49	<49
VZ15	7/10/2024	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<9.1	<46	<46
VZ16	7/10/2024	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<9.4	<47	<47
VZ17	7/10/2024	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<10	<50	<50
VZ18	7/10/2024	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	<9.2	<46	<46
VZ19	7/10/2024	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.6	<48	<48
VZ20	7/10/2024	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	<9.7	<48	<48
VZ21	7/10/2024	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.7	<49	<49

**Notes:**

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

mg/kg: Milligrams per kilogram

NE: Not Established

NMOCD: New Mexico Oil Conservation Division

&lt;: Indicates result less than the stated laboratory reporting limit (RL)

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

MRO: Motor Oil/Lube Oil Range Organics

TPH: Total Petroleum Hydrocarbon





## APPENDIX A

### Agency Notifications

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**From:** [Stuart Hyde](#)  
**To:** [Knight, Tami C.](#); [Samantha Grabert](#); [Devin Hencmann](#)  
**Cc:** [Barnes, Will](#); [Elliott, April L.](#); [Griffin, Becky R.](#); [David, Deon W.](#); [Honea, Tammy](#); [Dustin Mace](#)  
**Subject:** RE: San Juan 27-5 Unit #111 Updated Remediation Work Plan \_NAPP2300554747- Approved  
**Date:** Monday, May 6, 2024 11:54:00 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image010.png](#)  
[image012.png](#)  
[image007.png](#)

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Tami,

Unlimited Construction will be mobilizing to the Hilcorp San Juan 27-5 Unit #111 site to start work on Monday May 13, 2024 to begin remediation activities described in our Updated Remediation Work Plan dated March 11, 2024. Please reach out with any questions or comments regarding the planned activities. Thanks!



**Stuart Hyde, PG**

(Licensed in WA/TX)

Senior Managing Geologist

970-903-1607

[Ensolum, LLC](#)

in f X

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

---

**From:** Knight, Tami C. <tknight@slo.state.nm.us>  
**Sent:** Friday, March 29, 2024 3:32 PM  
**To:** Stuart Hyde <shyde@ensolum.com>; Samantha Grabert <Samantha.Grabert@hilcorp.com>; Devin Hencmann <dhenemann@ensolum.com>  
**Cc:** Barnes, Will <wbarnes@slo.state.nm.us>; Elliott, April L. <aelliott@slo.state.nm.us>; Griffin, Becky R. <bgriffin@slo.state.nm.us>; David, Deon W. <ddavid@slo.state.nm.us>; Honea, Tammy <thonea@slo.state.nm.us>  
**Subject:** San Juan 27-5 Unit #111 Updated Remediation Work Plan \_NAPP2300554747- Approved

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

Stuart

Documentation of proposed remediation actions for the subject release incident was received from your office on March 12, 2024. The NMSLO Environmental Compliance Office (ECO) has reviewed the plan, and based on the information provided in the document received from your office, ECO has approved the remediation plan. Please submit a notification at least 5 business days prior to moving the remediation equipment on to the site.

Please submit the remediation closure report to [eco@slo.state.nm.us](mailto:eco@slo.state.nm.us).



Thank you

**Tami Knight, CHMM**  
*Environmental Specialist*  
NMSLO SRD-ECO  
505.670.1638  
[tknight@slo.state.nm.us](mailto:tknight@slo.state.nm.us)  
[nmstatelands.org](http://nmstatelands.org)

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---

**From:** Stuart Hyde <[shyde@ensolum.com](mailto:shyde@ensolum.com)>  
**Sent:** Wednesday, March 27, 2024 7:18 AM  
**To:** Knight, Tami C. <[tknight@slo.state.nm.us](mailto:tknight@slo.state.nm.us)>; Samantha Grabert <[Samantha.Grabert@hilcorp.com](mailto:Samantha.Grabert@hilcorp.com)>; Devin Hencmann <[dhencmann@ensolum.com](mailto:dhencmann@ensolum.com)>  
**Cc:** Barnes, Will <[wbarnes@slo.state.nm.us](mailto:wbarnes@slo.state.nm.us)>; Elliott, April L. <[aelliott@slo.state.nm.us](mailto:aelliott@slo.state.nm.us)>; Griffin, Becky R. <[bgriffin@slo.state.nm.us](mailto:bgriffin@slo.state.nm.us)>; David, Deon W. <[ddavid@slo.state.nm.us](mailto:ddavid@slo.state.nm.us)>; Honea, Tammy <[thonea@slo.state.nm.us](mailto:thonea@slo.state.nm.us)>  
**Subject:** [EXTERNAL] RE: San Juan 27-5 Unit #111 Updated Remediation Work Plan - ECO Questions

Tami,

The attached KMZ and page 8 of the cultural investigation show the area that was surveyed at the site. After speaking with the contractor, Unlimited Construction, we will have room to stay within the surveyed boundaries off pad and the well pad to dig and process/stage soil. Because of the topography at the site, we do not have a specific layout or plan as to where to stockpile and/or stage equipment at this time. That decision will most likely be made once they mobilize equipment to the site.

Let me know if you need any additional information at the moment. Thanks.

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





Ensolum, LLC  
in f t

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

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**From:** Knight, Tami C. <[tknight@slo.state.nm.us](mailto:tknight@slo.state.nm.us)>

**Sent:** Wednesday, March 20, 2024 3:10 PM

**To:** Stuart Hyde <[shyde@ensolum.com](mailto:shyde@ensolum.com)>; Samantha Grabert <[Samantha.Grabert@hilcorp.com](mailto:Samantha.Grabert@hilcorp.com)>; Devin Hencmann <[dhencmann@ensolum.com](mailto:dhencmann@ensolum.com)>

**Cc:** Barnes, Will <[wbarnes@slo.state.nm.us](mailto:wbarnes@slo.state.nm.us)>; Elliott, April L. <[aelliott@slo.state.nm.us](mailto:aelliott@slo.state.nm.us)>; Griffin, Becky R. <[bgriffin@slo.state.nm.us](mailto:bgriffin@slo.state.nm.us)>; David, Deon W. <[ddavid@slo.state.nm.us](mailto:ddavid@slo.state.nm.us)>; Honea, Tammy <[thonea@slo.state.nm.us](mailto:thonea@slo.state.nm.us)>

**Subject:** RE: San Juan 27-5 Unit #111 Updated Remediation Work Plan - ECO Questions

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

Stuart

Do you have a site layout plan for where the shredding equipment and stockpiles will be staged? Also, please remind me regarding the Cultural Compliance efforts, specifically the buffer that was used.

The 3 dimensional impact model is extremely helpful, that you for providing that image.

Thank you

Tami

---

**From:** Stuart Hyde <[shyde@ensolum.com](mailto:shyde@ensolum.com)>

**Sent:** Tuesday, March 12, 2024 12:08 PM

**To:** Knight, Tami C. <[tknight@slo.state.nm.us](mailto:tknight@slo.state.nm.us)>; SLO Spills <[spills@slo.state.nm.us](mailto:spills@slo.state.nm.us)>

**Cc:** Samantha Grabert <[Samantha.Grabert@hilcorp.com](mailto:Samantha.Grabert@hilcorp.com)>; Devin Hencmann <[dhencmann@ensolum.com](mailto:dhencmann@ensolum.com)>

**Subject:** [EXTERNAL] San Juan 27-5 Unit #111 Updated Remediation Work Plan

Tami,

Please find attached the Updated Remediation Work Plan for the San Juan 27-5 Unit #111 site operated by Hilcorp Energy Company. Please reach out with any questions or comments regarding the site or the work plan. This was also submitted to the NMOCD this morning for review and approval. Thanks and have a good afternoon.





**Stuart Hyde, PG**

(Licensed in WA/TX)

Senior Geologist

970-903-1607

**Ensolum, LLC**

**in f** 

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



**From:** [OCDOnline@state.nm.us](mailto:OCDOnline@state.nm.us)  
**To:** [Stuart Hyde](#)  
**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 341553  
**Date:** Tuesday, May 7, 2024 10:06:51 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#) nAPP2300554747.

The sampling event is expected to take place:

**When:** 05/13/2024 @ 08:00

**Where:** L-02-27N-05W 1830 FSL 1090 FWL (36.60034,-107.33217)

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

Excavation work will be ongoing starting May 13, 2024 and continuing through at least May 24, 2024. This sampling notification serves as the notification for work performed through these dates. If remediation work extends past May 24, 2024, an additional sampling notification will be submitted.

**Additional Instructions:** Hilcorp 27-5 #111 well pad, coordinates 36.600399, -107.332681

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](mailto:OCDOnline@state.nm.us)  
**To:** [Stuart Hyde](#)  
**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 346787  
**Date:** Wednesday, May 22, 2024 12:06:12 PM

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[ \*\*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#) nAPP2300554747.

The sampling event is expected to take place:

**When:** 05/27/2024 @ 09:00

**Where:** L-02-27N-05W 1830 FSL 1090 FWL (36.60034,-107.33217)

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

Excavation work began on May 13, 2024 and is estimated to continue through June 7, 2024. If remediation work extends past June 7, 2024, an additional sampling notification will be submitted.

**Additional Instructions:** Hilcorp 27-5 #111 well pad, coordinates 36.600399, -107.332681

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](mailto:OCDOnline@state.nm.us)  
**To:** [Stuart Hyde](#)  
**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 350745  
**Date:** Tuesday, June 4, 2024 1:11:17 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#) nAPP2300554747.

The sampling event is expected to take place:

**When:** 06/10/2024 @ 09:00

**Where:** L-02-27N-05W 1830 FSL 1090 FWL (36.60034,-107.33217)

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

Excavation work began on May 13, 2024 and is estimated to continue from June 10, 2024 through June 21, 2024. If remediation work extends past June 21, 2024, an additional sampling notification will be submitted.

**Additional Instructions:** Hilcorp 27-5 #111 well pad, coordinates 36.600399, -107.332681

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:** [Samantha Grabert](#)  
**Subject:** Re: [EXTERNAL] nAPP2300554747 - Sampling Notification Variance Request  
**Date:** Tuesday, June 25, 2024 2:00:29 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[Outlook-ijm2qn1l.png](#)

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

Good afternoon Stuart,

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

Please submit the sampling notification as soon as possible & note this variance request.

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

The OCD requires a copy of all correspondence relative to remedial activities be included in all proposals and/or final closure reports. Correspondence required to be included in reports may include, but not limited to, notifications for liner inspections, sample events, spill/release/fire, and request for time extensions or variances.

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](mailto:nelson.velez@emnrd.nm.gov)  
<http://www.emnrd.nm.gov/oecd>



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**From:** Stuart Hyde <[shyde@ensolum.com](mailto:shyde@ensolum.com)>  
**Sent:** Tuesday, June 25, 2024 1:56 PM  
**To:** Velez, Nelson, EMNRD <[Nelson.Velez@emnrd.nm.gov](mailto:Nelson.Velez@emnrd.nm.gov)>



**Cc:** Samantha Grabert <Samantha.Grabert@hilcorp.com>

**Subject:** [EXTERNAL] nAPP2300554747 - Sampling Notification Variance Request

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

Nelson,

We received our final treated stockpile analytical results and there was one stockpile with a BTEX just exceeding the standard (~60 mg/kg). All other constituents are below the standards for other analytes and in all of the other sampled stockpiles. We just happen to have someone in the area that is able to resample that stockpile today after it has had several days for the chemical oxidant to continue breaking down the TPH and BTEX and they have returned the pile (stockpiles were treated last Thursday and sampled on Friday). As such, 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 resample that stockpile today.

Please reach out with any questions or comments. Thanks.



**Stuart Hyde, PG**

(Licensed in WA/TX)

Senior Managing Geologist

970-903-1607

[Ensolum, LLC](#)

in f X

*"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:** Tuesday, June 25, 2024 1:52 PM

**To:** Stuart Hyde <shyde@ensolum.com>

**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 357420

**[ \*\*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#) nAPP2300554747.

The sampling event is expected to take place:

**When:** 06/25/2024 @ 15:00

**Where:** L-02-27N-05W 1830 FSL 1090 FWL (36.60034,-107.33217)

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

**Additional Instructions:** Hilcorp 27-5 #111 well pad, coordinates 36.600399, -107.332681

Due to the need to resample a stockpile with BTEX exceedances, 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 resample at the San Juan 27-5 #111 site on June 25, 2024.

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](mailto:OCDOnline@state.nm.us)  
**To:** [Stuart Hyde](#)  
**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 357420  
**Date:** Tuesday, June 25, 2024 1:52:21 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#) nAPP2300554747.

The sampling event is expected to take place:

**When:** 06/25/2024 @ 15:00

**Where:** L-02-27N-05W 1830 FSL 1090 FWL (36.60034,-107.33217)

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

**Additional Instructions:** Hilcorp 27-5 #111 well pad, coordinates 36.600399, -107.332681

Due to the need to resample a stockpile with BTEX exceedances, 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 resample at the San Juan 27-5 #111 site on June 25, 2024.

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:** [Samantha Grabert](#); [Danny Burns](#)  
**Subject:** Re: [EXTERNAL] FW: The Oil Conservation Division (OCD) has accepted the application, Application ID: 360171  
**Date:** Tuesday, July 2, 2024 8:34:57 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[Outlook-lj3virnx.png](#)

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[ \*\*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.

The OCD requires a copy of all correspondence relative to remedial activities be included in all proposals and/or final closure reports. Correspondence required to be included in reports may include, but not limited to, notifications for liner inspections, sample events, spill/release/fire, and request for time extensions or variances.

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](mailto:nelson.velez@emnrd.nm.gov)  
<http://www.emnrd.nm.gov/o cd>





**From:** Stuart Hyde <shyde@ensolum.com>  
**Sent:** Monday, July 1, 2024 2:47 PM  
**To:** Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>  
**Cc:** Samantha Grabert <Samantha.Grabert@hilcorp.com>; Danny Burns <dburns@ensolum.com>  
**Subject:** [EXTERNAL] FW: The Oil Conservation Division (OCD) has accepted the application, Application ID: 360171

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

Nelson,

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 the final confirmation samples from the treatment stockpile area on July 3, 2024. The contractor is finishing the final backfill and grading today through Wednesday and will likely be ready for final sampling on Wednesday prior to leaving the site. Please reach out with any questions. Thanks.



**Stuart Hyde, PG**

(Licensed in WA/TX)

Senior Managing Geologist

970-903-1607

[Ensolum, LLC](#)

in f X

*"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:** Monday, July 1, 2024 2:44 PM  
**To:** Stuart Hyde <shyde@ensolum.com>  
**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 360171

**[ \*\*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#) nAPP2300554747.

The sampling event is expected to take place:

**When:** 07/03/2024 @ 14:00

**Where:** L-02-27N-05W 1830 FSL 1090 FWL (36.60034,-107.33217)

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

**Additional Instructions:** Hilcorp 27-5 #111 well pad, coordinates 36.600399, -107.332681

Backfill of the excavation is likely to be completed on 7/3/2024. As such, the confirmation



soil samples from treatment stockpile areas will be conducted on 7/3/2024 at 2 PM. 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 the final confirmation samples.

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](mailto:OCDOnline@state.nm.us)  
**To:** [Stuart Hyde](#)  
**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 360171  
**Date:** Monday, July 1, 2024 2:46:01 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#) nAPP2300554747.

The sampling event is expected to take place:

**When:** 07/03/2024 @ 14:00

**Where:** L-02-27N-05W 1830 FSL 1090 FWL (36.60034,-107.33217)

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

**Additional Instructions:** Hilcorp 27-5 #111 well pad, coordinates 36.600399, -107.332681

Backfill of the excavation is likely to be completed on 7/3/2024. As such, the confirmation soil samples from treatment stockpile areas will be conducted on 7/3/2024 at 2 PM. 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 the final confirmation samples.

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](mailto:OCDOnline@state.nm.us)  
**To:** [Stuart Hyde](#)  
**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 360963  
**Date:** Wednesday, July 3, 2024 12:03:02 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#) nAPP2300554747.

The sampling event is expected to take place:

**When:** 07/10/2024 @ 14:00

**Where:** L-02-27N-05W 1830 FSL 1090 FWL (36.60034,-107.33217)

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

**Additional Instructions:** Hilcorp 27-5 #111 well pad, coordinates 36.600399, -107.332681

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





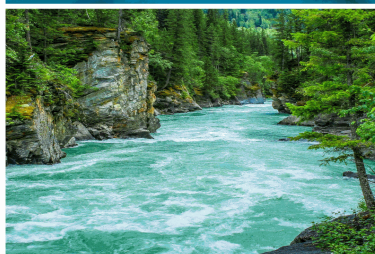
## APPENDIX B

### Laboratory Analytical Reports

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Report to:  
Samantha Grabert



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Hilcorp Energy Co

Project Name: SJ 27-5 #111

Work Order: E405208

Job Number: 17051-0002

Received: 5/15/2024

Revision: 2

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
5/17/24

5796 U.S. Hwy 64  
Farmington, NM 87401

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



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.



Date Reported: 5/17/24

Samantha Grabert  
PO Box 61529  
Houston, TX 77208



Project Name: SJ 27-5 #111  
Workorder: E405208  
Date Received: 5/15/2024 3:55:00PM

Samantha Grabert,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/15/2024 3:55:00PM, under the Project Name: SJ 27-5 #111.

The analytical test results summarized in this report with the Project Name: SJ 27-5 #111 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 regarding 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](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
Office: 505-632-1881  
[rainaschwanz@envirotech-inc.com](mailto:rainaschwanz@envirotech-inc.com)

**Alexa Michaels**  
Sample Custody Officer  
Office: 505-632-1881  
[labadmin@envirotech-inc.com](mailto:labadmin@envirotech-inc.com)

Field Offices:

**Southern New Mexico Area**

**Lynn Jarboe**  
Laboratory Technical Representative  
Office: 505-421-LABS(5227)  
Cell: 505-320-4759  
[ljjarboe@envirotech-inc.com](mailto:ljjarboe@envirotech-inc.com)

**Michelle Golzales**  
Client Representative  
Office: 505-421-LABS(5227)  
Cell: 505-947-8222  
[mgonzales@envirotech-inc.com](mailto:mgonzales@envirotech-inc.com)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)



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Sample Summary

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported: 05/17/24 17:57
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS01	E405208-01A	Soil	05/14/24	05/15/24	Glass Jar, 2 oz.
SW01	E405208-02A	Soil	05/14/24	05/15/24	Glass Jar, 2 oz.
FS02	E405208-03A	Soil	05/15/24	05/15/24	Glass Jar, 2 oz.
SW02	E405208-04A	Soil	05/15/24	05/15/24	Glass Jar, 2 oz.





Sample Data

Hilcorp Energy Co PO Box 61529 Houston TX, 77208	Project Name: SJ 27-5 #111 Project Number: 17051-0002 Project Manager: Samantha Grabert	Reported: 5/17/2024 5:57:10PM
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FS01  
E405208-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>		mg/kg	mg/kg	Analyst: RKS		Batch: 2420130
Benzene	ND	0.0250	1	05/16/24	05/16/24	
Ethylbenzene	ND	0.0250	1	05/16/24	05/16/24	
Toluene	ND	0.0250	1	05/16/24	05/16/24	
o-Xylene	ND	0.0250	1	05/16/24	05/16/24	
p,m-Xylene	ND	0.0500	1	05/16/24	05/16/24	
Total Xylenes	ND	0.0250	1	05/16/24	05/16/24	
Surrogate: Bromofluorobenzene		115 %	70-130	05/16/24	05/16/24	
Surrogate: 1,2-Dichloroethane-d4		89.6 %	70-130	05/16/24	05/16/24	
Surrogate: Toluene-d8		107 %	70-130	05/16/24	05/16/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>		mg/kg	mg/kg	Analyst: RKS		Batch: 2420130
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/16/24	05/16/24	
Surrogate: Bromofluorobenzene		115 %	70-130	05/16/24	05/16/24	
Surrogate: 1,2-Dichloroethane-d4		89.6 %	70-130	05/16/24	05/16/24	
Surrogate: Toluene-d8		107 %	70-130	05/16/24	05/16/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>		mg/kg	mg/kg	Analyst: NV		Batch: 2420129
Diesel Range Organics (C10-C28)	ND	25.0	1	05/16/24	05/16/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/16/24	05/16/24	
Surrogate: n-Nonane		92.1 %	50-200	05/16/24	05/16/24	





Sample Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported: 5/17/2024 5:57:10PM
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	

SW01

E405208-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg	Analyst: RKS		Batch: 2420130	
Benzene	ND	0.0250	1	05/16/24	05/16/24	
Ethylbenzene	ND	0.0250	1	05/16/24	05/16/24	
Toluene	ND	0.0250	1	05/16/24	05/16/24	
o-Xylene	0.0365	0.0250	1	05/16/24	05/16/24	
p,m-Xylene	0.131	0.0500	1	05/16/24	05/16/24	
Total Xylenes	0.168	0.0250	1	05/16/24	05/16/24	
Surrogate: Bromofluorobenzene	112 %	70-130		05/16/24	05/16/24	
Surrogate: 1,2-Dichloroethane-d4	90.8 %	70-130		05/16/24	05/16/24	
Surrogate: Toluene-d8	107 %	70-130		05/16/24	05/16/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: RKS		Batch: 2420130	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/16/24	05/16/24	
Surrogate: Bromofluorobenzene	112 %	70-130		05/16/24	05/16/24	
Surrogate: 1,2-Dichloroethane-d4	90.8 %	70-130		05/16/24	05/16/24	
Surrogate: Toluene-d8	107 %	70-130		05/16/24	05/16/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2420129	
Diesel Range Organics (C10-C28)	39.0	25.0	1	05/16/24	05/16/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/16/24	05/16/24	
Surrogate: n-Nonane	95.1 %	50-200		05/16/24	05/16/24	





Sample Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported: 5/17/2024 5:57:10PM
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	

FS02

E405208-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg	Analyst: RKS		Batch: 2420130	
Benzene	ND	0.0250	1	05/16/24	05/16/24	
Ethylbenzene	ND	0.0250	1	05/16/24	05/16/24	
Toluene	0.0280	0.0250	1	05/16/24	05/16/24	
o-Xylene	0.0250	0.0250	1	05/16/24	05/16/24	
p,m-Xylene	0.114	0.0500	1	05/16/24	05/16/24	
Total Xylenes	0.139	0.0250	1	05/16/24	05/16/24	
Surrogate: Bromofluorobenzene		111 %	70-130	05/16/24	05/16/24	
Surrogate: 1,2-Dichloroethane-d4		91.2 %	70-130	05/16/24	05/16/24	
Surrogate: Toluene-d8		104 %	70-130	05/16/24	05/16/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: RKS		Batch: 2420130	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/16/24	05/16/24	
Surrogate: Bromofluorobenzene		111 %	70-130	05/16/24	05/16/24	
Surrogate: 1,2-Dichloroethane-d4		91.2 %	70-130	05/16/24	05/16/24	
Surrogate: Toluene-d8		104 %	70-130	05/16/24	05/16/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2420129	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/16/24	05/16/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/16/24	05/16/24	
Surrogate: n-Nonane		89.4 %	50-200	05/16/24	05/16/24	





Sample Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported: 5/17/2024 5:57:10PM
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	

SW02

E405208-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg	Analyst: RKS		Batch: 2420130	
Benzene	ND	0.0250	1	05/16/24	05/16/24	
Ethylbenzene	ND	0.0250	1	05/16/24	05/16/24	
Toluene	0.0530	0.0250	1	05/16/24	05/16/24	
o-Xylene	0.0440	0.0250	1	05/16/24	05/16/24	
p,m-Xylene	0.214	0.0500	1	05/16/24	05/16/24	
Total Xylenes	0.258	0.0250	1	05/16/24	05/16/24	
Surrogate: Bromofluorobenzene	113 %	70-130		05/16/24	05/16/24	
Surrogate: 1,2-Dichloroethane-d4	89.2 %	70-130		05/16/24	05/16/24	
Surrogate: Toluene-d8	107 %	70-130		05/16/24	05/16/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: RKS		Batch: 2420130	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/16/24	05/16/24	
Surrogate: Bromofluorobenzene	113 %	70-130		05/16/24	05/16/24	
Surrogate: 1,2-Dichloroethane-d4	89.2 %	70-130		05/16/24	05/16/24	
Surrogate: Toluene-d8	107 %	70-130		05/16/24	05/16/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2420129	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/16/24	05/16/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/16/24	05/16/24	
Surrogate: n-Nonane	98.0 %	50-200		05/16/24	05/16/24	





Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported:
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	5/17/2024 5:57:10PM

Volatile Organic Compounds by EPA 8260B

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2420130-BLK1) Prepared: 05/16/24 Analyzed: 05/16/24

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: Bromofluorobenzene	0.554		0.500		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.443		0.500		88.6	70-130			
Surrogate: Toluene-d8	0.531		0.500		106	70-130			

LCS (2420130-BS1) Prepared: 05/16/24 Analyzed: 05/16/24

Benzene	2.19	0.0250	2.50		87.7	70-130			
Ethylbenzene	2.38	0.0250	2.50		95.3	70-130			
Toluene	2.38	0.0250	2.50		95.2	70-130			
o-Xylene	2.50	0.0250	2.50		100	70-130			
p,m-Xylene	5.01	0.0500	5.00		100	70-130			
Total Xylenes	7.51	0.0250	7.50		100	70-130			
Surrogate: Bromofluorobenzene	0.555		0.500		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.452		0.500		90.3	70-130			
Surrogate: Toluene-d8	0.518		0.500		104	70-130			

Matrix Spike (2420130-MS1) Source: E405208-04 Prepared: 05/16/24 Analyzed: 05/16/24

Benzene	2.26	0.0250	2.50	ND	90.3	48-131			
Ethylbenzene	2.51	0.0250	2.50	ND	101	45-135			
Toluene	2.52	0.0250	2.50	0.0530	98.8	48-130			
o-Xylene	2.65	0.0250	2.50	0.0440	104	43-135			
p,m-Xylene	5.41	0.0500	5.00	0.214	104	43-135			
Total Xylenes	8.06	0.0250	7.50	0.258	104	43-135			
Surrogate: Bromofluorobenzene	0.566		0.500		113	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.462		0.500		92.3	70-130			
Surrogate: Toluene-d8	0.530		0.500		106	70-130			

Matrix Spike Dup (2420130-MSD1) Source: E405208-04 Prepared: 05/16/24 Analyzed: 05/16/24

Benzene	2.35	0.0250	2.50	ND	93.8	48-131	3.82	23	
Ethylbenzene	2.59	0.0250	2.50	ND	104	45-135	2.98	27	
Toluene	2.62	0.0250	2.50	0.0530	102	48-130	3.56	24	
o-Xylene	2.82	0.0250	2.50	0.0440	111	43-135	5.92	27	
p,m-Xylene	5.73	0.0500	5.00	0.214	110	43-135	5.77	27	
Total Xylenes	8.55	0.0250	7.50	0.258	111	43-135	5.82	27	
Surrogate: Bromofluorobenzene	0.571		0.500		114	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.469		0.500		93.8	70-130			
Surrogate: Toluene-d8	0.532		0.500		106	70-130			





QC Summary Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported:
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	5/17/2024 5:57:10PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2420130-BLK1)					Prepared: 05/16/24 Analyzed: 05/16/24				
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.554		0.500		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.443		0.500		88.6	70-130			
Surrogate: Toluene-d8	0.531		0.500		106	70-130			

LCS (2420130-BS2)					Prepared: 05/16/24 Analyzed: 05/16/24				
Gasoline Range Organics (C6-C10)	57.3	20.0	50.0		115	70-130			
Surrogate: Bromofluorobenzene	0.575		0.500		115	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.471		0.500		94.2	70-130			
Surrogate: Toluene-d8	0.531		0.500		106	70-130			

Matrix Spike (2420130-MS2)					Source: E405208-04		Prepared: 05/16/24 Analyzed: 05/16/24		
Gasoline Range Organics (C6-C10)	69.9	20.0	50.0	ND	140	70-130			M6
Surrogate: Bromofluorobenzene	0.575		0.500		115	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.454		0.500		90.7	70-130			
Surrogate: Toluene-d8	0.534		0.500		107	70-130			

Matrix Spike Dup (2420130-MSD2)					Source: E405208-04		Prepared: 05/16/24 Analyzed: 05/16/24		
Gasoline Range Organics (C6-C10)	70.6	20.0	50.0	ND	141	70-130	1.02	20	M6
Surrogate: Bromofluorobenzene	0.569		0.500		114	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.463		0.500		92.5	70-130			
Surrogate: Toluene-d8	0.539		0.500		108	70-130			





QC Summary Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported:
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	5/17/2024 5:57:10PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2420129-BLK1)					Prepared: 05/16/24 Analyzed: 05/16/24				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	52.8		50.0		106	50-200			

LCS (2420129-BS1)					Prepared: 05/16/24 Analyzed: 05/17/24				
Diesel Range Organics (C10-C28)	288	25.0	250		115	38-132			
Surrogate: n-Nonane	52.8		50.0		106	50-200			

LCS Dup (2420129-BSD1)					Prepared: 05/16/24 Analyzed: 05/17/24				
Diesel Range Organics (C10-C28)	299	25.0	250		120	38-132	3.85	20	
Surrogate: n-Nonane	51.5		50.0		103	50-200			

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:	SJ 27-5 #111	
PO Box 61529	Project Number:	17051-0002	Reported:
Houston TX, 77208	Project Manager:	Samantha Grabert	05/17/24 17:57

- M6 Matrix spike recovery has a high bias. The native sample results were below the RL, but appears to have contributed to high MS recoveries.
- 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

Page 1 of 1

Client Information				Invoice Information		Lab Use Only		TAT		State								
Client: <u>Hilcorp Energy Co.</u>				Company:		Lab WO# <u>E405208</u>		Job Number <u>17051-0002</u>		1D <input checked="" type="checkbox"/> 2D <input type="checkbox"/> 3D <input type="checkbox"/> Std <input type="checkbox"/>								
Project Name: <u>SJ 27-5 #111</u>				Address:						NM <input checked="" type="checkbox"/> CO <input type="checkbox"/> UT <input type="checkbox"/> TX <input type="checkbox"/>								
Project Manager: <u>Samantha Grabert</u>				City, State, Zip:														
Address:				Phone:														
City, State, Zip:				Email:														
Phone:				Miscellaneous:														
Email: <u>samantha.grabert@hilcorp.com</u>																		
Sample Information						Analysis and Method						EPA Program						
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/DRO 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	SDWA	CWA	RCRA
1410	5-14-24	S	1	FS Ø1		1	X	X	X									
1430	5-14-24	↓	↓	SW Ø1		2	↓	↓	↓									
1345	5-15-24	↓	↓	FS Ø2		3	↓	↓	↓									
1350	5-15-24	↓	↓	SW Ø2		4	↓	↓	↓									
Additional Instructions: <u>cc: shyde@ensolum.com, ecarroll@ensolum.com, dburns@ensolum.com</u>																		
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: <u>Eric Carroll &amp; Danny Burns</u>																		
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		<div>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.</div> <div>Lab Use Only</div> <div>Received on ice: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N</div> <div>T1 _____ T2 _____ T3 _____</div> <div>AVG Temp °C <u>4</u></div>						
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								
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: 5/16/2024 4:09:51PM

## 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:	05/15/24 15:55	Work Order ID:	E405208
Phone:	(337) 781-9630	Date Logged In:	05/15/24 16:33	Logged In By:	Alexa Michaels
Email:	samantha.grabert@hilcorp.com	Due Date:	05/16/24 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
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: Danny BurnsComments/ResolutionSample 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? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

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 filtration 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:  
Samantha Grabert



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: SJ 27-5 #111

Work Order: E405233

Job Number: 17051-0002

Received: 5/16/2024

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
5/20/24

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.



Date Reported: 5/20/24

Samantha Grabert  
PO Box 61529  
Houston, TX 77208



Project Name: SJ 27-5 #111  
Workorder: E405233  
Date Received: 5/16/2024 3:56:00PM

Samantha Grabert,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/16/2024 3:56:00PM, under the Project Name: SJ 27-5 #111.

The analytical test results summarized in this report with the Project Name: SJ 27-5 #111 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 regarding 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](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
Office: 505-632-1881  
[rainaschwanz@envirotech-inc.com](mailto:rainaschwanz@envirotech-inc.com)

**Alexa Michaels**  
Sample Custody Officer  
Office: 505-632-1881  
[labadmin@envirotech-inc.com](mailto:labadmin@envirotech-inc.com)

Field Offices:

**Southern New Mexico Area**

**Lynn Jarboe**  
Laboratory Technical Representative  
Office: 505-421-LABS(5227)  
Cell: 505-320-4759  
[ljjarboe@envirotech-inc.com](mailto:ljjarboe@envirotech-inc.com)

**Michelle Golzaes**  
Client Representative  
Office: 505-421-LABS(5227)  
Cell: 505-947-8222  
[mgonzales@envirotech-inc.com](mailto:mgonzales@envirotech-inc.com)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)



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Sample Summary

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported:
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	05/20/24 15:49

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS03	E405233-01A	Soil	05/16/24	05/15/24	Glass Jar, 2 oz.
SW03	E405233-02A	Soil	05/16/24	05/15/24	Glass Jar, 2 oz.
SW04	E405233-03A	Soil	05/16/24	05/15/24	Glass Jar, 2 oz.
FS04	E405233-04A	Soil	05/16/24	05/15/24	Glass Jar, 2 oz.





Sample Data

Hilcorp Energy Co PO Box 61529 Houston TX, 77208	Project Name: SJ 27-5 #111 Project Number: 17051-0002 Project Manager: Samantha Grabert	Reported: 5/20/2024 3:49:56PM
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FS03  
E405233-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2420164	
Benzene	0.0432	0.0250	1	05/17/24	05/17/24	
Ethylbenzene	0.125	0.0250	1	05/17/24	05/17/24	
Toluene	0.733	0.0250	1	05/17/24	05/17/24	
o-Xylene	0.349	0.0250	1	05/17/24	05/17/24	
p,m-Xylene	1.67	0.0500	1	05/17/24	05/17/24	
Total Xylenes	2.02	0.0250	1	05/17/24	05/17/24	
Surrogate: 4-Bromochlorobenzene-PID	96.2 %	70-130		05/17/24	05/17/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2420164	
Gasoline Range Organics (C6-C10)	24.8	20.0	1	05/17/24	05/17/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	106 %	70-130		05/17/24	05/17/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: NV		Batch: 2420166	
Diesel Range Organics (C10-C28)	133	25.0	1	05/17/24	05/17/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/17/24	05/17/24	
Surrogate: n-Nonane	126 %	50-200		05/17/24	05/17/24	





Sample Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported: 5/20/2024 3:49:56PM
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	

SW03

E405233-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>		mg/kg	mg/kg	Analyst: BA		Batch: 2420164
Benzene	ND	0.0250	1	05/17/24	05/17/24	
Ethylbenzene	ND	0.0250	1	05/17/24	05/17/24	
Toluene	ND	0.0250	1	05/17/24	05/17/24	
o-Xylene	ND	0.0250	1	05/17/24	05/17/24	
p,m-Xylene	ND	0.0500	1	05/17/24	05/17/24	
Total Xylenes	ND	0.0250	1	05/17/24	05/17/24	
Surrogate: 4-Bromochlorobenzene-PID		92.5 %	70-130	05/17/24	05/17/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>		mg/kg	mg/kg	Analyst: BA		Batch: 2420164
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/17/24	05/17/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		105 %	70-130	05/17/24	05/17/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>		mg/kg	mg/kg	Analyst: NV		Batch: 2420166
Diesel Range Organics (C10-C28)	ND	25.0	1	05/17/24	05/17/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/17/24	05/17/24	
Surrogate: n-Nonane		96.4 %	50-200	05/17/24	05/17/24	





Sample Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported: 5/20/2024 3:49:56PM
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	

SW04

E405233-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2420164	
Benzene	ND	0.0250	1	05/17/24	05/17/24	
Ethylbenzene	ND	0.0250	1	05/17/24	05/17/24	
Toluene	ND	0.0250	1	05/17/24	05/17/24	
o-Xylene	ND	0.0250	1	05/17/24	05/17/24	
p,m-Xylene	ND	0.0500	1	05/17/24	05/17/24	
Total Xylenes	ND	0.0250	1	05/17/24	05/17/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	91.4 %	70-130		05/17/24	05/17/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2420164	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/17/24	05/17/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	106 %	70-130		05/17/24	05/17/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2420166	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/17/24	05/17/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/17/24	05/17/24	
<i>Surrogate: n-Nonane</i>						
	96.2 %	50-200		05/17/24	05/17/24	





Sample Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported: 5/20/2024 3:49:56PM
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	

FS04

E405233-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>		mg/kg	mg/kg	Analyst: BA		Batch: 2420164
Benzene	ND	0.0250	1	05/17/24	05/17/24	
Ethylbenzene	ND	0.0250	1	05/17/24	05/17/24	
Toluene	ND	0.0250	1	05/17/24	05/17/24	
o-Xylene	ND	0.0250	1	05/17/24	05/17/24	
p,m-Xylene	ND	0.0500	1	05/17/24	05/17/24	
Total Xylenes	ND	0.0250	1	05/17/24	05/17/24	
Surrogate: 4-Bromochlorobenzene-PID		92.1 %	70-130	05/17/24	05/17/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>		mg/kg	mg/kg	Analyst: BA		Batch: 2420164
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/17/24	05/17/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		106 %	70-130	05/17/24	05/17/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>		mg/kg	mg/kg	Analyst: NV		Batch: 2420166
Diesel Range Organics (C10-C28)	ND	25.0	1	05/17/24	05/17/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/17/24	05/17/24	
Surrogate: n-Nonane		95.4 %	50-200	05/17/24	05/17/24	





QC Summary Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported:
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	5/20/2024 3:49:56PM

Volatile Organics by EPA 8021B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2420164-BLK1) Prepared: 05/17/24 Analyzed: 05/17/24

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	7.27		8.00		90.9	70-130			

LCS (2420164-BS1) Prepared: 05/17/24 Analyzed: 05/17/24

Benzene	4.89	0.0250	5.00		97.7	70-130			
Ethylbenzene	4.65	0.0250	5.00		93.0	70-130			
Toluene	4.85	0.0250	5.00		97.0	70-130			
o-Xylene	4.73	0.0250	5.00		94.6	70-130			
p,m-Xylene	9.57	0.0500	10.0		95.7	70-130			
Total Xylenes	14.3	0.0250	15.0		95.3	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.36		8.00		92.0	70-130			

LCS Dup (2420164-BSD1) Prepared: 05/17/24 Analyzed: 05/17/24

Benzene	5.66	0.0250	5.00		113	70-130	14.6	20	
Ethylbenzene	5.38	0.0250	5.00		108	70-130	14.5	20	
Toluene	5.62	0.0250	5.00		112	70-130	14.7	20	
o-Xylene	5.49	0.0250	5.00		110	70-130	14.8	20	
p,m-Xylene	11.1	0.0500	10.0		111	70-130	14.5	20	
Total Xylenes	16.6	0.0250	15.0		110	70-130	14.6	20	
Surrogate: 4-Bromochlorobenzene-PID	7.37		8.00		92.2	70-130			





QC Summary Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported:
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	5/20/2024 3:49:56PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2420164-BLK1) Prepared: 05/17/24 Analyzed: 05/17/24

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.61		8.00		108	70-130			

LCS (2420164-BS2) Prepared: 05/17/24 Analyzed: 05/17/24

Gasoline Range Organics (C6-C10)	55.7	20.0	50.0		111	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.81		8.00		110	70-130			

LCS Dup (2420164-BSD2) Prepared: 05/17/24 Analyzed: 05/17/24

Gasoline Range Organics (C6-C10)	51.4	20.0	50.0		103	70-130	7.89	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.83		8.00		110	70-130			





QC Summary Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported:
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	5/20/2024 3:49:56PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2420166-BLK1) Prepared: 05/17/24 Analyzed: 05/18/24

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	48.4		50.0		96.8	50-200			

LCS (2420166-BS1) Prepared: 05/17/24 Analyzed: 05/18/24

Diesel Range Organics (C10-C28)	240	25.0	250		96.2	38-132			
Surrogate: n-Nonane	50.6		50.0		101	50-200			

LCS Dup (2420166-BSD1) Prepared: 05/17/24 Analyzed: 05/18/24

Diesel Range Organics (C10-C28)	236	25.0	250		94.5	38-132	1.74	20	
Surrogate: n-Nonane	48.9		50.0		97.8	50-200			

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:	SJ 27-5 #111	
PO Box 61529	Project Number:	17051-0002	Reported:
Houston TX, 77208	Project Manager:	Samantha Grabert	05/20/24 15:49

- 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

Page 1 of 1

Client Information				Invoice Information		Lab Use Only		TAT				State							
Client: <b>Hilcorp Energy Company</b>				Company:		Lab WO#		Job Number		1D	2D	3D	Std	NM	CO	UT	TX		
Project Name: <b>SJ 27-5 #111</b>				Address:		<b>E405233</b>		<b>17061-0002</b>		<input checked="" type="checkbox"/>				X					
Project Manager: <b>Samantha Grabert</b>				City, State, Zip:															
Address:				Phone:															
City, State, Zip:				Email:															
Phone: <b>713-757-7116</b>				Miscellaneous:															
Email: <b>samantha.grabert@hilcorp.com</b>																			
Sample Information					Analysis and Method										EPA Program				
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 Pig	SDWA	CWA	RCRA	
11:00	5-16-24	S	One 2 oz. jar	FS Ø3		1	X	X	X										
11:15	↓	↓	↓	SW Ø3		2	↓	↓	↓										
12:00	↓	↓	↓	SW Ø4		3	↓	↓	↓										
13:35	↓	↓	↓	FS Ø4		4	↓	↓	↓										
Additional Instructions: CC results to: shyde; ecarroll; 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: <b>Danny Burns</b>																			
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 day. Lab Use Only Received on ice: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <b>4</b>											
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												
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: 5/16/2024 4:26:19PM

## 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:	05/16/24 15:56	Work Order ID:	E405233
Phone:	(337) 781-9630	Date Logged In:	05/16/24 16:21	Logged In By:	Alexa Michaels
Email:	samantha.grabert@hilcorp.com	Due Date:	05/17/24 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
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: Danny BurnsComments/ResolutionSample 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? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

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 filtration 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

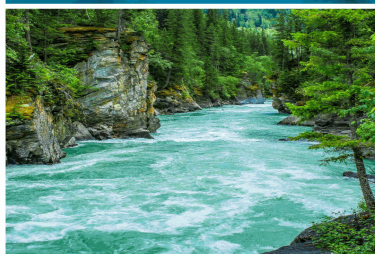


envirotech Inc.



Report to:

Samantha Grabert



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Hilcorp Energy Co

Project Name: SJ 27-5 #111

Work Order: E405250

Job Number: 17051-0002

Received: 5/17/2024

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
5/20/24

5796 U.S. Hwy 64  
Farmington, NM 87401

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



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.



Date Reported: 5/20/24

Samantha Grabert  
PO Box 61529  
Houston, TX 77208



Project Name: SJ 27-5 #111  
Workorder: E405250  
Date Received: 5/17/2024 4:04:00PM

Samantha Grabert,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/17/2024 4:04:00PM, under the Project Name: SJ 27-5 #111.

The analytical test results summarized in this report with the Project Name: SJ 27-5 #111 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 regarding 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](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
Office: 505-632-1881  
[rainaschwanz@envirotech-inc.com](mailto:rainaschwanz@envirotech-inc.com)

**Alexa Michaels**  
Sample Custody Officer  
Office: 505-632-1881  
[labadmin@envirotech-inc.com](mailto:labadmin@envirotech-inc.com)

Field Offices:

**Southern New Mexico Area**

**Lynn Jarboe**  
Laboratory Technical Representative  
Office: 505-421-LABS(5227)  
Cell: 505-320-4759  
[ljjarboe@envirotech-inc.com](mailto:ljjarboe@envirotech-inc.com)

**Michelle Golzaes**  
Client Representative  
Office: 505-421-LABS(5227)  
Cell: 505-947-8222  
[mgonzales@envirotech-inc.com](mailto:mgonzales@envirotech-inc.com)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)



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Sample Summary

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported:
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	05/20/24 16:12

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS 05	E405250-01A	Soil	05/17/24	05/17/24	Glass Jar, 2 oz.
FS 06	E405250-02A	Soil	05/17/24	05/17/24	Glass Jar, 2 oz.
SW 05	E405250-03A	Soil	05/17/24	05/17/24	Glass Jar, 2 oz.
SW 06	E405250-04A	Soil	05/17/24	05/17/24	Glass Jar, 2 oz.
SW 07	E405250-05A	Soil	05/17/24	05/17/24	Glass Jar, 2 oz.





Sample Data

Hilcorp Energy Co PO Box 61529 Houston TX, 77208	Project Name: SJ 27-5 #111 Project Number: 17051-0002 Project Manager: Samantha Grabert	Reported: 5/20/2024 4:12:32PM
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FS 05  
E405250-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2421005	
Benzene	ND	0.0250	1	05/19/24	05/19/24	
Ethylbenzene	ND	0.0250	1	05/19/24	05/19/24	
Toluene	ND	0.0250	1	05/19/24	05/19/24	
o-Xylene	0.0363	0.0250	1	05/19/24	05/19/24	
p,m-Xylene	0.105	0.0500	1	05/19/24	05/19/24	
Total Xylenes	0.141	0.0250	1	05/19/24	05/19/24	
Surrogate: 4-Bromochlorobenzene-PID	93.0 %	70-130		05/19/24	05/19/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2421005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/19/24	05/19/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	109 %	70-130		05/19/24	05/19/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2421013	
Diesel Range Organics (C10-C28)	25.7	25.0	1	05/20/24	05/20/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/20/24	05/20/24	
Surrogate: n-Nonane	103 %	50-200		05/20/24	05/20/24	





Sample Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported: 5/20/2024 4:12:32PM
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	

FS 06

E405250-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2421005	
Benzene	ND	0.0250	1	05/19/24	05/19/24	
Ethylbenzene	ND	0.0250	1	05/19/24	05/19/24	
Toluene	ND	0.0250	1	05/19/24	05/19/24	
o-Xylene	0.0810	0.0250	1	05/19/24	05/19/24	
p,m-Xylene	0.236	0.0500	1	05/19/24	05/19/24	
Total Xylenes	0.317	0.0250	1	05/19/24	05/19/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.4 %	70-130		05/19/24	05/19/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2421005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/19/24	05/19/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	109 %	70-130		05/19/24	05/19/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2421013	
Diesel Range Organics (C10-C28)	29.8	25.0	1	05/20/24	05/20/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/20/24	05/20/24	
<i>Surrogate: n-Nonane</i>						
	101 %	50-200		05/20/24	05/20/24	





Sample Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported: 5/20/2024 4:12:32PM
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	

SW 05

E405250-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>		mg/kg	mg/kg	Analyst: BA		Batch: 2421005
Benzene	ND	0.0250	1	05/19/24	05/19/24	
Ethylbenzene	ND	0.0250	1	05/19/24	05/19/24	
Toluene	ND	0.0250	1	05/19/24	05/19/24	
o-Xylene	ND	0.0250	1	05/19/24	05/19/24	
p,m-Xylene	ND	0.0500	1	05/19/24	05/19/24	
Total Xylenes	ND	0.0250	1	05/19/24	05/19/24	
Surrogate: 4-Bromochlorobenzene-PID		91.5 %	70-130	05/19/24	05/19/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>		mg/kg	mg/kg	Analyst: BA		Batch: 2421005
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/19/24	05/19/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		108 %	70-130	05/19/24	05/19/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>		mg/kg	mg/kg	Analyst: KM		Batch: 2421013
Diesel Range Organics (C10-C28)	ND	25.0	1	05/20/24	05/20/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/20/24	05/20/24	
Surrogate: n-Nonane		100 %	50-200	05/20/24	05/20/24	





## Sample Data

Hilcorp Energy Co  
PO Box 61529  
Houston TX, 77208

Project Name: SJ 27-5 #111  
Project Number: 17051-0002  
Project Manager: Samantha Grabert

**Reported:**  
5/20/2024 4:12:32PM

## SW 06

## E405250-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2421005	
Benzene	ND	0.0250	1	05/19/24	05/19/24	
Ethylbenzene	ND	0.0250	1	05/19/24	05/19/24	
Toluene	ND	0.0250	1	05/19/24	05/19/24	
o-Xylene	ND	0.0250	1	05/19/24	05/19/24	
p,m-Xylene	ND	0.0500	1	05/19/24	05/19/24	
Total Xylenes	ND	0.0250	1	05/19/24	05/19/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	90.4 %	70-130		05/19/24	05/19/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2421005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/19/24	05/19/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	106 %	70-130		05/19/24	05/19/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2421013	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/20/24	05/20/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/20/24	05/20/24	
<i>Surrogate: n-Nonane</i>						
	108 %	50-200		05/20/24	05/20/24	





Sample Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported: 5/20/2024 4:12:32PM
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	

SW 07

E405250-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2421005	
Benzene	ND	0.0250	1	05/19/24	05/20/24	
Ethylbenzene	ND	0.0250	1	05/19/24	05/20/24	
Toluene	ND	0.0250	1	05/19/24	05/20/24	
o-Xylene	0.422	0.0250	1	05/19/24	05/20/24	
p,m-Xylene	1.40	0.0500	1	05/19/24	05/20/24	
Total Xylenes	1.82	0.0250	1	05/19/24	05/20/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.4 %	70-130		05/19/24	05/20/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2421005	
Gasoline Range Organics (C6-C10)	38.9	20.0	1	05/19/24	05/20/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	109 %	70-130		05/19/24	05/20/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2421013	
Diesel Range Organics (C10-C28)	87.0	25.0	1	05/20/24	05/20/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/20/24	05/20/24	
<i>Surrogate: n-Nonane</i>						
	115 %	50-200		05/20/24	05/20/24	





Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported:
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	5/20/2024 4:12:32PM

Volatile Organics by EPA 8021B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2421005-BLK1) Prepared: 05/19/24 Analyzed: 05/19/24

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	6.93		8.00		86.6	70-130			

LCS (2421005-BS1) Prepared: 05/19/24 Analyzed: 05/19/24

Benzene	5.17	0.0250	5.00		103	70-130			
Ethylbenzene	4.96	0.0250	5.00		99.3	70-130			
Toluene	5.16	0.0250	5.00		103	70-130			
o-Xylene	5.06	0.0250	5.00		101	70-130			
p,m-Xylene	10.2	0.0500	10.0		102	70-130			
Total Xylenes	15.3	0.0250	15.0		102	70-130			
Surrogate: 4-Bromochlorobenzene-PID	6.95		8.00		86.8	70-130			

LCS Dup (2421005-BSD1) Prepared: 05/19/24 Analyzed: 05/19/24

Benzene	4.81	0.0250	5.00		96.3	70-130	7.12	20	
Ethylbenzene	4.62	0.0250	5.00		92.5	70-130	7.11	20	
Toluene	4.80	0.0250	5.00		96.0	70-130	7.34	20	
o-Xylene	4.72	0.0250	5.00		94.3	70-130	7.08	20	
p,m-Xylene	9.52	0.0500	10.0		95.2	70-130	7.07	20	
Total Xylenes	14.2	0.0250	15.0		94.9	70-130	7.07	20	
Surrogate: 4-Bromochlorobenzene-PID	7.06		8.00		88.2	70-130			



QC Summary Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported:
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	5/20/2024 4:12:32PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2421005-BLK1) Prepared: 05/19/24 Analyzed: 05/19/24

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.96		8.00		112	70-130			

LCS (2421005-BS2) Prepared: 05/19/24 Analyzed: 05/19/24

Gasoline Range Organics (C6-C10)	49.3	20.0	50.0		98.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.00		8.00		112	70-130			

LCS Dup (2421005-BSD2) Prepared: 05/19/24 Analyzed: 05/19/24

Gasoline Range Organics (C6-C10)	45.1	20.0	50.0		90.2	70-130	8.84	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.93		8.00		112	70-130			





QC Summary Data

Hilcorp Energy Co	Project Name:	SJ 27-5 #111	Reported:
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Samantha Grabert	5/20/2024 4:12:32PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2421013-BLK1)					Prepared: 05/20/24 Analyzed: 05/20/24				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	56.6		50.0		113	50-200			

LCS (2421013-BS1)					Prepared: 05/20/24 Analyzed: 05/20/24				
Diesel Range Organics (C10-C28)	309	25.0	250		123	38-132			
Surrogate: n-Nonane	57.9		50.0		116	50-200			

LCS Dup (2421013-BSD1)					Prepared: 05/20/24 Analyzed: 05/20/24				
Diesel Range Organics (C10-C28)	316	25.0	250		126	38-132	2.27	20	
Surrogate: n-Nonane	57.8		50.0		116	50-200			

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:	SJ 27-5 #111	
PO Box 61529	Project Number:	17051-0002	Reported:
Houston TX, 77208	Project Manager:	Samantha Grabert	05/20/24 16:12

- 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

Page 1 of 1

EOD 5-20-24

Client Information				Invoice Information				Lab Use Only				TAT				State							
Client: <b>Hilcorp Energy Company</b>				Company:				Lab WO#				Job Number				1D 2D 3D Std							
Project Name: <b>SJ 27-5 #111</b>				Address:				<b>E 405250</b>				<b>17051-0002</b>				<input checked="" type="checkbox"/>							
Project Manager: <b>Samantha Grabert</b>				City, State, Zip:																			
Address:				Phone:																			
City, State, Zip:				Email:																			
Phone: <b>713-757-7116</b>				Miscellaneous:																			
Email: <b>samantha.grabert@hilcorp.com</b>																							
Sample Information												Analysis and Method								EPA Program			
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	SDWA	CWA	RCRA					
10:45	5-17-24	S	One 2 oz. jar	FSØ5		1	X	X	X														
11:00	5-17-24			FSØ6		2																	
11:55	5-17-24			SWØ5		3																	
14:10	5-17-24			SWØ6		4																	
14:15	5-17-24			SWØ7		5																	
Additional Instructions: CC results to: shyde; ecarroll; 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: <u>Danny Burns</u>																							
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. Received on ice: <input checked="" type="checkbox"/> Y / N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4.0</u>															
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																
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 Analytical Laboratory

Printed: 5/20/2024 2:31:57PM

## 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:	05/17/24 16:04	Work Order ID:	E405250
Phone:	(337) 781-9630	Date Logged In:	05/17/24 17:22	Logged In By:	Angelina Pineda
Email:	samantha.grabert@hilcorp.com	Due Date:	05/20/24 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
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: Danny BurnsComments/ResolutionSample 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 Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

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 filtration 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:

Client Instruction

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

Date



envirotech Inc.





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 5/28/2024 4:13:10 PM

## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-4998-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



Generated  
5/28/2024 4:13:10 PM

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



Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-4998-1

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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-4998-1

Qualifiers

GC VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: SJ 27-5 #111

Job ID: 885-4998-1

Job ID: 885-4998-1Eurofins Albuquerque

Job Narrative  
885-4998-1

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 5/23/2024 6:39 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 2.4°C.

Gasoline Range Organics

Method 8015D\_GRO: Internal standard responses were outside of acceptance limits for the following samples: TSP 01 (885-4998-1) and TSP 02 (885-4998-2). The sample(s) shows evidence of matrix interference.

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.

Eurofins Albuquerque



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-4998-1

Client Sample ID: TSP 01  
Date Collected: 05/22/24 13:30  
Date Received: 05/23/24 06:39

Lab Sample ID: 885-4998-1  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	24		3.2	mg/Kg		05/23/24 10:45	05/23/24 12:36	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	336	S1+	35 - 166			05/23/24 10:45	05/23/24 12:36	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.016	mg/Kg		05/23/24 10:45	05/23/24 12:36	1	
Ethylbenzene	0.10		0.032	mg/Kg		05/23/24 10:45	05/23/24 12:36	1	
Toluene	ND		0.032	mg/Kg		05/23/24 10:45	05/23/24 12:36	1	
Xylenes, Total	0.071		0.064	mg/Kg		05/23/24 10:45	05/23/24 12:36	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	100		48 - 145			05/23/24 10:45	05/23/24 12:36	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	30		9.3	mg/Kg		05/23/24 10:02	05/23/24 11:54	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		05/23/24 10:02	05/23/24 11:54	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	106		62 - 134			05/23/24 10:02	05/23/24 11:54	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-4998-1

Client Sample ID: TSP 02  
Date Collected: 05/22/24 13:45  
Date Received: 05/23/24 06:39

Lab Sample ID: 885-4998-2  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	21		3.4	mg/Kg		05/23/24 10:45	05/23/24 13:00	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	335	S1+	35 - 166			05/23/24 10:45	05/23/24 13:00	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.017	mg/Kg		05/23/24 10:45	05/23/24 13:00	1	
Ethylbenzene	0.098		0.034	mg/Kg		05/23/24 10:45	05/23/24 13:00	1	
Toluene	ND		0.034	mg/Kg		05/23/24 10:45	05/23/24 13:00	1	
Xylenes, Total	ND		0.067	mg/Kg		05/23/24 10:45	05/23/24 13:00	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	103		48 - 145			05/23/24 10:45	05/23/24 13:00	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	51		8.9	mg/Kg		05/23/24 10:02	05/23/24 12:07	1	
Motor Oil Range Organics [C28-C40]	ND		44	mg/Kg		05/23/24 10:02	05/23/24 12:07	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	104		62 - 134			05/23/24 10:02	05/23/24 12:07	1	



## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-4998-1

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

Lab Sample ID: MB 885-5536/1-A

Matrix: Solid

Analysis Batch: 5569

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5536

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		05/23/24 10:45	05/23/24 12:13	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		35 - 166			05/23/24 10:45	05/23/24 12:13	1

Lab Sample ID: LCS 885-5536/2-A

Matrix: Solid

Analysis Batch: 5569

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5536

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics [C6 - C10]	25.0	23.8		mg/Kg		95	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	186	S1+	35 - 166					

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

Lab Sample ID: MB 885-5536/1-A

Matrix: Solid

Analysis Batch: 5570

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5536

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		05/23/24 10:45	05/23/24 12:13	1
Ethylbenzene	ND		0.050	mg/Kg		05/23/24 10:45	05/23/24 12:13	1
Toluene	ND		0.050	mg/Kg		05/23/24 10:45	05/23/24 12:13	1
Xylenes, Total	ND		0.10	mg/Kg		05/23/24 10:45	05/23/24 12:13	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		48 - 145			05/23/24 10:45	05/23/24 12:13	1

Lab Sample ID: LCS 885-5536/3-A

Matrix: Solid

Analysis Batch: 5570

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5536

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Benzene	1.00	0.943		mg/Kg		94	70 - 130	
Ethylbenzene	1.00	0.877		mg/Kg		88	70 - 130	
m&p-Xylene	2.00	1.78		mg/Kg		89	70 - 130	
o-Xylene	1.00	0.879		mg/Kg		88	70 - 130	
Toluene	1.00	0.884		mg/Kg		88	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	93		48 - 145					

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-4998-1

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

Lab Sample ID: 885-4998-1 MS  
Matrix: Solid  
Analysis Batch: 5570

Client Sample ID: TSP 01  
Prep Type: Total/NA  
Prep Batch: 5536

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		0.643	0.588		mg/Kg		91	70 - 130
Ethylbenzene	0.10		0.643	0.603		mg/Kg		78	70 - 130
m&p-Xylene	0.071		1.29	1.21		mg/Kg		88	70 - 130
o-Xylene	ND		0.643	0.571		mg/Kg		89	70 - 130
Toluene	ND		0.643	0.535		mg/Kg		83	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	96		48 - 145						

Lab Sample ID: 885-4998-1 MSD  
Matrix: Solid  
Analysis Batch: 5570

Client Sample ID: TSP 01  
Prep Type: Total/NA  
Prep Batch: 5536

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.643	0.574		mg/Kg		89	70 - 130	2	20
Ethylbenzene	0.10		0.643	0.595		mg/Kg		76	70 - 130	1	20
m&p-Xylene	0.071		1.29	1.18		mg/Kg		86	70 - 130	2	20
o-Xylene	ND		0.643	0.566		mg/Kg		88	70 - 130	1	20
Toluene	ND		0.643	0.545		mg/Kg		85	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	94		48 - 145								

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

Lab Sample ID: MB 885-5530/1-A  
Matrix: Solid  
Analysis Batch: 5574

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 5530

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		05/23/24 10:02	05/23/24 11:29	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		05/23/24 10:02	05/23/24 11:29	1
Surrogate	MB %Recovery	MB Qualifier	Limits					
Di-n-octyl phthalate (Surr)	103		62 - 134					

Lab Sample ID: LCS 885-5530/2-A  
Matrix: Solid  
Analysis Batch: 5574

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 5530

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	42.4		mg/Kg		85	60 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Di-n-octyl phthalate (Surr)	103		62 - 134				

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QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-4998-1

GC VOA

Prep Batch: 5536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4998-1	TSP 01	Total/NA	Solid	5035	
885-4998-2	TSP 02	Total/NA	Solid	5035	
MB 885-5536/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-5536/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-5536/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-4998-1 MS	TSP 01	Total/NA	Solid	5035	
885-4998-1 MSD	TSP 01	Total/NA	Solid	5035	

Analysis Batch: 5569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4998-1	TSP 01	Total/NA	Solid	8015M/D	5536
885-4998-2	TSP 02	Total/NA	Solid	8015M/D	5536
MB 885-5536/1-A	Method Blank	Total/NA	Solid	8015M/D	5536
LCS 885-5536/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5536

Analysis Batch: 5570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4998-1	TSP 01	Total/NA	Solid	8021B	5536
885-4998-2	TSP 02	Total/NA	Solid	8021B	5536
MB 885-5536/1-A	Method Blank	Total/NA	Solid	8021B	5536
LCS 885-5536/3-A	Lab Control Sample	Total/NA	Solid	8021B	5536
885-4998-1 MS	TSP 01	Total/NA	Solid	8021B	5536
885-4998-1 MSD	TSP 01	Total/NA	Solid	8021B	5536

GC Semi VOA

Prep Batch: 5530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4998-1	TSP 01	Total/NA	Solid	SHAKE	
885-4998-2	TSP 02	Total/NA	Solid	SHAKE	
MB 885-5530/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-5530/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 5574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4998-1	TSP 01	Total/NA	Solid	8015M/D	5530
885-4998-2	TSP 02	Total/NA	Solid	8015M/D	5530
MB 885-5530/1-A	Method Blank	Total/NA	Solid	8015M/D	5530
LCS 885-5530/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5530



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-4998-1

**Client Sample ID: TSP 01**  
**Date Collected: 05/22/24 13:30**  
**Date Received: 05/23/24 06:39**

**Lab Sample ID: 885-4998-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5536	AT	EET ALB	05/23/24 10:45
Total/NA	Analysis	8015M/D		1	5569	JP	EET ALB	05/23/24 12:36
Total/NA	Prep	5035			5536	AT	EET ALB	05/23/24 10:45
Total/NA	Analysis	8021B		1	5570	JP	EET ALB	05/23/24 12:36
Total/NA	Prep	SHAKE			5530	JU	EET ALB	05/23/24 10:02
Total/NA	Analysis	8015M/D		1	5574	JU	EET ALB	05/23/24 11:54

**Client Sample ID: TSP 02**  
**Date Collected: 05/22/24 13:45**  
**Date Received: 05/23/24 06:39**

**Lab Sample ID: 885-4998-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5536	AT	EET ALB	05/23/24 10:45
Total/NA	Analysis	8015M/D		1	5569	JP	EET ALB	05/23/24 13:00
Total/NA	Prep	5035			5536	AT	EET ALB	05/23/24 10:45
Total/NA	Analysis	8021B		1	5570	JP	EET ALB	05/23/24 13:00
Total/NA	Prep	SHAKE			5530	JU	EET ALB	05/23/24 10:02
Total/NA	Analysis	8015M/D		1	5574	JU	EET ALB	05/23/24 12:07

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



Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-4998-1


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
8015M/D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	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



[illegible][illegible]

 **HALL ENVIRONMENTAL  
ANALYSIS LABO**



[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 8  
Tel. 505-345-3975 Fax 505-345-4100 885-4998 COC

Analysis Request	
BTEX / MTBE / TMB's (8021)	
TPH:8015D(GRO / DRO / MRO)	
8081 Pesticides/8082 PCB's	
EDB (Method 504.1)	
PAHs by 8310 or 8270SIMS	
RCRA 8 Metals	
Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	
8260 (VOA)	
8270 (Semi-VOA)	
Total Coliform (Present/Absent)	

Remarks:

cc: dburns  
dhernemann  
ecarroll  
shyde

consolum.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: 885-4998-1

Login Number: 4998

List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

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





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 5/29/2024 2:58:43 PM

## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-5077-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



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



Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-5077-1

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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

Qualifiers

GC VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: SJ 27-5 #111

Job ID: 885-5077-1

Job ID: 885-5077-1

Eurofins Albuquerque

Job Narrative  
885-5077-1

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 5/24/2024 7:37 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.5°C.

Receipt Exceptions

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

Gasoline Range Organics

Method 8015D\_GRO: Internal standard responses were outside of acceptance limits for the following samples: TSP03 (885-5077-1), TSP04 (885-5077-2), TSP05 (885-5077-3), TSP06 (885-5077-4) and TSP07 (885-5077-5). The sample(s) shows evidence of matrix interference.

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.

Eurofins Albuquerque



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

Client Sample ID: TSP03  
Date Collected: 05/23/24 12:10  
Date Received: 05/24/24 07:37

Lab Sample ID: 885-5077-1  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	23		4.0	mg/Kg		05/24/24 09:01	05/24/24 13:10	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	279	S1+	35 - 166			05/24/24 09:01	05/24/24 13:10	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.020	mg/Kg		05/24/24 09:01	05/24/24 13:10	1	
Ethylbenzene	0.12		0.040	mg/Kg		05/24/24 09:01	05/24/24 13:10	1	
Toluene	ND		0.040	mg/Kg		05/24/24 09:01	05/24/24 13:10	1	
Xylenes, Total	0.10		0.081	mg/Kg		05/24/24 09:01	05/24/24 13:10	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	123		48 - 145			05/24/24 09:01	05/24/24 13:10	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	72		8.8	mg/Kg		05/24/24 09:02	05/24/24 11:09	1	
Motor Oil Range Organics [C28-C40]	ND		44	mg/Kg		05/24/24 09:02	05/24/24 11:09	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	108		62 - 134			05/24/24 09:02	05/24/24 11:09	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

Client Sample ID: TSP04

Lab Sample ID: 885-5077-2

Date Collected: 05/23/24 12:20

Matrix: Solid

Date Received: 05/24/24 07:37

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	18		4.1	mg/Kg		05/24/24 09:01	05/24/24 13:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	221	S1+	35 - 166			05/24/24 09:01	05/24/24 13:32	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.021	mg/Kg		05/24/24 09:01	05/24/24 13:32	1	
Ethylbenzene	0.082		0.041	mg/Kg		05/24/24 09:01	05/24/24 13:32	1	
Toluene	ND		0.041	mg/Kg		05/24/24 09:01	05/24/24 13:32	1	
Xylenes, Total	0.089		0.082	mg/Kg		05/24/24 09:01	05/24/24 13:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	110		48 - 145			05/24/24 09:01	05/24/24 13:32	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	63		9.2	mg/Kg		05/24/24 09:02	05/24/24 11:22	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		05/24/24 09:02	05/24/24 11:22	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	109		62 - 134			05/24/24 09:02	05/24/24 11:22	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

Client Sample ID: TSP05  
Date Collected: 05/23/24 12:30  
Date Received: 05/24/24 07:37

Lab Sample ID: 885-5077-3  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	32		4.0	mg/Kg		05/24/24 09:01	05/24/24 13:54	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	225	S1+	35 - 166			05/24/24 09:01	05/24/24 13:54	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.020	mg/Kg		05/24/24 09:01	05/24/24 13:54	1	
Ethylbenzene	0.15		0.040	mg/Kg		05/24/24 09:01	05/24/24 13:54	1	
Toluene	ND		0.040	mg/Kg		05/24/24 09:01	05/24/24 13:54	1	
Xylenes, Total	0.17		0.080	mg/Kg		05/24/24 09:01	05/24/24 13:54	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	140		48 - 145			05/24/24 09:01	05/24/24 13:54	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	54		9.9	mg/Kg		05/24/24 09:02	05/24/24 11:35	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		05/24/24 09:02	05/24/24 11:35	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	107		62 - 134			05/24/24 09:02	05/24/24 11:35	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

Client Sample ID: TSP06  
Date Collected: 05/23/24 12:40  
Date Received: 05/24/24 07:37

Lab Sample ID: 885-5077-4  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	24		5.4	mg/Kg		05/24/24 09:01	05/24/24 14:16	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	255	S1+	35 - 166			05/24/24 09:01	05/24/24 14:16	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.027	mg/Kg		05/24/24 09:01	05/24/24 14:16	1	
Ethylbenzene	0.11		0.054	mg/Kg		05/24/24 09:01	05/24/24 14:16	1	
Toluene	ND		0.054	mg/Kg		05/24/24 09:01	05/24/24 14:16	1	
Xylenes, Total	ND		0.11	mg/Kg		05/24/24 09:01	05/24/24 14:16	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	107		48 - 145			05/24/24 09:01	05/24/24 14:16	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	53		9.0	mg/Kg		05/24/24 09:02	05/24/24 11:47	1	
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		05/24/24 09:02	05/24/24 11:47	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	112		62 - 134			05/24/24 09:02	05/24/24 11:47	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

Client Sample ID: TSP07

Lab Sample ID: 885-5077-5

Date Collected: 05/23/24 12:50

Matrix: Solid

Date Received: 05/24/24 07:37

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	25		4.3	mg/Kg		05/24/24 09:01	05/24/24 14:37	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	198	S1+	35 - 166			05/24/24 09:01	05/24/24 14:37	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.021	mg/Kg		05/24/24 09:01	05/24/24 14:37	1	
Ethylbenzene	0.12		0.043	mg/Kg		05/24/24 09:01	05/24/24 14:37	1	
Toluene	ND		0.043	mg/Kg		05/24/24 09:01	05/24/24 14:37	1	
Xylenes, Total	0.11		0.085	mg/Kg		05/24/24 09:01	05/24/24 14:37	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	123		48 - 145			05/24/24 09:01	05/24/24 14:37	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	41		9.1	mg/Kg		05/24/24 09:02	05/24/24 12:00	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		05/24/24 09:02	05/24/24 12:00	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	109		62 - 134			05/24/24 09:02	05/24/24 12:00	1	



## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

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

Lab Sample ID: MB 885-5600/1-A

Matrix: Solid

Analysis Batch: 5652

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5600

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		05/24/24 09:01	05/24/24 12:49	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		35 - 166			05/24/24 09:01	05/24/24 12:49	1

Lab Sample ID: LCS 885-5600/2-A

Matrix: Solid

Analysis Batch: 5652

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5600

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics [C6 - C10]	25.0	21.0		mg/Kg		84	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	190	S1+	35 - 166					

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

Lab Sample ID: MB 885-5600/1-A

Matrix: Solid

Analysis Batch: 5653

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5600

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		05/24/24 09:01	05/24/24 12:49	1
Ethylbenzene	ND		0.050	mg/Kg		05/24/24 09:01	05/24/24 12:49	1
Toluene	ND		0.050	mg/Kg		05/24/24 09:01	05/24/24 12:49	1
Xylenes, Total	ND		0.10	mg/Kg		05/24/24 09:01	05/24/24 12:49	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		48 - 145			05/24/24 09:01	05/24/24 12:49	1

Lab Sample ID: LCS 885-5600/3-A

Matrix: Solid

Analysis Batch: 5653

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5600

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Benzene	1.00	0.859		mg/Kg		86	70 - 130	
Ethylbenzene	1.00	0.886		mg/Kg		89	70 - 130	
m&p-Xylene	2.00	1.76		mg/Kg		88	70 - 130	
o-Xylene	1.00	0.891		mg/Kg		89	70 - 130	
Toluene	1.00	0.872		mg/Kg		87	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	87		48 - 145					

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

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

Lab Sample ID: MB 885-5601/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5637						Prep Batch: 5601			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		05/24/24 09:02	05/24/24 10:44	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		05/24/24 09:02	05/24/24 10:44	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	105		62 - 134			05/24/24 09:02	05/24/24 10:44	1	

Lab Sample ID: LCS 885-5601/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5637						Prep Batch: 5601			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]			50.0	43.7		mg/Kg		87	60 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	103		62 - 134						



## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

## GC VOA

## Prep Batch: 5600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5077-1	TSP03	Total/NA	Solid	5035	
885-5077-2	TSP04	Total/NA	Solid	5035	
885-5077-3	TSP05	Total/NA	Solid	5035	
885-5077-4	TSP06	Total/NA	Solid	5035	
885-5077-5	TSP07	Total/NA	Solid	5035	
MB 885-5600/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-5600/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-5600/3-A	Lab Control Sample	Total/NA	Solid	5035	

## Analysis Batch: 5652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5077-1	TSP03	Total/NA	Solid	8015M/D	5600
885-5077-2	TSP04	Total/NA	Solid	8015M/D	5600
885-5077-3	TSP05	Total/NA	Solid	8015M/D	5600
885-5077-4	TSP06	Total/NA	Solid	8015M/D	5600
885-5077-5	TSP07	Total/NA	Solid	8015M/D	5600
MB 885-5600/1-A	Method Blank	Total/NA	Solid	8015M/D	5600
LCS 885-5600/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5600

## Analysis Batch: 5653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5077-1	TSP03	Total/NA	Solid	8021B	5600
885-5077-2	TSP04	Total/NA	Solid	8021B	5600
885-5077-3	TSP05	Total/NA	Solid	8021B	5600
885-5077-4	TSP06	Total/NA	Solid	8021B	5600
885-5077-5	TSP07	Total/NA	Solid	8021B	5600
MB 885-5600/1-A	Method Blank	Total/NA	Solid	8021B	5600
LCS 885-5600/3-A	Lab Control Sample	Total/NA	Solid	8021B	5600

## GC Semi VOA

## Prep Batch: 5601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5077-1	TSP03	Total/NA	Solid	SHAKE	
885-5077-2	TSP04	Total/NA	Solid	SHAKE	
885-5077-3	TSP05	Total/NA	Solid	SHAKE	
885-5077-4	TSP06	Total/NA	Solid	SHAKE	
885-5077-5	TSP07	Total/NA	Solid	SHAKE	
MB 885-5601/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-5601/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

## Analysis Batch: 5637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5077-1	TSP03	Total/NA	Solid	8015M/D	5601
885-5077-2	TSP04	Total/NA	Solid	8015M/D	5601
885-5077-3	TSP05	Total/NA	Solid	8015M/D	5601
885-5077-4	TSP06	Total/NA	Solid	8015M/D	5601
885-5077-5	TSP07	Total/NA	Solid	8015M/D	5601
MB 885-5601/1-A	Method Blank	Total/NA	Solid	8015M/D	5601
LCS 885-5601/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5601

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Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

**Client Sample ID: TSP03**  
**Date Collected: 05/23/24 12:10**  
**Date Received: 05/24/24 07:37**

**Lab Sample ID: 885-5077-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5600	AT	EET ALB	05/24/24 09:01
Total/NA	Analysis	8015M/D		1	5652	JP	EET ALB	05/24/24 13:10
Total/NA	Prep	5035			5600	AT	EET ALB	05/24/24 09:01
Total/NA	Analysis	8021B		1	5653	JP	EET ALB	05/24/24 13:10
Total/NA	Prep	SHAKE			5601	JU	EET ALB	05/24/24 09:02
Total/NA	Analysis	8015M/D		1	5637	JU	EET ALB	05/24/24 11:09

**Client Sample ID: TSP04**  
**Date Collected: 05/23/24 12:20**  
**Date Received: 05/24/24 07:37**

**Lab Sample ID: 885-5077-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5600	AT	EET ALB	05/24/24 09:01
Total/NA	Analysis	8015M/D		1	5652	JP	EET ALB	05/24/24 13:32
Total/NA	Prep	5035			5600	AT	EET ALB	05/24/24 09:01
Total/NA	Analysis	8021B		1	5653	JP	EET ALB	05/24/24 13:32
Total/NA	Prep	SHAKE			5601	JU	EET ALB	05/24/24 09:02
Total/NA	Analysis	8015M/D		1	5637	JU	EET ALB	05/24/24 11:22

**Client Sample ID: TSP05**  
**Date Collected: 05/23/24 12:30**  
**Date Received: 05/24/24 07:37**

**Lab Sample ID: 885-5077-3**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5600	AT	EET ALB	05/24/24 09:01
Total/NA	Analysis	8015M/D		1	5652	JP	EET ALB	05/24/24 13:54
Total/NA	Prep	5035			5600	AT	EET ALB	05/24/24 09:01
Total/NA	Analysis	8021B		1	5653	JP	EET ALB	05/24/24 13:54
Total/NA	Prep	SHAKE			5601	JU	EET ALB	05/24/24 09:02
Total/NA	Analysis	8015M/D		1	5637	JU	EET ALB	05/24/24 11:35

**Client Sample ID: TSP06**  
**Date Collected: 05/23/24 12:40**  
**Date Received: 05/24/24 07:37**

**Lab Sample ID: 885-5077-4**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5600	AT	EET ALB	05/24/24 09:01
Total/NA	Analysis	8015M/D		1	5652	JP	EET ALB	05/24/24 14:16
Total/NA	Prep	5035			5600	AT	EET ALB	05/24/24 09:01
Total/NA	Analysis	8021B		1	5653	JP	EET ALB	05/24/24 14:16
Total/NA	Prep	SHAKE			5601	JU	EET ALB	05/24/24 09:02
Total/NA	Analysis	8015M/D		1	5637	JU	EET ALB	05/24/24 11:47



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

Client Sample ID: TSP07

Date Collected: 05/23/24 12:50

Date Received: 05/24/24 07:37

Lab Sample ID: 885-5077-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5600	AT	EET ALB	05/24/24 09:01
Total/NA	Analysis	8015M/D		1	5652	JP	EET ALB	05/24/24 14:37
Total/NA	Prep	5035			5600	AT	EET ALB	05/24/24 09:01
Total/NA	Analysis	8021B		1	5653	JP	EET ALB	05/24/24 14:37
Total/NA	Prep	SHAKE			5601	JU	EET ALB	05/24/24 09:02
Total/NA	Analysis	8015M/D		1	5637	JU	EET ALB	05/24/24 12:00

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



Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5077-1

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
8015M/D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	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







## Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-5077-1

Login Number: 5077

List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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?	False	Refer to Job Narrative for details.
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

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

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## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-5130-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



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

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Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-5130-1

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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: SJ 27-5 #111

Job ID: 885-5130-1

**Job ID: 885-5130-1**

**Eurofins Albuquerque**

### Job Narrative 885-5130-1

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 5/25/2024 6:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C.

#### Gasoline Range Organics

Method 8015D\_GRO: Internal standard responses were outside of acceptance limits for the following samples: TSP 08 (885-5130-1), TSP 09 (885-5130-2) and TSP 11 (885-5130-4). The sample(s) shows evidence of matrix interference.

Method 8015D\_GRO: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 885-5690 and analytical batch 885-5727 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015D\_GRO: Internal standard responses were outside of acceptance limits for the following sample: TSP 08 (885-5130-1). The sample(s) shows evidence of matrix interference.

Method 8015D\_GRO: Internal standard responses were outside of acceptance limits for the following sample: TSP 10 (885-5130-3). The sample(s) shows evidence of matrix interference.

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

#### GC VOA

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

#### Diesel Range Organics

Method 8015D\_DRO: The continuing calibration verification (CCV) associated with batch 885-5719 recovered above the upper control limit for Di-n-octyl phthalate (Surr). The samples associated with this CCV were non-detects for the affected analytes or had passing surrogate; therefore, the data have been reported. The associated sample is impacted: (CCV 885-5719/2).

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

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Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

Client Sample ID: TSP 08  
Date Collected: 05/24/24 11:40  
Date Received: 05/25/24 06:30

Lab Sample ID: 885-5130-1  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	21	F1	3.8	mg/Kg		05/28/24 09:48	05/28/24 14:46	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	301	S1+	35 - 166			05/28/24 09:48	05/28/24 14:46	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.019	mg/Kg		05/28/24 09:48	05/28/24 14:46	1	
Ethylbenzene	0.078		0.038	mg/Kg		05/28/24 09:48	05/28/24 14:46	1	
Toluene	ND		0.038	mg/Kg		05/28/24 09:48	05/28/24 14:46	1	
Xylenes, Total	ND		0.075	mg/Kg		05/28/24 09:48	05/28/24 14:46	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		48 - 145			05/28/24 09:48	05/28/24 14:46	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	35		9.5	mg/Kg		05/28/24 09:00	05/28/24 11:29	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		05/28/24 09:00	05/28/24 11:29	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	112		62 - 134			05/28/24 09:00	05/28/24 11:29	1	



## Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

Client Sample ID: TSP 09

Lab Sample ID: 885-5130-2

Date Collected: 05/24/24 11:50

Matrix: Solid

Date Received: 05/25/24 06:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	25		3.6	mg/Kg		05/28/24 09:48	05/28/24 15:10	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	405	S1+	35 - 166			05/28/24 09:48	05/28/24 15:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018	mg/Kg		05/28/24 09:48	05/28/24 15:10	1
Ethylbenzene	0.095		0.036	mg/Kg		05/28/24 09:48	05/28/24 15:10	1
Toluene	ND		0.036	mg/Kg		05/28/24 09:48	05/28/24 15:10	1
Xylenes, Total	ND		0.073	mg/Kg		05/28/24 09:48	05/28/24 15:10	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	100		48 - 145			05/28/24 09:48	05/28/24 15:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	47		9.1	mg/Kg		05/28/24 09:00	05/28/24 11:41	1
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		05/28/24 09:00	05/28/24 11:41	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Di-n-octyl phthalate (Surr)	101		62 - 134			05/28/24 09:00	05/28/24 11:41	1

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## Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

Client Sample ID: TSP 10

Lab Sample ID: 885-5130-3

Date Collected: 05/24/24 12:00

Matrix: Solid

Date Received: 05/25/24 06:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	34		3.9	mg/Kg		05/28/24 09:48	05/28/24 12:50	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	359	S1+	35 - 166			05/28/24 09:48	05/28/24 12:50	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019	mg/Kg		05/28/24 09:48	05/28/24 12:50	1
Ethylbenzene	0.13		0.039	mg/Kg		05/28/24 09:48	05/28/24 12:50	1
Toluene	ND		0.039	mg/Kg		05/28/24 09:48	05/28/24 12:50	1
Xylenes, Total	0.16		0.077	mg/Kg		05/28/24 09:48	05/28/24 12:50	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	104		48 - 145			05/28/24 09:48	05/28/24 12:50	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	36		9.3	mg/Kg		05/28/24 09:00	05/28/24 11:54	1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		05/28/24 09:00	05/28/24 11:54	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Di-n-octyl phthalate (Surr)	105		62 - 134			05/28/24 09:00	05/28/24 11:54	1

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Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

Client Sample ID: TSP 11  
Date Collected: 05/24/24 12:10  
Date Received: 05/25/24 06:30

Lab Sample ID: 885-5130-4  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	28		3.7	mg/Kg		05/28/24 09:48	05/28/24 13:13	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	203	S1+	35 - 166			05/28/24 09:48	05/28/24 13:13	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.018	mg/Kg		05/28/24 09:48	05/28/24 13:13	1	
Ethylbenzene	0.12		0.037	mg/Kg		05/28/24 09:48	05/28/24 13:13	1	
Toluene	ND		0.037	mg/Kg		05/28/24 09:48	05/28/24 13:13	1	
Xylenes, Total	ND		0.073	mg/Kg		05/28/24 09:48	05/28/24 13:13	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	102		48 - 145			05/28/24 09:48	05/28/24 13:13	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	38		9.3	mg/Kg		05/28/24 09:00	05/28/24 12:07	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		05/28/24 09:00	05/28/24 12:07	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	103		62 - 134			05/28/24 09:00	05/28/24 12:07	1	



## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

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

Lab Sample ID: MB 885-5690/1-A

Matrix: Solid

Analysis Batch: 5727

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5690

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		05/28/24 09:48	05/28/24 11:40	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		35 - 166			05/28/24 09:48	05/28/24 11:40	1

Lab Sample ID: LCS 885-5690/2-A

Matrix: Solid

Analysis Batch: 5727

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	25.0	24.6		mg/Kg		98	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	198	S1+	35 - 166				

Lab Sample ID: 885-5130-1 MS

Matrix: Solid

Analysis Batch: 5727

Client Sample ID: TSP 08

Prep Type: Total/NA

Prep Batch: 5690

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	21	F1	18.8	46.3	F1	mg/Kg		137	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	539	S1+	35 - 166						

Lab Sample ID: 885-5130-1 MSD

Matrix: Solid

Analysis Batch: 5727

Client Sample ID: TSP 08

Prep Type: Total/NA

Prep Batch: 5690

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	21	F1	18.8	42.7		mg/Kg		118	70 - 130	8	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	489	S1+	35 - 166								

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

Lab Sample ID: MB 885-5690/1-A

Matrix: Solid

Analysis Batch: 5728

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5690

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		05/28/24 09:48	05/28/24 11:40	1
Ethylbenzene	ND		0.050	mg/Kg		05/28/24 09:48	05/28/24 11:40	1
Toluene	ND		0.050	mg/Kg		05/28/24 09:48	05/28/24 11:40	1

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## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

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

Lab Sample ID: MB 885-5690/1-A

Matrix: Solid

Analysis Batch: 5728

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5690

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10	mg/Kg		05/28/24 09:48	05/28/24 11:40	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		48 - 145			05/28/24 09:48	05/28/24 11:40	1

Lab Sample ID: LCS 885-5690/3-A

Matrix: Solid

Analysis Batch: 5728

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.949		mg/Kg		95	70 - 130
Ethylbenzene	1.00	0.884		mg/Kg		88	70 - 130
m&p-Xylene	2.00	1.78		mg/Kg		89	70 - 130
o-Xylene	1.00	0.881		mg/Kg		88	70 - 130
Toluene	1.00	0.886		mg/Kg		89	70 - 130
Xylenes, Total	3.00	2.67		mg/Kg		89	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	93		48 - 145				

Lab Sample ID: 885-5130-2 MS

Matrix: Solid

Analysis Batch: 5728

Client Sample ID: TSP 09

Prep Type: Total/NA

Prep Batch: 5690

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		0.730	0.682		mg/Kg		93	70 - 130
Ethylbenzene	0.095		0.730	0.703		mg/Kg		83	70 - 130
m&p-Xylene	ND		1.46	1.38		mg/Kg		91	70 - 130
o-Xylene	ND		0.730	0.658		mg/Kg		90	70 - 130
Toluene	ND		0.730	0.643		mg/Kg		88	70 - 130
Xylenes, Total	ND		2.19	2.04		mg/Kg		91	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	103		48 - 145						

Lab Sample ID: 885-5130-2 MSD

Matrix: Solid

Analysis Batch: 5728

Client Sample ID: TSP 09

Prep Type: Total/NA

Prep Batch: 5690

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	ND		0.730	0.675		mg/Kg		92	70 - 130	1	20
Ethylbenzene	0.095		0.730	0.692		mg/Kg		82	70 - 130	1	20
m&p-Xylene	ND		1.46	1.37		mg/Kg		90	70 - 130	1	20
o-Xylene	ND		0.730	0.662		mg/Kg		91	70 - 130	1	20
Toluene	ND		0.730	0.641		mg/Kg		88	70 - 130	0	20
Xylenes, Total	ND		2.19	2.04		mg/Kg		90	70 - 130	0	20

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

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

Lab Sample ID: 885-5130-2 MSD  
Matrix: Solid  
Analysis Batch: 5728

Client Sample ID: TSP 09  
Prep Type: Total/NA  
Prep Batch: 5690

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		48 - 145

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

Lab Sample ID: MB 885-5686/1-A  
Matrix: Solid  
Analysis Batch: 5719

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 5686

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		05/28/24 09:00	05/28/24 11:04	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		05/28/24 09:00	05/28/24 11:04	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	109		62 - 134			05/28/24 09:00	05/28/24 11:04	1

Lab Sample ID: LCS 885-5686/2-A  
Matrix: Solid  
Analysis Batch: 5719

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 5686

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	44.7		mg/Kg		89	60 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Di-n-octyl phthalate (Surr)	103		62 - 134				

Lab Sample ID: 885-5130-4 MS  
Matrix: Solid  
Analysis Batch: 5719

Client Sample ID: TSP 11  
Prep Type: Total/NA  
Prep Batch: 5686

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	38		50.0	85.2		mg/Kg		94	44 - 136
Surrogate	MS %Recovery	MS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	106		62 - 134						

Lab Sample ID: 885-5130-4 MSD  
Matrix: Solid  
Analysis Batch: 5719

Client Sample ID: TSP 11  
Prep Type: Total/NA  
Prep Batch: 5686

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	38		47.3	76.4		mg/Kg		80	44 - 136	11	32
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Di-n-octyl phthalate (Surr)	107		62 - 134								

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QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

GC VOA

Prep Batch: 5690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5130-1	TSP 08	Total/NA	Solid	5035	
885-5130-2	TSP 09	Total/NA	Solid	5035	
885-5130-3	TSP 10	Total/NA	Solid	5035	
885-5130-4	TSP 11	Total/NA	Solid	5035	
MB 885-5690/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-5690/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-5690/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-5130-1 MS	TSP 08	Total/NA	Solid	5035	
885-5130-1 MSD	TSP 08	Total/NA	Solid	5035	
885-5130-2 MS	TSP 09	Total/NA	Solid	5035	
885-5130-2 MSD	TSP 09	Total/NA	Solid	5035	

Analysis Batch: 5727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5130-1	TSP 08	Total/NA	Solid	8015M/D	5690
885-5130-2	TSP 09	Total/NA	Solid	8015M/D	5690
885-5130-3	TSP 10	Total/NA	Solid	8015M/D	5690
885-5130-4	TSP 11	Total/NA	Solid	8015M/D	5690
MB 885-5690/1-A	Method Blank	Total/NA	Solid	8015M/D	5690
LCS 885-5690/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5690
885-5130-1 MS	TSP 08	Total/NA	Solid	8015M/D	5690
885-5130-1 MSD	TSP 08	Total/NA	Solid	8015M/D	5690

Analysis Batch: 5728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5130-1	TSP 08	Total/NA	Solid	8021B	5690
885-5130-2	TSP 09	Total/NA	Solid	8021B	5690
885-5130-3	TSP 10	Total/NA	Solid	8021B	5690
885-5130-4	TSP 11	Total/NA	Solid	8021B	5690
MB 885-5690/1-A	Method Blank	Total/NA	Solid	8021B	5690
LCS 885-5690/3-A	Lab Control Sample	Total/NA	Solid	8021B	5690
885-5130-2 MS	TSP 09	Total/NA	Solid	8021B	5690
885-5130-2 MSD	TSP 09	Total/NA	Solid	8021B	5690

GC Semi VOA

Prep Batch: 5686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5130-1	TSP 08	Total/NA	Solid	SHAKE	
885-5130-2	TSP 09	Total/NA	Solid	SHAKE	
885-5130-3	TSP 10	Total/NA	Solid	SHAKE	
885-5130-4	TSP 11	Total/NA	Solid	SHAKE	
MB 885-5686/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-5686/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-5130-4 MS	TSP 11	Total/NA	Solid	SHAKE	
885-5130-4 MSD	TSP 11	Total/NA	Solid	SHAKE	

Analysis Batch: 5719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5130-1	TSP 08	Total/NA	Solid	8015M/D	5686
885-5130-2	TSP 09	Total/NA	Solid	8015M/D	5686

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QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

GC Semi VOA (Continued)

Analysis Batch: 5719 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5130-3	TSP 10	Total/NA	Solid	8015M/D	5686
885-5130-4	TSP 11	Total/NA	Solid	8015M/D	5686
MB 885-5686/1-A	Method Blank	Total/NA	Solid	8015M/D	5686
LCS 885-5686/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5686
885-5130-4 MS	TSP 11	Total/NA	Solid	8015M/D	5686
885-5130-4 MSD	TSP 11	Total/NA	Solid	8015M/D	5686

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Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

Client Sample ID: TSP 08  
Date Collected: 05/24/24 11:40  
Date Received: 05/25/24 06:30

Lab Sample ID: 885-5130-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5690	JP	EET ALB	05/28/24 09:48
Total/NA	Analysis	8015M/D		1	5727	JP	EET ALB	05/28/24 14:46
Total/NA	Prep	5035			5690	JP	EET ALB	05/28/24 09:48
Total/NA	Analysis	8021B		1	5728	JP	EET ALB	05/28/24 14:46
Total/NA	Prep	SHAKE			5686	JU	EET ALB	05/28/24 09:00
Total/NA	Analysis	8015M/D		1	5719	JU	EET ALB	05/28/24 11:29

Client Sample ID: TSP 09  
Date Collected: 05/24/24 11:50  
Date Received: 05/25/24 06:30

Lab Sample ID: 885-5130-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5690	JP	EET ALB	05/28/24 09:48
Total/NA	Analysis	8015M/D		1	5727	JP	EET ALB	05/28/24 15:10
Total/NA	Prep	5035			5690	JP	EET ALB	05/28/24 09:48
Total/NA	Analysis	8021B		1	5728	JP	EET ALB	05/28/24 15:10
Total/NA	Prep	SHAKE			5686	JU	EET ALB	05/28/24 09:00
Total/NA	Analysis	8015M/D		1	5719	JU	EET ALB	05/28/24 11:41

Client Sample ID: TSP 10  
Date Collected: 05/24/24 12:00  
Date Received: 05/25/24 06:30

Lab Sample ID: 885-5130-3  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5690	JP	EET ALB	05/28/24 09:48
Total/NA	Analysis	8015M/D		1	5727	JP	EET ALB	05/28/24 12:50
Total/NA	Prep	5035			5690	JP	EET ALB	05/28/24 09:48
Total/NA	Analysis	8021B		1	5728	JP	EET ALB	05/28/24 12:50
Total/NA	Prep	SHAKE			5686	JU	EET ALB	05/28/24 09:00
Total/NA	Analysis	8015M/D		1	5719	JU	EET ALB	05/28/24 11:54

Client Sample ID: TSP 11  
Date Collected: 05/24/24 12:10  
Date Received: 05/25/24 06:30

Lab Sample ID: 885-5130-4  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5690	JP	EET ALB	05/28/24 09:48
Total/NA	Analysis	8015M/D		1	5727	JP	EET ALB	05/28/24 13:13
Total/NA	Prep	5035			5690	JP	EET ALB	05/28/24 09:48
Total/NA	Analysis	8021B		1	5728	JP	EET ALB	05/28/24 13:13
Total/NA	Prep	SHAKE			5686	JU	EET ALB	05/28/24 09:00
Total/NA	Analysis	8015M/D		1	5719	JU	EET ALB	05/28/24 12:07

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

Eurofins Albuquerque



Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5130-1

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
8015M/D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	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







## Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-5130-1

Login Number: 5130

List Number: 1

Creator: Rojas, Juan

List Source: Eurofins Albuquerque

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





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Samantha Grabert  
Hilcorp Energy  
PO BOX 4700  
Farmington, New Mexico 87499

Generated 6/5/2024 2:38:49 PM

## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-5353-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



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



Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-5353-1

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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: SJ 27-5 #111

Job ID: 885-5353-1

Job ID: 885-5353-1Eurofins Albuquerque

Job Narrative  
885-5353-1

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 5/31/2024 7:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.9°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.

Eurofins Albuquerque



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: FS07  
Date Collected: 05/30/24 11:00  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5353-1  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND	F1	6.7	mg/Kg		05/31/24 08:55	05/31/24 11:05		2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		35 - 166			05/31/24 08:55	05/31/24 11:05		2
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.034	mg/Kg		05/31/24 08:55	05/31/24 11:05		2
Ethylbenzene	ND		0.067	mg/Kg		05/31/24 08:55	05/31/24 11:05		2
Toluene	ND		0.067	mg/Kg		05/31/24 08:55	05/31/24 11:05		2
Xylenes, Total	ND		0.13	mg/Kg		05/31/24 08:55	05/31/24 11:05		2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		48 - 145			05/31/24 08:55	05/31/24 11:05		2
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		8.5	mg/Kg		05/31/24 08:49	05/31/24 11:23		1
Motor Oil Range Organics [C28-C40]	ND		42	mg/Kg		05/31/24 08:49	05/31/24 11:23		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	92		62 - 134			05/31/24 08:49	05/31/24 11:23		1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: FS08  
Date Collected: 05/30/24 11:10  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5353-2  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		7.3	mg/Kg		05/31/24 08:55	05/31/24 11:28	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	101		35 - 166			05/31/24 08:55	05/31/24 11:28	2	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.037	mg/Kg		05/31/24 08:55	05/31/24 11:28	2	
Ethylbenzene	ND		0.073	mg/Kg		05/31/24 08:55	05/31/24 11:28	2	
Toluene	ND		0.073	mg/Kg		05/31/24 08:55	05/31/24 11:28	2	
Xylenes, Total	ND		0.15	mg/Kg		05/31/24 08:55	05/31/24 11:28	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		48 - 145			05/31/24 08:55	05/31/24 11:28	2	
Method: SW846 8015M/D - 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		05/31/24 08:49	05/31/24 11:33	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		05/31/24 08:49	05/31/24 11:33	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	96		62 - 134			05/31/24 08:49	05/31/24 11:33	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: FS09  
Date Collected: 05/30/24 11:20  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5353-3  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		3.8	mg/Kg		05/31/24 08:55	05/31/24 16:32		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	116		35 - 166			05/31/24 08:55	05/31/24 16:32		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.019	mg/Kg		05/31/24 08:55	05/31/24 16:32		1
Ethylbenzene	ND		0.038	mg/Kg		05/31/24 08:55	05/31/24 16:32		1
Toluene	ND		0.038	mg/Kg		05/31/24 08:55	05/31/24 16:32		1
Xylenes, Total	0.11		0.075	mg/Kg		05/31/24 08:55	05/31/24 16:32		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	96		48 - 145			05/31/24 08:55	05/31/24 16:32		1
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	10		8.6	mg/Kg		05/31/24 08:49	05/31/24 11:44		1
Motor Oil Range Organics [C28-C40]	ND		43	mg/Kg		05/31/24 08:49	05/31/24 11:44		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	110		62 - 134			05/31/24 08:49	05/31/24 11:44		1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: FS10  
Date Collected: 05/30/24 11:30  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5353-4  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		3.3	mg/Kg		05/31/24 08:55	05/31/24 16:09	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		35 - 166			05/31/24 08:55	05/31/24 16:09	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	0.050		0.017	mg/Kg		05/31/24 08:55	05/31/24 16:09	1	
Ethylbenzene	ND		0.033	mg/Kg		05/31/24 08:55	05/31/24 16:09	1	
Toluene	0.16		0.033	mg/Kg		05/31/24 08:55	05/31/24 16:09	1	
Xylenes, Total	0.17		0.066	mg/Kg		05/31/24 08:55	05/31/24 16:09	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		48 - 145			05/31/24 08:55	05/31/24 16:09	1	
Method: SW846 8015M/D - 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		05/31/24 08:49	05/31/24 11:54	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		05/31/24 08:49	05/31/24 11:54	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	110		62 - 134			05/31/24 08:49	05/31/24 11:54	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: FS11  
Date Collected: 05/30/24 11:40  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5353-5  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	9.1		5.1	mg/Kg		05/31/24 08:55	05/31/24 14:35	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	125		35 - 166			05/31/24 08:55	05/31/24 14:35	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	0.039		0.025	mg/Kg		05/31/24 08:55	05/31/24 14:35	1	
Ethylbenzene	0.055		0.051	mg/Kg		05/31/24 08:55	05/31/24 14:35	1	
Toluene	0.18		0.051	mg/Kg		05/31/24 08:55	05/31/24 14:35	1	
Xylenes, Total	0.84		0.10	mg/Kg		05/31/24 08:55	05/31/24 14:35	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	98		48 - 145			05/31/24 08:55	05/31/24 14:35	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	14		9.8	mg/Kg		05/31/24 08:49	05/31/24 12:05	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		05/31/24 08:49	05/31/24 12:05	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	97		62 - 134			05/31/24 08:49	05/31/24 12:05	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: SW08  
Date Collected: 05/30/24 12:00  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5353-6  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	15		4.2	mg/Kg		05/31/24 08:55	05/31/24 13:02	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	162		35 - 166			05/31/24 08:55	05/31/24 13:02	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.021	mg/Kg		05/31/24 08:55	05/31/24 13:02	1	
Ethylbenzene	0.052		0.042	mg/Kg		05/31/24 08:55	05/31/24 13:02	1	
Toluene	0.056		0.042	mg/Kg		05/31/24 08:55	05/31/24 13:02	1	
Xylenes, Total	0.63		0.084	mg/Kg		05/31/24 08:55	05/31/24 13:02	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	97		48 - 145			05/31/24 08:55	05/31/24 13:02	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		05/31/24 08:49	05/31/24 11:33	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		05/31/24 08:49	05/31/24 11:33	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	104		62 - 134			05/31/24 08:49	05/31/24 11:33	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: SW09  
Date Collected: 05/30/24 12:10  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5353-7  
Matrix: Solid

Method: SW846 8015M/D - 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		05/31/24 08:55	05/31/24 13:25	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	98		35 - 166			05/31/24 08:55	05/31/24 13:25	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.021	mg/Kg		05/31/24 08:55	05/31/24 13:25	1	
Ethylbenzene	ND		0.042	mg/Kg		05/31/24 08:55	05/31/24 13:25	1	
Toluene	ND		0.042	mg/Kg		05/31/24 08:55	05/31/24 13:25	1	
Xylenes, Total	ND		0.084	mg/Kg		05/31/24 08:55	05/31/24 13:25	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		48 - 145			05/31/24 08:55	05/31/24 13:25	1	

Method: SW846 8015M/D - 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		05/31/24 08:49	05/31/24 11:46	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		05/31/24 08:49	05/31/24 11:46	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	106		62 - 134			05/31/24 08:49	05/31/24 11:46	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: SW10

Lab Sample ID: 885-5353-8

Date Collected: 05/30/24 12:20

Matrix: Solid

Date Received: 05/31/24 07:00

Method: SW846 8015M/D - 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		05/31/24 08:55	05/31/24 13:48	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			05/31/24 08:55	05/31/24 13:48	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.017	mg/Kg		05/31/24 08:55	05/31/24 13:48	1	
Ethylbenzene	ND		0.034	mg/Kg		05/31/24 08:55	05/31/24 13:48	1	
Toluene	ND		0.034	mg/Kg		05/31/24 08:55	05/31/24 13:48	1	
Xylenes, Total	ND		0.068	mg/Kg		05/31/24 08:55	05/31/24 13:48	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	91		48 - 145			05/31/24 08:55	05/31/24 13:48	1	

Method: SW846 8015M/D - 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		05/31/24 08:49	05/31/24 11:59	1	
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		05/31/24 08:49	05/31/24 11:59	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	107		62 - 134			05/31/24 08:49	05/31/24 11:59	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: SW11

Lab Sample ID: 885-5353-9

Date Collected: 05/30/24 12:30

Matrix: Solid

Date Received: 05/31/24 07:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.7	mg/Kg		05/31/24 08:55	05/31/24 14:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		35 - 166			05/31/24 08:55	05/31/24 14:12	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018	mg/Kg		05/31/24 08:55	05/31/24 14:12	1
Ethylbenzene	ND		0.037	mg/Kg		05/31/24 08:55	05/31/24 14:12	1
Toluene	ND		0.037	mg/Kg		05/31/24 08:55	05/31/24 14:12	1
Xylenes, Total	ND		0.073	mg/Kg		05/31/24 08:55	05/31/24 14:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		48 - 145			05/31/24 08:55	05/31/24 14:12	1

Method: SW846 8015M/D - 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		05/31/24 08:49	05/31/24 12:12	1
Motor Oil Range Organics [C28-C40]	ND		44	mg/Kg		05/31/24 08:49	05/31/24 12:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	106		62 - 134			05/31/24 08:49	05/31/24 12:12	1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: SW12

Lab Sample ID: 885-5353-10

Date Collected: 05/30/24 13:00

Matrix: Solid

Date Received: 05/31/24 07:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		05/31/24 08:55	05/31/24 14:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		35 - 166			05/31/24 08:55	05/31/24 14:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		05/31/24 08:55	05/31/24 14:59	1
Ethylbenzene	ND		0.048	mg/Kg		05/31/24 08:55	05/31/24 14:59	1
Toluene	ND		0.048	mg/Kg		05/31/24 08:55	05/31/24 14:59	1
Xylenes, Total	ND		0.095	mg/Kg		05/31/24 08:55	05/31/24 14:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		48 - 145			05/31/24 08:55	05/31/24 14:59	1

Method: SW846 8015M/D - 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		05/31/24 08:49	05/31/24 12:16	1
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		05/31/24 08:49	05/31/24 12:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	98		62 - 134			05/31/24 08:49	05/31/24 12:16	1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: SW13

Lab Sample ID: 885-5353-11

Date Collected: 05/30/24 13:10

Matrix: Solid

Date Received: 05/31/24 07:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.5	mg/Kg		05/31/24 08:55	05/31/24 15:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		35 - 166			05/31/24 08:55	05/31/24 15:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017	mg/Kg		05/31/24 08:55	05/31/24 15:45	1
Ethylbenzene	ND		0.035	mg/Kg		05/31/24 08:55	05/31/24 15:45	1
Toluene	ND		0.035	mg/Kg		05/31/24 08:55	05/31/24 15:45	1
Xylenes, Total	ND		0.069	mg/Kg		05/31/24 08:55	05/31/24 15:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		48 - 145			05/31/24 08:55	05/31/24 15:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	9.9		9.9	mg/Kg		05/31/24 08:49	05/31/24 12:26	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		05/31/24 08:49	05/31/24 12:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	96		62 - 134			05/31/24 08:49	05/31/24 12:26	1



QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

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

Lab Sample ID: MB 885-5926/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5951						Prep Batch: 5926			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		05/31/24 08:55	05/31/24 10:41	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	96		35 - 166			05/31/24 08:55	05/31/24 10:41	1	

Lab Sample ID: LCS 885-5926/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5951						Prep Batch: 5926			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]			25.0	24.4		mg/Kg		97	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	205	S1+	35 - 166						

Lab Sample ID: 885-5353-1 MS						Client Sample ID: FS07			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5951						Prep Batch: 5926			
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	ND	F1	33.6	32.0		mg/Kg		95	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	204	S1+	35 - 166						

Lab Sample ID: 885-5353-1 MSD									Client Sample ID: FS07			
Matrix: Solid									Prep Type: Total/NA			
Analysis Batch: 5951									Prep Batch: 5926			
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limits	
Gasoline Range Organics [C6 - C10]	ND	F1	33.6	32.5		mg/Kg		97	70 - 130	2	20	
Surrogate	MSD %Recovery	MSD Qualifier	Limits									
4-Bromofluorobenzene (Surr)	202	S1+	35 - 166									

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-5926/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5952						Prep Batch: 5926			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		05/31/24 08:55	05/31/24 10:41	1	
Ethylbenzene	ND		0.050	mg/Kg		05/31/24 08:55	05/31/24 10:41	1	
Toluene	ND		0.050	mg/Kg		05/31/24 08:55	05/31/24 10:41	1	

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## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

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

Lab Sample ID: MB 885-5926/1-A

Matrix: Solid

Analysis Batch: 5952

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5926

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10	mg/Kg		05/31/24 08:55	05/31/24 10:41	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		48 - 145			05/31/24 08:55	05/31/24 10:41	1

Lab Sample ID: LCS 885-5926/3-A

Matrix: Solid

Analysis Batch: 5952

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.931		mg/Kg		93	70 - 130
Ethylbenzene	1.00	0.876		mg/Kg		88	70 - 130
m&p-Xylene	2.00	1.78		mg/Kg		89	70 - 130
o-Xylene	1.00	0.879		mg/Kg		88	70 - 130
Toluene	1.00	0.871		mg/Kg		87	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	94		48 - 145				

Lab Sample ID: 885-5353-2 MS

Matrix: Solid

Analysis Batch: 5952

Client Sample ID: FS08

Prep Type: Total/NA

Prep Batch: 5926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		1.47	1.36		mg/Kg		93	70 - 130
Ethylbenzene	ND		1.47	1.30		mg/Kg		87	70 - 130
m&p-Xylene	ND		2.93	2.64		mg/Kg		88	70 - 130
o-Xylene	ND		1.47	1.30		mg/Kg		89	70 - 130
Toluene	ND		1.47	1.28		mg/Kg		86	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	95		48 - 145						

Lab Sample ID: 885-5353-2 MSD

Matrix: Solid

Analysis Batch: 5952

Client Sample ID: FS08

Prep Type: Total/NA

Prep Batch: 5926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		1.47	1.31		mg/Kg		89	70 - 130	4	20
Ethylbenzene	ND		1.47	1.25		mg/Kg		84	70 - 130	4	20
m&p-Xylene	ND		2.93	2.56		mg/Kg		85	70 - 130	3	20
o-Xylene	ND		1.47	1.24		mg/Kg		84	70 - 130	5	20
Toluene	ND		1.47	1.24		mg/Kg		83	70 - 130	4	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	95		48 - 145								

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

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

Lab Sample ID: MB 885-5924/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5949						Prep Batch: 5924			
	MB	MB							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		05/31/24 08:49	05/31/24 11:01		1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		05/31/24 08:49	05/31/24 11:01		1
	MB	MB							
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	96		62 - 134			05/31/24 08:49	05/31/24 11:01		1

Lab Sample ID: LCS 885-5924/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5949						Prep Batch: 5924			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]			50.0	49.6		mg/Kg		99	60 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	94		62 - 134						

Lab Sample ID: 885-5353-11 MS						Client Sample ID: SW13			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5950						Prep Batch: 5924			
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	9.9		47.3	38.9		mg/Kg		61	44 - 136
Surrogate	MS %Recovery	MS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	101		62 - 134						

Lab Sample ID: 885-5353-11 MSD

Client Sample ID: SW13

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 5950

Prep Batch: 5924

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	9.9		47.3	41.8		mg/Kg		67	44 - 136	7	32
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Di-n-octyl phthalate (Surr)	103		62 - 134								



## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

## GC VOA

## Prep Batch: 5926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5353-1	FS07	Total/NA	Solid	5035	
885-5353-2	FS08	Total/NA	Solid	5035	
885-5353-3	FS09	Total/NA	Solid	5035	
885-5353-4	FS10	Total/NA	Solid	5035	
885-5353-5	FS11	Total/NA	Solid	5035	
885-5353-6	SW08	Total/NA	Solid	5035	
885-5353-7	SW09	Total/NA	Solid	5035	
885-5353-8	SW10	Total/NA	Solid	5035	
885-5353-9	SW11	Total/NA	Solid	5035	
885-5353-10	SW12	Total/NA	Solid	5035	
885-5353-11	SW13	Total/NA	Solid	5035	
MB 885-5926/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-5926/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-5926/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-5353-1 MS	FS07	Total/NA	Solid	5035	
885-5353-1 MSD	FS07	Total/NA	Solid	5035	
885-5353-2 MS	FS08	Total/NA	Solid	5035	
885-5353-2 MSD	FS08	Total/NA	Solid	5035	

## Analysis Batch: 5951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5353-1	FS07	Total/NA	Solid	8015M/D	5926
885-5353-2	FS08	Total/NA	Solid	8015M/D	5926
885-5353-3	FS09	Total/NA	Solid	8015M/D	5926
885-5353-4	FS10	Total/NA	Solid	8015M/D	5926
885-5353-5	FS11	Total/NA	Solid	8015M/D	5926
885-5353-6	SW08	Total/NA	Solid	8015M/D	5926
885-5353-7	SW09	Total/NA	Solid	8015M/D	5926
885-5353-8	SW10	Total/NA	Solid	8015M/D	5926
885-5353-9	SW11	Total/NA	Solid	8015M/D	5926
885-5353-10	SW12	Total/NA	Solid	8015M/D	5926
885-5353-11	SW13	Total/NA	Solid	8015M/D	5926
MB 885-5926/1-A	Method Blank	Total/NA	Solid	8015M/D	5926
LCS 885-5926/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5926
885-5353-1 MS	FS07	Total/NA	Solid	8015M/D	5926
885-5353-1 MSD	FS07	Total/NA	Solid	8015M/D	5926

## Analysis Batch: 5952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5353-1	FS07	Total/NA	Solid	8021B	5926
885-5353-2	FS08	Total/NA	Solid	8021B	5926
885-5353-3	FS09	Total/NA	Solid	8021B	5926
885-5353-4	FS10	Total/NA	Solid	8021B	5926
885-5353-5	FS11	Total/NA	Solid	8021B	5926
885-5353-6	SW08	Total/NA	Solid	8021B	5926
885-5353-7	SW09	Total/NA	Solid	8021B	5926
885-5353-8	SW10	Total/NA	Solid	8021B	5926
885-5353-9	SW11	Total/NA	Solid	8021B	5926
885-5353-10	SW12	Total/NA	Solid	8021B	5926
885-5353-11	SW13	Total/NA	Solid	8021B	5926
MB 885-5926/1-A	Method Blank	Total/NA	Solid	8021B	5926

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## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

## GC VOA (Continued)

## Analysis Batch: 5952 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 885-5926/3-A	Lab Control Sample	Total/NA	Solid	8021B	5926
885-5353-2 MS	FS08	Total/NA	Solid	8021B	5926
885-5353-2 MSD	FS08	Total/NA	Solid	8021B	5926

## GC Semi VOA

## Prep Batch: 5924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5353-1	FS07	Total/NA	Solid	SHAKE	
885-5353-2	FS08	Total/NA	Solid	SHAKE	
885-5353-3	FS09	Total/NA	Solid	SHAKE	
885-5353-4	FS10	Total/NA	Solid	SHAKE	
885-5353-5	FS11	Total/NA	Solid	SHAKE	
885-5353-6	SW08	Total/NA	Solid	SHAKE	
885-5353-7	SW09	Total/NA	Solid	SHAKE	
885-5353-8	SW10	Total/NA	Solid	SHAKE	
885-5353-9	SW11	Total/NA	Solid	SHAKE	
885-5353-10	SW12	Total/NA	Solid	SHAKE	
885-5353-11	SW13	Total/NA	Solid	SHAKE	
MB 885-5924/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-5924/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-5353-11 MS	SW13	Total/NA	Solid	SHAKE	
885-5353-11 MSD	SW13	Total/NA	Solid	SHAKE	

## Analysis Batch: 5949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5353-1	FS07	Total/NA	Solid	8015M/D	5924
885-5353-2	FS08	Total/NA	Solid	8015M/D	5924
885-5353-3	FS09	Total/NA	Solid	8015M/D	5924
885-5353-4	FS10	Total/NA	Solid	8015M/D	5924
885-5353-5	FS11	Total/NA	Solid	8015M/D	5924
885-5353-10	SW12	Total/NA	Solid	8015M/D	5924
885-5353-11	SW13	Total/NA	Solid	8015M/D	5924
MB 885-5924/1-A	Method Blank	Total/NA	Solid	8015M/D	5924
LCS 885-5924/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5924

## Analysis Batch: 5950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5353-6	SW08	Total/NA	Solid	8015M/D	5924
885-5353-7	SW09	Total/NA	Solid	8015M/D	5924
885-5353-8	SW10	Total/NA	Solid	8015M/D	5924
885-5353-9	SW11	Total/NA	Solid	8015M/D	5924
885-5353-11 MS	SW13	Total/NA	Solid	8015M/D	5924
885-5353-11 MSD	SW13	Total/NA	Solid	8015M/D	5924

Eurofins Albuquerque



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

**Client Sample ID: FS07**  
**Date Collected: 05/30/24 11:00**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5353-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		2	5951	JP	EET ALB	05/31/24 11:05
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		2	5952	JP	EET ALB	05/31/24 11:05
Total/NA	Prep	SHAKE			5924	JU	EET ALB	05/31/24 08:49
Total/NA	Analysis	8015M/D		1	5949	JU	EET ALB	05/31/24 11:23

**Client Sample ID: FS08**  
**Date Collected: 05/30/24 11:10**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5353-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		2	5951	JP	EET ALB	05/31/24 11:28
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		2	5952	JP	EET ALB	05/31/24 11:28
Total/NA	Prep	SHAKE			5924	JU	EET ALB	05/31/24 08:49
Total/NA	Analysis	8015M/D		1	5949	JU	EET ALB	05/31/24 11:33

**Client Sample ID: FS09**  
**Date Collected: 05/30/24 11:20**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5353-3**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 16:32
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 16:32
Total/NA	Prep	SHAKE			5924	JU	EET ALB	05/31/24 08:49
Total/NA	Analysis	8015M/D		1	5949	JU	EET ALB	05/31/24 11:44

**Client Sample ID: FS10**  
**Date Collected: 05/30/24 11:30**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5353-4**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 16:09
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 16:09
Total/NA	Prep	SHAKE			5924	JU	EET ALB	05/31/24 08:49
Total/NA	Analysis	8015M/D		1	5949	JU	EET ALB	05/31/24 11:54



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

Client Sample ID: FS11

Date Collected: 05/30/24 11:40

Date Received: 05/31/24 07:00

Lab Sample ID: 885-5353-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 14:35
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 14:35
Total/NA	Prep	SHAKE			5924	JU	EET ALB	05/31/24 08:49
Total/NA	Analysis	8015M/D		1	5949	JU	EET ALB	05/31/24 12:05

Client Sample ID: SW08

Date Collected: 05/30/24 12:00

Date Received: 05/31/24 07:00

Lab Sample ID: 885-5353-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 13:02
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 13:02
Total/NA	Prep	SHAKE			5924	JU	EET ALB	05/31/24 08:49
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 11:33

Client Sample ID: SW09

Date Collected: 05/30/24 12:10

Date Received: 05/31/24 07:00

Lab Sample ID: 885-5353-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 13:25
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 13:25
Total/NA	Prep	SHAKE			5924	JU	EET ALB	05/31/24 08:49
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 11:46

Client Sample ID: SW10

Date Collected: 05/30/24 12:20

Date Received: 05/31/24 07:00

Lab Sample ID: 885-5353-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 13:48
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 13:48
Total/NA	Prep	SHAKE			5924	JU	EET ALB	05/31/24 08:49
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 11:59



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

**Client Sample ID: SW11**  
**Date Collected: 05/30/24 12:30**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5353-9**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 14:12
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 14:12
Total/NA	Prep	SHAKE			5924	JU	EET ALB	05/31/24 08:49
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 12:12

**Client Sample ID: SW12**  
**Date Collected: 05/30/24 13:00**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5353-10**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 14:59
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 14:59
Total/NA	Prep	SHAKE			5924	JU	EET ALB	05/31/24 08:49
Total/NA	Analysis	8015M/D		1	5949	JU	EET ALB	05/31/24 12:16

**Client Sample ID: SW13**  
**Date Collected: 05/30/24 13:10**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5353-11**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 15:45
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 15:45
Total/NA	Prep	SHAKE			5924	JU	EET ALB	05/31/24 08:49
Total/NA	Analysis	8015M/D		1	5949	JU	EET ALB	05/31/24 12:26

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



Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5353-1

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
8015M/D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	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







## Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-5353-1

Login Number: 5353

List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

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





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Samantha Grabert  
Hilcorp Energy  
PO BOX 4700  
Farmington, New Mexico 87499

Generated 6/5/2024 2:38:49 PM

## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-5354-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



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



Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-5354-1

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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

Qualifiers

GC VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: SJ 27-5 #111

Job ID: 885-5354-1

Job ID: 885-5354-1Eurofins Albuquerque

Job Narrative  
885-5354-1

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 5/31/2024 7:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.2°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.

Eurofins Albuquerque



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

Client Sample ID: SW14  
Date Collected: 05/30/24 13:20  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5354-1  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		3.5	mg/Kg		05/31/24 08:55	05/31/24 16:55	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	96		35 - 166			05/31/24 08:55	05/31/24 16:55	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.018	mg/Kg		05/31/24 08:55	05/31/24 16:55	1	
Ethylbenzene	ND		0.035	mg/Kg		05/31/24 08:55	05/31/24 16:55	1	
Toluene	ND		0.035	mg/Kg		05/31/24 08:55	05/31/24 16:55	1	
Xylenes, Total	ND		0.070	mg/Kg		05/31/24 08:55	05/31/24 16:55	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	90		48 - 145			05/31/24 08:55	05/31/24 16:55	1	

Method: SW846 8015M/D - 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		05/31/24 14:32	05/31/24 21:23	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		05/31/24 14:32	05/31/24 21:23	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	92		62 - 134			05/31/24 14:32	05/31/24 21:23	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

Client Sample ID: SW15

Lab Sample ID: 885-5354-2

Date Collected: 05/30/24 13:30

Matrix: Solid

Date Received: 05/31/24 07:00

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	14		4.4	mg/Kg		05/31/24 08:55	05/31/24 17:19	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	159		35 - 166			05/31/24 08:55	05/31/24 17:19	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.022	mg/Kg		05/31/24 08:55	05/31/24 17:19	1	
Ethylbenzene	ND		0.044	mg/Kg		05/31/24 08:55	05/31/24 17:19	1	
Toluene	ND		0.044	mg/Kg		05/31/24 08:55	05/31/24 17:19	1	
Xylenes, Total	0.21		0.089	mg/Kg		05/31/24 08:55	05/31/24 17:19	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	97		48 - 145			05/31/24 08:55	05/31/24 17:19	1	

Method: SW846 8015M/D - 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		05/31/24 14:32	05/31/24 21:37	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		05/31/24 14:32	05/31/24 21:37	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	95		62 - 134			05/31/24 14:32	05/31/24 21:37	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

Client Sample ID: SW16

Lab Sample ID: 885-5354-3

Date Collected: 05/30/24 13:40

Matrix: Solid

Date Received: 05/31/24 07:00

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.5	mg/Kg		05/31/24 08:55	05/31/24 17:42	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		35 - 166			05/31/24 08:55	05/31/24 17:42	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.023	mg/Kg		05/31/24 08:55	05/31/24 17:42	1	
Ethylbenzene	ND		0.045	mg/Kg		05/31/24 08:55	05/31/24 17:42	1	
Toluene	ND		0.045	mg/Kg		05/31/24 08:55	05/31/24 17:42	1	
Xylenes, Total	ND		0.090	mg/Kg		05/31/24 08:55	05/31/24 17:42	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		48 - 145			05/31/24 08:55	05/31/24 17:42	1	
Method: SW846 8015M/D - 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		05/31/24 14:32	05/31/24 21:50	1	
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		05/31/24 14:32	05/31/24 21:50	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	94		62 - 134			05/31/24 14:32	05/31/24 21:50	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

Client Sample ID: SW17  
Date Collected: 05/30/24 13:50  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5354-4  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.0	mg/Kg		05/31/24 08:55	05/31/24 18:06	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	98		35 - 166			05/31/24 08:55	05/31/24 18:06	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.020	mg/Kg		05/31/24 08:55	05/31/24 18:06	1	
Ethylbenzene	ND		0.040	mg/Kg		05/31/24 08:55	05/31/24 18:06	1	
Toluene	ND		0.040	mg/Kg		05/31/24 08:55	05/31/24 18:06	1	
Xylenes, Total	ND		0.079	mg/Kg		05/31/24 08:55	05/31/24 18:06	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		48 - 145			05/31/24 08:55	05/31/24 18:06	1	

Method: SW846 8015M/D - 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		05/31/24 14:32	05/31/24 22:03	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		05/31/24 14:32	05/31/24 22:03	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	98		62 - 134			05/31/24 14:32	05/31/24 22:03	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

Client Sample ID: SW18  
Date Collected: 05/30/24 14:00  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5354-5  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.2	mg/Kg		05/31/24 08:55	05/31/24 18:29	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	101		35 - 166			05/31/24 08:55	05/31/24 18:29	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.026	mg/Kg		05/31/24 08:55	05/31/24 18:29	1	
Ethylbenzene	ND		0.052	mg/Kg		05/31/24 08:55	05/31/24 18:29	1	
Toluene	ND		0.052	mg/Kg		05/31/24 08:55	05/31/24 18:29	1	
Xylenes, Total	ND		0.10	mg/Kg		05/31/24 08:55	05/31/24 18:29	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		48 - 145			05/31/24 08:55	05/31/24 18:29	1	
Method: SW846 8015M/D - 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		05/31/24 14:32	05/31/24 22:17	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		05/31/24 14:32	05/31/24 22:17	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	105		62 - 134			05/31/24 14:32	05/31/24 22:17	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

Client Sample ID: SW19

Lab Sample ID: 885-5354-6

Date Collected: 05/30/24 14:10

Matrix: Solid

Date Received: 05/31/24 07:00

Method: SW846 8015M/D - 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		05/31/24 08:55	05/31/24 18:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		35 - 166			05/31/24 08:55	05/31/24 18:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	mg/Kg		05/31/24 08:55	05/31/24 18:52	1
Ethylbenzene	ND		0.039	mg/Kg		05/31/24 08:55	05/31/24 18:52	1
Toluene	ND		0.039	mg/Kg		05/31/24 08:55	05/31/24 18:52	1
Xylenes, Total	ND		0.079	mg/Kg		05/31/24 08:55	05/31/24 18:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		48 - 145			05/31/24 08:55	05/31/24 18:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		05/31/24 14:32	05/31/24 22:30	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		05/31/24 14:32	05/31/24 22:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	100		62 - 134			05/31/24 14:32	05/31/24 22:30	1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

Client Sample ID: SW20  
Date Collected: 05/30/24 14:15  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5354-7  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		3.7	mg/Kg		05/31/24 08:55	05/31/24 19:16	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		35 - 166			05/31/24 08:55	05/31/24 19:16	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.019	mg/Kg		05/31/24 08:55	05/31/24 19:16	1	
Ethylbenzene	ND		0.037	mg/Kg		05/31/24 08:55	05/31/24 19:16	1	
Toluene	ND		0.037	mg/Kg		05/31/24 08:55	05/31/24 19:16	1	
Xylenes, Total	ND		0.074	mg/Kg		05/31/24 08:55	05/31/24 19:16	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		48 - 145			05/31/24 08:55	05/31/24 19:16	1	
Method: SW846 8015M/D - 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		05/31/24 14:32	05/31/24 22:44	1	
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		05/31/24 14:32	05/31/24 22:44	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	97		62 - 134			05/31/24 14:32	05/31/24 22:44	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

Client Sample ID: SW21  
Date Collected: 05/30/24 14:20  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5354-8  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.3	mg/Kg		05/31/24 08:55	05/31/24 20:03	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	100		35 - 166			05/31/24 08:55	05/31/24 20:03	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.021	mg/Kg		05/31/24 08:55	05/31/24 20:03	1	
Ethylbenzene	ND		0.043	mg/Kg		05/31/24 08:55	05/31/24 20:03	1	
Toluene	ND		0.043	mg/Kg		05/31/24 08:55	05/31/24 20:03	1	
Xylenes, Total	ND		0.086	mg/Kg		05/31/24 08:55	05/31/24 20:03	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		48 - 145			05/31/24 08:55	05/31/24 20:03	1	
Method: SW846 8015M/D - 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		05/31/24 14:32	05/31/24 22:57	1	
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		05/31/24 14:32	05/31/24 22:57	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	102		62 - 134			05/31/24 14:32	05/31/24 22:57	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

Client Sample ID: SW22  
Date Collected: 05/30/24 14:25  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5354-9  
Matrix: Solid

Method: SW846 8015M/D - 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		05/31/24 08:55	05/31/24 20:26	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	100		35 - 166			05/31/24 08:55	05/31/24 20:26	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.021	mg/Kg		05/31/24 08:55	05/31/24 20:26	1	
Ethylbenzene	ND		0.042	mg/Kg		05/31/24 08:55	05/31/24 20:26	1	
Toluene	ND		0.042	mg/Kg		05/31/24 08:55	05/31/24 20:26	1	
Xylenes, Total	ND		0.085	mg/Kg		05/31/24 08:55	05/31/24 20:26	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		48 - 145			05/31/24 08:55	05/31/24 20:26	1	
Method: SW846 8015M/D - 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		05/31/24 14:32	05/31/24 23:11	1	
Motor Oil Range Organics [C28-C40]	ND		44	mg/Kg		05/31/24 14:32	05/31/24 23:11	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	97		62 - 134			05/31/24 14:32	05/31/24 23:11	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

Client Sample ID: SW23  
Date Collected: 05/30/24 14:30  
Date Received: 05/31/24 07:00

Lab Sample ID: 885-5354-10  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.1	mg/Kg		05/31/24 09:35	06/01/24 02:41	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	96		35 - 166			05/31/24 09:35	06/01/24 02:41	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.021	mg/Kg		05/31/24 09:35	06/01/24 02:41	1	
Ethylbenzene	ND		0.041	mg/Kg		05/31/24 09:35	06/01/24 02:41	1	
Toluene	ND		0.041	mg/Kg		05/31/24 09:35	06/01/24 02:41	1	
Xylenes, Total	ND		0.083	mg/Kg		05/31/24 09:35	06/01/24 02:41	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	91		48 - 145			05/31/24 09:35	06/01/24 02:41	1	

Method: SW846 8015M/D - 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		05/31/24 14:32	05/31/24 23:24	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		05/31/24 14:32	05/31/24 23:24	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	100		62 - 134			05/31/24 14:32	05/31/24 23:24	1	



## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

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

Lab Sample ID: MB 885-5926/1-A

Matrix: Solid

Analysis Batch: 5951

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5926

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		05/31/24 08:55	05/31/24 10:41	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		35 - 166			05/31/24 08:55	05/31/24 10:41	1

Lab Sample ID: LCS 885-5926/2-A

Matrix: Solid

Analysis Batch: 5951

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	25.0	24.4		mg/Kg		97	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	205	S1+	35 - 166				

Lab Sample ID: MB 885-5933/1-A

Matrix: Solid

Analysis Batch: 5951

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5933

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		05/31/24 09:35	05/31/24 23:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		35 - 166			05/31/24 09:35	05/31/24 23:34	1

Lab Sample ID: LCS 885-5933/2-A

Matrix: Solid

Analysis Batch: 5951

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5933

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	25.0	24.5		mg/Kg		98	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	204	S1+	35 - 166				

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

Lab Sample ID: MB 885-5926/1-A

Matrix: Solid

Analysis Batch: 5952

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5926

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		05/31/24 08:55	05/31/24 10:41	1
Ethylbenzene	ND		0.050	mg/Kg		05/31/24 08:55	05/31/24 10:41	1
Toluene	ND		0.050	mg/Kg		05/31/24 08:55	05/31/24 10:41	1
Xylenes, Total	ND		0.10	mg/Kg		05/31/24 08:55	05/31/24 10:41	1

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## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

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

Lab Sample ID: MB 885-5926/1-A

Matrix: Solid

Analysis Batch: 5952

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5926

	MB	MB							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil	Fac		
4-Bromofluorobenzene (Surr)	92		48 - 145	05/31/24 08:55	05/31/24 10:41	1			

Lab Sample ID: LCS 885-5926/3-A

Matrix: Solid

Analysis Batch: 5952

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5926

	Spike	LCS	LCS					%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Benzene	1.00	0.931		mg/Kg		93	70 - 130		
Ethylbenzene	1.00	0.876		mg/Kg		88	70 - 130		
m&p-Xylene	2.00	1.78		mg/Kg		89	70 - 130		
o-Xylene	1.00	0.879		mg/Kg		88	70 - 130		
Toluene	1.00	0.871		mg/Kg		87	70 - 130		

	LCS	LCS							
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	94		48 - 145						

Lab Sample ID: MB 885-5933/1-A

Matrix: Solid

Analysis Batch: 5952

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5933

	MB	MB							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil	Fac
Benzene	ND		0.025	mg/Kg		05/31/24 09:35	05/31/24 23:34	1	
Ethylbenzene	ND		0.050	mg/Kg		05/31/24 09:35	05/31/24 23:34	1	
Toluene	ND		0.050	mg/Kg		05/31/24 09:35	05/31/24 23:34	1	
Xylenes, Total	ND		0.10	mg/Kg		05/31/24 09:35	05/31/24 23:34	1	

	MB	MB							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil	Fac		
4-Bromofluorobenzene (Surr)	88		48 - 145	05/31/24 09:35	05/31/24 23:34	1			

Lab Sample ID: LCS 885-5933/3-A

Matrix: Solid

Analysis Batch: 5952

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5933

	Spike	LCS	LCS					%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Benzene	1.00	0.949		mg/Kg		95	70 - 130		
Ethylbenzene	1.00	0.882		mg/Kg		88	70 - 130		
m&p-Xylene	2.00	1.80		mg/Kg		90	70 - 130		
o-Xylene	1.00	0.891		mg/Kg		89	70 - 130		
Toluene	1.00	0.894		mg/Kg		89	70 - 130		

	LCS	LCS							
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	97		48 - 145						

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

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

Lab Sample ID: MB 885-5955/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5950						Prep Batch: 5955			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		05/31/24 14:32	05/31/24 20:30	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		05/31/24 14:32	05/31/24 20:30	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	97		62 - 134			05/31/24 14:32	05/31/24 20:30	1	

Lab Sample ID: LCS 885-5955/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5950						Prep Batch: 5955			
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
Diesel Range Organics [C10-C28]	50.0	43.5		mg/Kg		87	60 - 135		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	95		62 - 134						



## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

## GC VOA

## Prep Batch: 5926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5354-1	SW14	Total/NA	Solid	5035	
885-5354-2	SW15	Total/NA	Solid	5035	
885-5354-3	SW16	Total/NA	Solid	5035	
885-5354-4	SW17	Total/NA	Solid	5035	
885-5354-5	SW18	Total/NA	Solid	5035	
885-5354-6	SW19	Total/NA	Solid	5035	
885-5354-7	SW20	Total/NA	Solid	5035	
885-5354-8	SW21	Total/NA	Solid	5035	
885-5354-9	SW22	Total/NA	Solid	5035	
MB 885-5926/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-5926/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-5926/3-A	Lab Control Sample	Total/NA	Solid	5035	

## Prep Batch: 5933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5354-10	SW23	Total/NA	Solid	5035	
MB 885-5933/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-5933/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-5933/3-A	Lab Control Sample	Total/NA	Solid	5035	

## Analysis Batch: 5951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5354-1	SW14	Total/NA	Solid	8015M/D	5926
885-5354-2	SW15	Total/NA	Solid	8015M/D	5926
885-5354-3	SW16	Total/NA	Solid	8015M/D	5926
885-5354-4	SW17	Total/NA	Solid	8015M/D	5926
885-5354-5	SW18	Total/NA	Solid	8015M/D	5926
885-5354-6	SW19	Total/NA	Solid	8015M/D	5926
885-5354-7	SW20	Total/NA	Solid	8015M/D	5926
885-5354-8	SW21	Total/NA	Solid	8015M/D	5926
885-5354-9	SW22	Total/NA	Solid	8015M/D	5926
885-5354-10	SW23	Total/NA	Solid	8015M/D	5933
MB 885-5926/1-A	Method Blank	Total/NA	Solid	8015M/D	5926
MB 885-5933/1-A	Method Blank	Total/NA	Solid	8015M/D	5933
LCS 885-5926/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5926
LCS 885-5933/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5933

## Analysis Batch: 5952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5354-1	SW14	Total/NA	Solid	8021B	5926
885-5354-2	SW15	Total/NA	Solid	8021B	5926
885-5354-3	SW16	Total/NA	Solid	8021B	5926
885-5354-4	SW17	Total/NA	Solid	8021B	5926
885-5354-5	SW18	Total/NA	Solid	8021B	5926
885-5354-6	SW19	Total/NA	Solid	8021B	5926
885-5354-7	SW20	Total/NA	Solid	8021B	5926
885-5354-8	SW21	Total/NA	Solid	8021B	5926
885-5354-9	SW22	Total/NA	Solid	8021B	5926
885-5354-10	SW23	Total/NA	Solid	8021B	5933
MB 885-5926/1-A	Method Blank	Total/NA	Solid	8021B	5926
MB 885-5933/1-A	Method Blank	Total/NA	Solid	8021B	5933

Eurofins Albuquerque



QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

GC VOA (Continued)

Analysis Batch: 5952 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 885-5926/3-A	Lab Control Sample	Total/NA	Solid	8021B	5926
LCS 885-5933/3-A	Lab Control Sample	Total/NA	Solid	8021B	5933

GC Semi VOA

Analysis Batch: 5950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5354-1	SW14	Total/NA	Solid	8015M/D	5955
885-5354-2	SW15	Total/NA	Solid	8015M/D	5955
885-5354-3	SW16	Total/NA	Solid	8015M/D	5955
885-5354-4	SW17	Total/NA	Solid	8015M/D	5955
885-5354-5	SW18	Total/NA	Solid	8015M/D	5955
885-5354-6	SW19	Total/NA	Solid	8015M/D	5955
885-5354-7	SW20	Total/NA	Solid	8015M/D	5955
885-5354-8	SW21	Total/NA	Solid	8015M/D	5955
885-5354-9	SW22	Total/NA	Solid	8015M/D	5955
885-5354-10	SW23	Total/NA	Solid	8015M/D	5955
MB 885-5955/1-A	Method Blank	Total/NA	Solid	8015M/D	5955
LCS 885-5955/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5955

Prep Batch: 5955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5354-1	SW14	Total/NA	Solid	SHAKE	
885-5354-2	SW15	Total/NA	Solid	SHAKE	
885-5354-3	SW16	Total/NA	Solid	SHAKE	
885-5354-4	SW17	Total/NA	Solid	SHAKE	
885-5354-5	SW18	Total/NA	Solid	SHAKE	
885-5354-6	SW19	Total/NA	Solid	SHAKE	
885-5354-7	SW20	Total/NA	Solid	SHAKE	
885-5354-8	SW21	Total/NA	Solid	SHAKE	
885-5354-9	SW22	Total/NA	Solid	SHAKE	
885-5354-10	SW23	Total/NA	Solid	SHAKE	
MB 885-5955/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-5955/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

**Client Sample ID: SW14**  
**Date Collected: 05/30/24 13:20**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5354-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 16:55
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 16:55
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 21:23

**Client Sample ID: SW15**  
**Date Collected: 05/30/24 13:30**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5354-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 17:19
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 17:19
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 21:37

**Client Sample ID: SW16**  
**Date Collected: 05/30/24 13:40**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5354-3**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 17:42
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 17:42
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 21:50

**Client Sample ID: SW17**  
**Date Collected: 05/30/24 13:50**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5354-4**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 18:06
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 18:06
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 22:03



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

**Client Sample ID: SW18**  
**Date Collected: 05/30/24 14:00**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5354-5**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 18:29
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 18:29
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 22:17

**Client Sample ID: SW19**  
**Date Collected: 05/30/24 14:10**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5354-6**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 18:52
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 18:52
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 22:30

**Client Sample ID: SW20**  
**Date Collected: 05/30/24 14:15**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5354-7**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 19:16
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 19:16
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 22:44

**Client Sample ID: SW21**  
**Date Collected: 05/30/24 14:20**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5354-8**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 20:03
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 20:03
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 22:57



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

**Client Sample ID: SW22**  
**Date Collected: 05/30/24 14:25**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5354-9**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 20:26
Total/NA	Prep	5035			5926	AT	EET ALB	05/31/24 08:55
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 20:26
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 23:11

**Client Sample ID: SW23**  
**Date Collected: 05/30/24 14:30**  
**Date Received: 05/31/24 07:00**

**Lab Sample ID: 885-5354-10**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5933	AT	EET ALB	05/31/24 09:35
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	06/01/24 02:41
Total/NA	Prep	5035			5933	AT	EET ALB	05/31/24 09:35
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	06/01/24 02:41
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 23:24

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



Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5354-1

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
8015M/D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	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







## Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-5354-1

Login Number: 5354

List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

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





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Samantha Grabert  
Hilcorp Energy  
PO BOX 4700  
Farmington, New Mexico 87499

Generated 6/17/2024 4:23:35 PM

## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-5941-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



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



Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-5941-1

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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: SJ 27-5 #111

Job ID: 885-5941-1

Job ID: 885-5941-1Eurofins Albuquerque

Job Narrative  
885-5941-1

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

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

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

Receipt

The samples were received on 6/11/2024 6:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.9°C and 3.0°C.

Gasoline Range Organics

Method 8015D\_GRO: SW24 (885-5941-8). The sample(s) shows evidence of matrix interference.

Method 8015D\_GRO: SW28 (885-5941-12). The sample(s) shows evidence of matrix interference.

Method 8015D\_GRO: FS18 (885-5941-7). The sample(s) shows evidence of matrix interference.

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

GC VOA

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

Diesel Range Organics

Method 8015D\_DRO: The continuing calibration verification (CCV) associated with batch 885-6505 recovered above the upper control limit for Di-n-octyl phthalate (Surr). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

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

Eurofins Albuquerque



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: FS12  
Date Collected: 06/10/24 11:00  
Date Received: 06/11/24 06:35

Lab Sample ID: 885-5941-1  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND	F1	8.5	mg/Kg		06/11/24 09:45	06/11/24 13:12	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			06/11/24 09:45	06/11/24 13:12	2	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.043	mg/Kg		06/11/24 09:45	06/11/24 13:12	2	
Ethylbenzene	ND		0.085	mg/Kg		06/11/24 09:45	06/11/24 13:12	2	
Toluene	ND		0.085	mg/Kg		06/11/24 09:45	06/11/24 13:12	2	
Xylenes, Total	ND		0.17	mg/Kg		06/11/24 09:45	06/11/24 13:12	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	89		48 - 145			06/11/24 09:45	06/11/24 13:12	2	
Method: SW846 8015M/D - 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		06/11/24 09:05	06/11/24 11:35	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/11/24 09:05	06/11/24 11:35	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	104		62 - 134			06/11/24 09:05	06/11/24 11:35	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: FS13

Lab Sample ID: 885-5941-2

Date Collected: 06/10/24 11:10

Matrix: Solid

Date Received: 06/11/24 06:35

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		8.4	mg/Kg		06/11/24 09:45	06/11/24 13:35	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			06/11/24 09:45	06/11/24 13:35	2	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.042	mg/Kg		06/11/24 09:45	06/11/24 13:35	2	
Ethylbenzene	ND		0.084	mg/Kg		06/11/24 09:45	06/11/24 13:35	2	
Toluene	ND		0.084	mg/Kg		06/11/24 09:45	06/11/24 13:35	2	
Xylenes, Total	ND		0.17	mg/Kg		06/11/24 09:45	06/11/24 13:35	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			06/11/24 09:45	06/11/24 13:35	2	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		8.7	mg/Kg		06/11/24 09:05	06/11/24 14:08	1	
Motor Oil Range Organics [C28-C40]	ND		43	mg/Kg		06/11/24 09:05	06/11/24 14:08	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	100		62 - 134			06/11/24 09:05	06/11/24 14:08	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: FS14

Lab Sample ID: 885-5941-3

Date Collected: 06/10/24 11:20

Matrix: Solid

Date Received: 06/11/24 06:35

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		8.4	mg/Kg		06/11/24 09:45	06/11/24 13:58	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		35 - 166			06/11/24 09:45	06/11/24 13:58	2	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.042	mg/Kg		06/11/24 09:45	06/11/24 13:58	2	
Ethylbenzene	ND		0.084	mg/Kg		06/11/24 09:45	06/11/24 13:58	2	
Toluene	ND		0.084	mg/Kg		06/11/24 09:45	06/11/24 13:58	2	
Xylenes, Total	ND		0.17	mg/Kg		06/11/24 09:45	06/11/24 13:58	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			06/11/24 09:45	06/11/24 13:58	2	
Method: SW846 8015M/D - 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		06/11/24 09:05	06/11/24 11:56	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/11/24 09:05	06/11/24 11:56	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	97		62 - 134			06/11/24 09:05	06/11/24 11:56	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: FS15  
Date Collected: 06/10/24 11:30  
Date Received: 06/11/24 06:35

Lab Sample ID: 885-5941-4  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.7	mg/Kg		06/11/24 09:45	06/11/24 14:22	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	108		35 - 166			06/11/24 09:45	06/11/24 14:22	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.023	mg/Kg		06/11/24 09:45	06/11/24 14:22	1	
Ethylbenzene	ND		0.047	mg/Kg		06/11/24 09:45	06/11/24 14:22	1	
Toluene	ND		0.047	mg/Kg		06/11/24 09:45	06/11/24 14:22	1	
Xylenes, Total	ND		0.093	mg/Kg		06/11/24 09:45	06/11/24 14:22	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		48 - 145			06/11/24 09:45	06/11/24 14:22	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		06/11/24 09:05	06/11/24 12:07	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/11/24 09:05	06/11/24 12:07	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	103		62 - 134			06/11/24 09:05	06/11/24 12:07	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: FS16

Lab Sample ID: 885-5941-5

Date Collected: 06/10/24 11:40

Matrix: Solid

Date Received: 06/11/24 06:35

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	12		4.3	mg/Kg		06/11/24 09:45	06/11/24 14:45	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	161		35 - 166			06/11/24 09:45	06/11/24 14:45	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.022	mg/Kg		06/11/24 09:45	06/11/24 14:45	1	
Ethylbenzene	ND		0.043	mg/Kg		06/11/24 09:45	06/11/24 14:45	1	
Toluene	ND		0.043	mg/Kg		06/11/24 09:45	06/11/24 14:45	1	
Xylenes, Total	0.12		0.086	mg/Kg		06/11/24 09:45	06/11/24 14:45	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		48 - 145			06/11/24 09:45	06/11/24 14:45	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	19		9.5	mg/Kg		06/11/24 09:05	06/11/24 12:17	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		06/11/24 09:05	06/11/24 12:17	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	97		62 - 134			06/11/24 09:05	06/11/24 12:17	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: FS17

Lab Sample ID: 885-5941-6

Date Collected: 06/10/24 11:50

Matrix: Solid

Date Received: 06/11/24 06:35

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	12		5.0	mg/Kg		06/11/24 09:45	06/11/24 15:09	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	156		35 - 166			06/11/24 09:45	06/11/24 15:09	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/11/24 09:45	06/11/24 15:09	1	
Ethylbenzene	ND		0.050	mg/Kg		06/11/24 09:45	06/11/24 15:09	1	
Toluene	ND		0.050	mg/Kg		06/11/24 09:45	06/11/24 15:09	1	
Xylenes, Total	0.11		0.10	mg/Kg		06/11/24 09:45	06/11/24 15:09	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		48 - 145			06/11/24 09:45	06/11/24 15:09	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	15		9.9	mg/Kg		06/11/24 09:05	06/11/24 12:28	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/11/24 09:05	06/11/24 12:28	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	97		62 - 134			06/11/24 09:05	06/11/24 12:28	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: FS18  
Date Collected: 06/10/24 12:00  
Date Received: 06/11/24 06:35

Lab Sample ID: 885-5941-7  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	16		3.8	mg/Kg		06/11/24 09:45	06/11/24 15:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	195	S1+	35 - 166			06/11/24 09:45	06/11/24 15:32	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.019	mg/Kg		06/11/24 09:45	06/11/24 15:32	1	
Ethylbenzene	0.051		0.038	mg/Kg		06/11/24 09:45	06/11/24 15:32	1	
Toluene	0.041		0.038	mg/Kg		06/11/24 09:45	06/11/24 15:32	1	
Xylenes, Total	0.24		0.077	mg/Kg		06/11/24 09:45	06/11/24 15:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		48 - 145			06/11/24 09:45	06/11/24 15:32	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	17		9.2	mg/Kg		06/11/24 09:05	06/11/24 12:39	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		06/11/24 09:05	06/11/24 12:39	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	96		62 - 134			06/11/24 09:05	06/11/24 12:39	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: SW24  
Date Collected: 06/10/24 13:10  
Date Received: 06/11/24 06:35

Lab Sample ID: 885-5941-8  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	140		3.2	mg/Kg		06/11/24 09:45	06/11/24 15:56	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	364	S1+	35 - 166			06/11/24 09:45	06/11/24 15:56	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	0.070		0.016	mg/Kg		06/11/24 09:45	06/11/24 15:56	1	
Ethylbenzene	0.64		0.032	mg/Kg		06/11/24 09:45	06/11/24 15:56	1	
Toluene	1.8		0.032	mg/Kg		06/11/24 09:45	06/11/24 15:56	1	
Xylenes, Total	9.2		0.32	mg/Kg		06/11/24 09:45	06/11/24 19:03	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	124		48 - 145			06/11/24 09:45	06/11/24 15:56	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	67		8.8	mg/Kg		06/11/24 09:05	06/11/24 12:49	1	
Motor Oil Range Organics [C28-C40]	ND		44	mg/Kg		06/11/24 09:05	06/11/24 12:49	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	95		62 - 134			06/11/24 09:05	06/11/24 12:49	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: SW25  
Date Collected: 06/10/24 13:15  
Date Received: 06/11/24 06:35

Lab Sample ID: 885-5941-9  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.5	mg/Kg		06/11/24 09:45	06/11/24 16:19	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	129		35 - 166			06/11/24 09:45	06/11/24 16:19	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.022	mg/Kg		06/11/24 09:45	06/11/24 16:19	1	
Ethylbenzene	ND		0.045	mg/Kg		06/11/24 09:45	06/11/24 16:19	1	
Toluene	ND		0.045	mg/Kg		06/11/24 09:45	06/11/24 16:19	1	
Xylenes, Total	ND		0.089	mg/Kg		06/11/24 09:45	06/11/24 16:19	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		48 - 145			06/11/24 09:45	06/11/24 16:19	1	
Method: SW846 8015M/D - 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		06/11/24 09:05	06/11/24 13:00	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/11/24 09:05	06/11/24 13:00	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	98		62 - 134			06/11/24 09:05	06/11/24 13:00	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: SW26  
Date Collected: 06/10/24 13:20  
Date Received: 06/11/24 06:35

Lab Sample ID: 885-5941-10  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.0	mg/Kg		06/11/24 09:45	06/11/24 16:42		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	102		35 - 166			06/11/24 09:45	06/11/24 16:42		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.020	mg/Kg		06/11/24 09:45	06/11/24 16:42		1
Ethylbenzene	ND		0.040	mg/Kg		06/11/24 09:45	06/11/24 16:42		1
Toluene	ND		0.040	mg/Kg		06/11/24 09:45	06/11/24 16:42		1
Xylenes, Total	ND		0.080	mg/Kg		06/11/24 09:45	06/11/24 16:42		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	87		48 - 145			06/11/24 09:45	06/11/24 16:42		1
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		06/11/24 09:05	06/11/24 13:11		1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/11/24 09:05	06/11/24 13:11		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	99		62 - 134			06/11/24 09:05	06/11/24 13:11		1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: SW27

Lab Sample ID: 885-5941-11

Date Collected: 06/10/24 13:25

Matrix: Solid

Date Received: 06/11/24 06:35

Method: SW846 8015M/D - 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		06/11/24 09:45	06/11/24 17:29		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		35 - 166			06/11/24 09:45	06/11/24 17:29		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.018	mg/Kg		06/11/24 09:45	06/11/24 17:29		1
Ethylbenzene	ND		0.036	mg/Kg		06/11/24 09:45	06/11/24 17:29		1
Toluene	ND		0.036	mg/Kg		06/11/24 09:45	06/11/24 17:29		1
Xylenes, Total	ND		0.071	mg/Kg		06/11/24 09:45	06/11/24 17:29		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			06/11/24 09:45	06/11/24 17:29		1
Method: SW846 8015M/D - 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		06/11/24 09:05	06/11/24 11:40		1
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		06/11/24 09:05	06/11/24 11:40		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	123		62 - 134			06/11/24 09:05	06/11/24 11:40		1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: SW28

Lab Sample ID: 885-5941-12

Date Collected: 06/10/24 13:30

Matrix: Solid

Date Received: 06/11/24 06:35

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	10		3.6	mg/Kg		06/11/24 09:45	06/11/24 17:53	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	176	S1+	35 - 166			06/11/24 09:45	06/11/24 17:53	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.018	mg/Kg		06/11/24 09:45	06/11/24 17:53	1	
Ethylbenzene	0.037		0.036	mg/Kg		06/11/24 09:45	06/11/24 17:53	1	
Toluene	ND		0.036	mg/Kg		06/11/24 09:45	06/11/24 17:53	1	
Xylenes, Total	0.36		0.072	mg/Kg		06/11/24 09:45	06/11/24 17:53	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		48 - 145			06/11/24 09:45	06/11/24 17:53	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	15		8.7	mg/Kg		06/11/24 09:05	06/11/24 11:53	1	
Motor Oil Range Organics [C28-C40]	ND		44	mg/Kg		06/11/24 09:05	06/11/24 11:53	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	114		62 - 134			06/11/24 09:05	06/11/24 11:53	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: SW29  
Date Collected: 06/10/24 13:40  
Date Received: 06/11/24 06:35

Lab Sample ID: 885-5941-13  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	5.6		3.8	mg/Kg		06/11/24 09:45	06/11/24 18:16	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	141		35 - 166			06/11/24 09:45	06/11/24 18:16	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.019	mg/Kg		06/11/24 09:45	06/11/24 18:16	1	
Ethylbenzene	ND		0.038	mg/Kg		06/11/24 09:45	06/11/24 18:16	1	
Toluene	ND		0.038	mg/Kg		06/11/24 09:45	06/11/24 18:16	1	
Xylenes, Total	0.12		0.076	mg/Kg		06/11/24 09:45	06/11/24 18:16	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		48 - 145			06/11/24 09:45	06/11/24 18:16	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	19		9.3	mg/Kg		06/11/24 09:05	06/11/24 12:05	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		06/11/24 09:05	06/11/24 12:05	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	114		62 - 134			06/11/24 09:05	06/11/24 12:05	1	



QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

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

Lab Sample ID: MB 885-6216/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 6558						Prep Batch: 6216			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/06/24 10:06	06/11/24 12:48	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		35 - 166			06/06/24 10:06	06/11/24 12:48	1	

Lab Sample ID: LCS 885-6216/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 6558						Prep Batch: 6216			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]			25.0	25.7		mg/Kg		103	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	198	S1+	35 - 166						

Lab Sample ID: MB 885-6473/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 6517						Prep Batch: 6473			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/11/24 09:45	06/11/24 12:48	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		35 - 166			06/11/24 09:45	06/11/24 12:48	1	

Lab Sample ID: LCS 885-6473/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 6517						Prep Batch: 6473			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]			25.0	25.7		mg/Kg		103	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	198	S1+	35 - 166						

Lab Sample ID: 885-5941-1 MS						Client Sample ID: FS12			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 6517						Prep Batch: 6473			
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	ND	F1	42.6	44.4		mg/Kg		104	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	208	S1+	35 - 166						

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## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

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

**Lab Sample ID: 885-5941-1 MSD**

**Matrix: Solid**

Analysis Batch: 6517

**Client Sample ID: FS12**

Prep Type: Total/NA

Prep Batch: 6473

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	F1	42.6	43.4		mg/Kg		102	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	206	S1+	35 - 166								

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

**Lab Sample ID: MB 885-6473/1-A**

**Matrix: Solid**

**Analysis Batch: 6518**

**Client Sample ID: Method Blank**

Prep Type: Total/NA

Prep Batch: 6473

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	ND		0.025	mg/Kg		06/11/24 09:45	06/11/24 12:48	1
Ethylbenzene	ND		0.050	mg/Kg		06/11/24 09:45	06/11/24 12:48	1
Toluene	ND		0.050	mg/Kg		06/11/24 09:45	06/11/24 12:48	1
Xylenes, Total	ND		0.10	mg/Kg		06/11/24 09:45	06/11/24 12:48	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	87		48 - 145	06/11/24 09:45	06/11/24 12:48	1

**Lab Sample ID: LCS 885-6473/3-A**

**Matrix: Solid**

**Analysis Batch: 6518**

**Client Sample ID: Lab Control Sample**

Prep Type: Total/NA

Prep Batch: 6473

			Spike	LCS	LCS				%Rec		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Benzene			1.00	0.941		mg/Kg		94	70 - 130		
Ethylbenzene			1.00	0.890		mg/Kg		89	70 - 130		
m&p-Xylene			2.00	1.77		mg/Kg		89	70 - 130		
o-Xylene			1.00	0.873		mg/Kg		87	70 - 130		
Toluene			1.00	0.871		mg/Kg		87	70 - 130		
Xylenes, Total			3.00	2.64		mg/Kg		88	70 - 130		
			LCS	LCS							
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	91		48 - 145								

**Lab Sample ID: 885-5941-2 MS**

**Matrix: Solid**

**Analysis Batch: 6518**

**Client Sample ID: FS13**

Prep Type: Total/NA

Prep Batch: 6473

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier			Limits			
Benzene	ND		1.68	1.55		mg/Kg		92	70 - 130		
Ethylbenzene	ND		1.68	1.47		mg/Kg		86	70 - 130		
m&p-Xylene	ND		3.36	2.96		mg/Kg		87	70 - 130		
o-Xylene	ND		1.68	1.44		mg/Kg		86	70 - 130		
Toluene	ND		1.68	1.44		mg/Kg		85	70 - 130		
Xylenes, Total	ND		5.03	4.40		mg/Kg		87	70 - 130		

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

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

Lab Sample ID: 885-5941-2 MS  
Matrix: Solid  
Analysis Batch: 6518

Client Sample ID: FS13  
Prep Type: Total/NA  
Prep Batch: 6473

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		48 - 145

Lab Sample ID: 885-5941-2 MSD  
Matrix: Solid  
Analysis Batch: 6518

Client Sample ID: FS13  
Prep Type: Total/NA  
Prep Batch: 6473

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		1.68	1.51		mg/Kg		90	70 - 130	3	20
Ethylbenzene	ND		1.68	1.45		mg/Kg		85	70 - 130	1	20
m&p-Xylene	ND		3.36	2.95		mg/Kg		87	70 - 130	0	20
o-Xylene	ND		1.68	1.44		mg/Kg		86	70 - 130	0	20
Toluene	ND		1.68	1.43		mg/Kg		84	70 - 130	1	20
Xylenes, Total	ND		5.03	4.39		mg/Kg		86	70 - 130	0	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		48 - 145

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

Lab Sample ID: MB 885-6468/1-A  
Matrix: Solid  
Analysis Batch: 6502

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 6468

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		06/11/24 09:05	06/11/24 11:14	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/11/24 09:05	06/11/24 11:14	1

	MB	MB						
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
Di-n-octyl phthalate (Surr)	97		62 - 134	06/11/24 09:05	06/11/24 11:14	1		

Lab Sample ID: LCS 885-6468/2-A  
Matrix: Solid  
Analysis Batch: 6502

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 6468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	49.5		mg/Kg		99	60 - 135

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Di-n-octyl phthalate (Surr)	92		62 - 134



QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

GC VOA

Prep Batch: 6216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-6216/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-6216/2-A	Lab Control Sample	Total/NA	Solid	5035	

Prep Batch: 6473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5941-1	FS12	Total/NA	Solid	5035	
885-5941-2	FS13	Total/NA	Solid	5035	
885-5941-3	FS14	Total/NA	Solid	5035	
885-5941-4	FS15	Total/NA	Solid	5035	
885-5941-5	FS16	Total/NA	Solid	5035	
885-5941-6	FS17	Total/NA	Solid	5035	
885-5941-7	FS18	Total/NA	Solid	5035	
885-5941-8	SW24	Total/NA	Solid	5035	
885-5941-9	SW25	Total/NA	Solid	5035	
885-5941-10	SW26	Total/NA	Solid	5035	
885-5941-11	SW27	Total/NA	Solid	5035	
885-5941-12	SW28	Total/NA	Solid	5035	
885-5941-13	SW29	Total/NA	Solid	5035	
MB 885-6473/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-6473/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-6473/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-5941-1 MS	FS12	Total/NA	Solid	5035	
885-5941-1 MSD	FS12	Total/NA	Solid	5035	
885-5941-2 MS	FS13	Total/NA	Solid	5035	
885-5941-2 MSD	FS13	Total/NA	Solid	5035	

Analysis Batch: 6517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5941-1	FS12	Total/NA	Solid	8015M/D	6473
885-5941-2	FS13	Total/NA	Solid	8015M/D	6473
885-5941-3	FS14	Total/NA	Solid	8015M/D	6473
885-5941-4	FS15	Total/NA	Solid	8015M/D	6473
885-5941-5	FS16	Total/NA	Solid	8015M/D	6473
885-5941-6	FS17	Total/NA	Solid	8015M/D	6473
885-5941-7	FS18	Total/NA	Solid	8015M/D	6473
885-5941-8	SW24	Total/NA	Solid	8015M/D	6473
885-5941-9	SW25	Total/NA	Solid	8015M/D	6473
885-5941-10	SW26	Total/NA	Solid	8015M/D	6473
885-5941-11	SW27	Total/NA	Solid	8015M/D	6473
885-5941-12	SW28	Total/NA	Solid	8015M/D	6473
885-5941-13	SW29	Total/NA	Solid	8015M/D	6473
MB 885-6473/1-A	Method Blank	Total/NA	Solid	8015M/D	6473
LCS 885-6473/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	6473
885-5941-1 MS	FS12	Total/NA	Solid	8015M/D	6473
885-5941-1 MSD	FS12	Total/NA	Solid	8015M/D	6473

Analysis Batch: 6518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5941-1	FS12	Total/NA	Solid	8021B	6473
885-5941-2	FS13	Total/NA	Solid	8021B	6473
885-5941-3	FS14	Total/NA	Solid	8021B	6473

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QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

GC VOA (Continued)

Analysis Batch: 6518 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5941-4	FS15	Total/NA	Solid	8021B	6473
885-5941-5	FS16	Total/NA	Solid	8021B	6473
885-5941-6	FS17	Total/NA	Solid	8021B	6473
885-5941-7	FS18	Total/NA	Solid	8021B	6473
885-5941-8	SW24	Total/NA	Solid	8021B	6473
885-5941-8	SW24	Total/NA	Solid	8021B	6473
885-5941-9	SW25	Total/NA	Solid	8021B	6473
885-5941-10	SW26	Total/NA	Solid	8021B	6473
885-5941-11	SW27	Total/NA	Solid	8021B	6473
885-5941-12	SW28	Total/NA	Solid	8021B	6473
885-5941-13	SW29	Total/NA	Solid	8021B	6473
MB 885-6473/1-A	Method Blank	Total/NA	Solid	8021B	6473
LCS 885-6473/3-A	Lab Control Sample	Total/NA	Solid	8021B	6473
885-5941-2 MS	FS13	Total/NA	Solid	8021B	6473
885-5941-2 MSD	FS13	Total/NA	Solid	8021B	6473

Analysis Batch: 6558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-6216/1-A	Method Blank	Total/NA	Solid	8015M/D	6216
LCS 885-6216/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	6216

GC Semi VOA

Prep Batch: 6468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5941-1	FS12	Total/NA	Solid	SHAKE	
885-5941-2	FS13	Total/NA	Solid	SHAKE	
885-5941-3	FS14	Total/NA	Solid	SHAKE	
885-5941-4	FS15	Total/NA	Solid	SHAKE	
885-5941-5	FS16	Total/NA	Solid	SHAKE	
885-5941-6	FS17	Total/NA	Solid	SHAKE	
885-5941-7	FS18	Total/NA	Solid	SHAKE	
885-5941-8	SW24	Total/NA	Solid	SHAKE	
885-5941-9	SW25	Total/NA	Solid	SHAKE	
885-5941-10	SW26	Total/NA	Solid	SHAKE	
885-5941-11	SW27	Total/NA	Solid	SHAKE	
885-5941-12	SW28	Total/NA	Solid	SHAKE	
885-5941-13	SW29	Total/NA	Solid	SHAKE	
MB 885-6468/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-6468/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 6502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5941-1	FS12	Total/NA	Solid	8015M/D	6468
885-5941-2	FS13	Total/NA	Solid	8015M/D	6468
885-5941-3	FS14	Total/NA	Solid	8015M/D	6468
885-5941-4	FS15	Total/NA	Solid	8015M/D	6468
885-5941-5	FS16	Total/NA	Solid	8015M/D	6468
885-5941-6	FS17	Total/NA	Solid	8015M/D	6468
885-5941-7	FS18	Total/NA	Solid	8015M/D	6468
885-5941-8	SW24	Total/NA	Solid	8015M/D	6468

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QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

GC Semi VOA (Continued)

Analysis Batch: 6502 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5941-9	SW25	Total/NA	Solid	8015M/D	6468
885-5941-10	SW26	Total/NA	Solid	8015M/D	6468
MB 885-6468/1-A	Method Blank	Total/NA	Solid	8015M/D	6468
LCS 885-6468/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	6468

Analysis Batch: 6505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5941-11	SW27	Total/NA	Solid	8015M/D	6468
885-5941-12	SW28	Total/NA	Solid	8015M/D	6468
885-5941-13	SW29	Total/NA	Solid	8015M/D	6468



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

**Client Sample ID: FS12**  
**Date Collected: 06/10/24 11:00**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		2	6517	JP	EET ALB	06/11/24 13:12
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		2	6518	JP	EET ALB	06/11/24 13:12
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 11:35

**Client Sample ID: FS13**  
**Date Collected: 06/10/24 11:10**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		2	6517	JP	EET ALB	06/11/24 13:35
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		2	6518	JP	EET ALB	06/11/24 13:35
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 14:08

**Client Sample ID: FS14**  
**Date Collected: 06/10/24 11:20**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-3**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		2	6517	JP	EET ALB	06/11/24 13:58
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		2	6518	JP	EET ALB	06/11/24 13:58
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 11:56

**Client Sample ID: FS15**  
**Date Collected: 06/10/24 11:30**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-4**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/11/24 14:22
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/11/24 14:22
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 12:07



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

**Client Sample ID: FS16**  
**Date Collected: 06/10/24 11:40**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-5**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/11/24 14:45
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/11/24 14:45
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 12:17

**Client Sample ID: FS17**  
**Date Collected: 06/10/24 11:50**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-6**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/11/24 15:09
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/11/24 15:09
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 12:28

**Client Sample ID: FS18**  
**Date Collected: 06/10/24 12:00**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-7**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/11/24 15:32
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/11/24 15:32
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 12:39

**Client Sample ID: SW24**  
**Date Collected: 06/10/24 13:10**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-8**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/11/24 15:56
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/11/24 15:56
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		5	6518	JP	EET ALB	06/11/24 19:03
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 12:49

Eurofins Albuquerque



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

**Client Sample ID: SW25**  
**Date Collected: 06/10/24 13:15**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-9**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/11/24 16:19
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/11/24 16:19
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 13:00

**Client Sample ID: SW26**  
**Date Collected: 06/10/24 13:20**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-10**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/11/24 16:42
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/11/24 16:42
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 13:11

**Client Sample ID: SW27**  
**Date Collected: 06/10/24 13:25**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-11**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/11/24 17:29
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/11/24 17:29
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6505	JU	EET ALB	06/11/24 11:40

**Client Sample ID: SW28**  
**Date Collected: 06/10/24 13:30**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5941-12**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/11/24 17:53
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/11/24 17:53
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6505	JU	EET ALB	06/11/24 11:53



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

Client Sample ID: SW29

Date Collected: 06/10/24 13:40

Date Received: 06/11/24 06:35

Lab Sample ID: 885-5941-13

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/11/24 18:16
Total/NA	Prep	5035			6473	AT	EET ALB	06/11/24 09:45
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/11/24 18:16
Total/NA	Prep	SHAKE			6468	JU	EET ALB	06/11/24 09:05
Total/NA	Analysis	8015M/D		1	6505	JU	EET ALB	06/11/24 12:05

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



Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5941-1

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
8015M/D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	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



## 885-5941 COC

X	BTX / MTBE / TMB's (8021)	
X	TPH:80150(GRO / DRO / MRO)	
	8081 Pesticides/8082 PCB's	
	EDB (Method 504.1)	
	PAHs by 8310 or 8270SIMS	
	RCRA 8 Metals	
	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	
	8260 (VOA)	
	8270 (Semi-VOA)	
	Total Coliform (Present/Absent)	

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: 885-5941-1

Login Number: 5941

List Source: Eurofins Albuquerque

List Number: 1

Creator: Proctor, Nancy

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Samantha Grabert  
Hilcorp Energy  
PO BOX 4700  
Farmington, New Mexico 87499

Generated 6/17/2024 4:24:02 PM

## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-5942-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



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

Generated  
6/17/2024 4:24:02 PM



Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-5942-1



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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

Qualifiers

GC VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: SJ 27-5 #111

Job ID: 885-5942-1

Job ID: 885-5942-1Eurofins Albuquerque

Job Narrative  
885-5942-1

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

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

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

Receipt

The samples were received on 6/11/2024 6:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.9°C and 3.0°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.

Eurofins Albuquerque



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

Client Sample ID: SW30  
Date Collected: 06/10/24 13:40  
Date Received: 06/11/24 06:35

Lab Sample ID: 885-5942-1  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		3.7	mg/Kg		06/11/24 09:13	06/12/24 01:17	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	98		35 - 166			06/11/24 09:13	06/12/24 01:17	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.019	mg/Kg		06/11/24 09:13	06/12/24 01:17	1	
Ethylbenzene	ND		0.037	mg/Kg		06/11/24 09:13	06/12/24 01:17	1	
Toluene	0.046		0.037	mg/Kg		06/11/24 09:13	06/12/24 01:17	1	
Xylenes, Total	0.13		0.074	mg/Kg		06/11/24 09:13	06/12/24 01:17	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	89		48 - 145			06/11/24 09:13	06/12/24 01:17	1	

Method: SW846 8015M/D - 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		06/11/24 15:24	06/11/24 18:43	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/11/24 15:24	06/11/24 18:43	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	88		62 - 134			06/11/24 15:24	06/11/24 18:43	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

Client Sample ID: SW31

Lab Sample ID: 885-5942-2

Date Collected: 06/10/24 13:42

Matrix: Solid

Date Received: 06/11/24 06:35

Method: SW846 8015M/D - 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		06/11/24 09:13	06/12/24 02:27	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			06/11/24 09:13	06/12/24 02:27	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.018	mg/Kg		06/11/24 09:13	06/12/24 02:27	1	
Ethylbenzene	ND		0.036	mg/Kg		06/11/24 09:13	06/12/24 02:27	1	
Toluene	0.045		0.036	mg/Kg		06/11/24 09:13	06/12/24 02:27	1	
Xylenes, Total	0.11		0.073	mg/Kg		06/11/24 09:13	06/12/24 02:27	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			06/11/24 09:13	06/12/24 02:27	1	
Method: SW846 8015M/D - 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		06/11/24 15:24	06/11/24 18:54	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		06/11/24 15:24	06/11/24 18:54	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	100		62 - 134			06/11/24 15:24	06/11/24 18:54	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

Client Sample ID: SW32

Lab Sample ID: 885-5942-3

Date Collected: 06/10/24 13:45

Matrix: Solid

Date Received: 06/11/24 06:35

Method: SW846 8015M/D - 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		06/11/24 09:13	06/12/24 03:38	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		35 - 166			06/11/24 09:13	06/12/24 03:38	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.017	mg/Kg		06/11/24 09:13	06/12/24 03:38	1	
Ethylbenzene	ND		0.034	mg/Kg		06/11/24 09:13	06/12/24 03:38	1	
Toluene	ND		0.034	mg/Kg		06/11/24 09:13	06/12/24 03:38	1	
Xylenes, Total	0.089		0.069	mg/Kg		06/11/24 09:13	06/12/24 03:38	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	87		48 - 145			06/11/24 09:13	06/12/24 03:38	1	
Method: SW846 8015M/D - 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		06/11/24 15:24	06/11/24 19:06	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		06/11/24 15:24	06/11/24 19:06	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	96		62 - 134			06/11/24 15:24	06/11/24 19:06	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

Client Sample ID: SW33  
Date Collected: 06/10/24 13:47  
Date Received: 06/11/24 06:35

Lab Sample ID: 885-5942-4  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.0	mg/Kg		06/11/24 09:13	06/12/24 04:01	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		35 - 166			06/11/24 09:13	06/12/24 04:01	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.020	mg/Kg		06/11/24 09:13	06/12/24 04:01	1	
Ethylbenzene	ND		0.040	mg/Kg		06/11/24 09:13	06/12/24 04:01	1	
Toluene	ND		0.040	mg/Kg		06/11/24 09:13	06/12/24 04:01	1	
Xylenes, Total	ND		0.080	mg/Kg		06/11/24 09:13	06/12/24 04:01	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			06/11/24 09:13	06/12/24 04:01	1	
Method: SW846 8015M/D - 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		06/11/24 15:24	06/11/24 19:17	1	
Motor Oil Range Organics [C28-C40]	ND		44	mg/Kg		06/11/24 15:24	06/11/24 19:17	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	95		62 - 134			06/11/24 15:24	06/11/24 19:17	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

Client Sample ID: SW34

Lab Sample ID: 885-5942-5

Date Collected: 06/10/24 13:50

Matrix: Solid

Date Received: 06/11/24 06:35

Method: SW846 8015M/D - 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		06/11/24 09:13	06/12/24 04:25	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			06/11/24 09:13	06/12/24 04:25	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.018	mg/Kg		06/11/24 09:13	06/12/24 04:25	1	
Ethylbenzene	ND		0.036	mg/Kg		06/11/24 09:13	06/12/24 04:25	1	
Toluene	ND		0.036	mg/Kg		06/11/24 09:13	06/12/24 04:25	1	
Xylenes, Total	ND		0.071	mg/Kg		06/11/24 09:13	06/12/24 04:25	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			06/11/24 09:13	06/12/24 04:25	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		8.5	mg/Kg		06/11/24 15:24	06/11/24 19:28	1	
Motor Oil Range Organics [C28-C40]	ND		43	mg/Kg		06/11/24 15:24	06/11/24 19:28	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	114		62 - 134			06/11/24 15:24	06/11/24 19:28	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

Client Sample ID: SW35  
Date Collected: 06/10/24 13:52  
Date Received: 06/11/24 06:35

Lab Sample ID: 885-5942-6  
Matrix: Solid

Method: SW846 8015M/D - 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		06/11/24 09:13	06/12/24 05:11	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		35 - 166			06/11/24 09:13	06/12/24 05:11	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.017	mg/Kg		06/11/24 09:13	06/12/24 05:11	1	
Ethylbenzene	ND		0.034	mg/Kg		06/11/24 09:13	06/12/24 05:11	1	
Toluene	ND		0.034	mg/Kg		06/11/24 09:13	06/12/24 05:11	1	
Xylenes, Total	ND		0.069	mg/Kg		06/11/24 09:13	06/12/24 05:11	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	87		48 - 145			06/11/24 09:13	06/12/24 05:11	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		06/11/24 15:24	06/11/24 19:40	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/11/24 15:24	06/11/24 19:40	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	90		62 - 134			06/11/24 15:24	06/11/24 19:40	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

Client Sample ID: SW36

Lab Sample ID: 885-5942-7

Date Collected: 06/10/24 13:55

Matrix: Solid

Date Received: 06/11/24 06:35

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		3.7	mg/Kg		06/11/24 09:13	06/12/24 05:35	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		35 - 166			06/11/24 09:13	06/12/24 05:35	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.019	mg/Kg		06/11/24 09:13	06/12/24 05:35	1	
Ethylbenzene	ND		0.037	mg/Kg		06/11/24 09:13	06/12/24 05:35	1	
Toluene	ND		0.037	mg/Kg		06/11/24 09:13	06/12/24 05:35	1	
Xylenes, Total	ND		0.075	mg/Kg		06/11/24 09:13	06/12/24 05:35	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			06/11/24 09:13	06/12/24 05:35	1	
Method: SW846 8015M/D - 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		06/11/24 15:24	06/11/24 19:51	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		06/11/24 15:24	06/11/24 19:51	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	92		62 - 134			06/11/24 15:24	06/11/24 19:51	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

Client Sample ID: SW37

Lab Sample ID: 885-5942-8

Date Collected: 06/10/24 13:57

Matrix: Solid

Date Received: 06/11/24 06:35

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		3.5	mg/Kg		06/11/24 09:13	06/12/24 05:58	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			06/11/24 09:13	06/12/24 05:58	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.017	mg/Kg		06/11/24 09:13	06/12/24 05:58	1	
Ethylbenzene	ND		0.035	mg/Kg		06/11/24 09:13	06/12/24 05:58	1	
Toluene	ND		0.035	mg/Kg		06/11/24 09:13	06/12/24 05:58	1	
Xylenes, Total	ND		0.069	mg/Kg		06/11/24 09:13	06/12/24 05:58	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	90		48 - 145			06/11/24 09:13	06/12/24 05:58	1	

Method: SW846 8015M/D - 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		06/11/24 15:24	06/11/24 20:02	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/11/24 15:24	06/11/24 20:02	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	96		62 - 134			06/11/24 15:24	06/11/24 20:02	1	



## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

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

Lab Sample ID: MB 885-6471/1-A

Matrix: Solid

Analysis Batch: 6517

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6471

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/11/24 09:13	06/12/24 00:54	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		35 - 166			06/11/24 09:13	06/12/24 00:54	1

Lab Sample ID: LCS 885-6471/2-A

Matrix: Solid

Analysis Batch: 6517

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6471

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	25.0	27.2		mg/Kg		109	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	199	S1+	35 - 166				

Lab Sample ID: 885-5942-1 MS

Matrix: Solid

Analysis Batch: 6517

Client Sample ID: SW30

Prep Type: Total/NA

Prep Batch: 6471

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	ND		18.6	20.2		mg/Kg		99	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	203	S1+	35 - 166						

Lab Sample ID: 885-5942-1 MSD

Matrix: Solid

Analysis Batch: 6517

Client Sample ID: SW30

Prep Type: Total/NA

Prep Batch: 6471

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		18.6	20.4		mg/Kg		100	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	205	S1+	35 - 166								

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

Lab Sample ID: MB 885-6471/1-A

Matrix: Solid

Analysis Batch: 6518

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6471

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		06/11/24 09:13	06/12/24 00:54	1
Ethylbenzene	ND		0.050	mg/Kg		06/11/24 09:13	06/12/24 00:54	1
Toluene	ND		0.050	mg/Kg		06/11/24 09:13	06/12/24 00:54	1

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## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

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

Lab Sample ID: MB 885-6471/1-A

Matrix: Solid

Analysis Batch: 6518

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6471

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10	mg/Kg		06/11/24 09:13	06/12/24 00:54	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		48 - 145			06/11/24 09:13	06/12/24 00:54	1

Lab Sample ID: LCS 885-6471/3-A

Matrix: Solid

Analysis Batch: 6518

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6471

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.916		mg/Kg		92	70 - 130
Ethylbenzene	1.00	0.863		mg/Kg		86	70 - 130
m&p-Xylene	2.00	1.74		mg/Kg		87	70 - 130
o-Xylene	1.00	0.855		mg/Kg		86	70 - 130
Toluene	1.00	0.866		mg/Kg		87	70 - 130
Xylenes, Total	3.00	2.59		mg/Kg		86	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	89		48 - 145				

Lab Sample ID: 885-5942-2 MS

Matrix: Solid

Analysis Batch: 6518

Client Sample ID: SW31

Prep Type: Total/NA

Prep Batch: 6471

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		0.730	0.660		mg/Kg		90	70 - 130
Ethylbenzene	ND		0.730	0.638		mg/Kg		85	70 - 130
m&p-Xylene	0.11		1.46	1.38		mg/Kg		87	70 - 130
o-Xylene	ND		0.730	0.635		mg/Kg		84	70 - 130
Toluene	0.045		0.730	0.666		mg/Kg		85	70 - 130
Xylenes, Total	0.11		2.19	2.01		mg/Kg		86	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	90		48 - 145						

Lab Sample ID: 885-5942-2 MSD

Matrix: Solid

Analysis Batch: 6518

Client Sample ID: SW31

Prep Type: Total/NA

Prep Batch: 6471

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	ND		0.730	0.662		mg/Kg		91	70 - 130	0	20
Ethylbenzene	ND		0.730	0.635		mg/Kg		85	70 - 130	0	20
m&p-Xylene	0.11		1.46	1.37		mg/Kg		86	70 - 130	0	20
o-Xylene	ND		0.730	0.630		mg/Kg		83	70 - 130	1	20
Toluene	0.045		0.730	0.656		mg/Kg		84	70 - 130	1	20
Xylenes, Total	0.11		2.19	2.00		mg/Kg		85	70 - 130	1	20

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

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

Lab Sample ID: 885-5942-2 MSD  
Matrix: Solid  
Analysis Batch: 6518

Client Sample ID: SW31  
Prep Type: Total/NA  
Prep Batch: 6471

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		48 - 145

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

Lab Sample ID: MB 885-6510/1-A  
Matrix: Solid  
Analysis Batch: 6502

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 6510

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		06/11/24 15:24	06/11/24 17:25	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/11/24 15:24	06/11/24 17:25	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
Di-n-octyl phthalate (Surr)	98		62 - 134	06/11/24 15:24	06/11/24 17:25	1

Lab Sample ID: LCS 885-6510/2-A  
Matrix: Solid  
Analysis Batch: 6502

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 6510

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	56.8		mg/Kg		114	60 - 135

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Di-n-octyl phthalate (Surr)	107		62 - 134



## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

## GC VOA

## Prep Batch: 6471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5942-1	SW30	Total/NA	Solid	5035	
885-5942-2	SW31	Total/NA	Solid	5035	
885-5942-3	SW32	Total/NA	Solid	5035	
885-5942-4	SW33	Total/NA	Solid	5035	
885-5942-5	SW34	Total/NA	Solid	5035	
885-5942-6	SW35	Total/NA	Solid	5035	
885-5942-7	SW36	Total/NA	Solid	5035	
885-5942-8	SW37	Total/NA	Solid	5035	
MB 885-6471/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-6471/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-6471/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-5942-1 MS	SW30	Total/NA	Solid	5035	
885-5942-1 MSD	SW30	Total/NA	Solid	5035	
885-5942-2 MS	SW31	Total/NA	Solid	5035	
885-5942-2 MSD	SW31	Total/NA	Solid	5035	

## Analysis Batch: 6517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5942-1	SW30	Total/NA	Solid	8015M/D	6471
885-5942-2	SW31	Total/NA	Solid	8015M/D	6471
885-5942-3	SW32	Total/NA	Solid	8015M/D	6471
885-5942-4	SW33	Total/NA	Solid	8015M/D	6471
885-5942-5	SW34	Total/NA	Solid	8015M/D	6471
885-5942-6	SW35	Total/NA	Solid	8015M/D	6471
885-5942-7	SW36	Total/NA	Solid	8015M/D	6471
885-5942-8	SW37	Total/NA	Solid	8015M/D	6471
MB 885-6471/1-A	Method Blank	Total/NA	Solid	8015M/D	6471
LCS 885-6471/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	6471
885-5942-1 MS	SW30	Total/NA	Solid	8015M/D	6471
885-5942-1 MSD	SW30	Total/NA	Solid	8015M/D	6471

## Analysis Batch: 6518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5942-1	SW30	Total/NA	Solid	8021B	6471
885-5942-2	SW31	Total/NA	Solid	8021B	6471
885-5942-3	SW32	Total/NA	Solid	8021B	6471
885-5942-4	SW33	Total/NA	Solid	8021B	6471
885-5942-5	SW34	Total/NA	Solid	8021B	6471
885-5942-6	SW35	Total/NA	Solid	8021B	6471
885-5942-7	SW36	Total/NA	Solid	8021B	6471
885-5942-8	SW37	Total/NA	Solid	8021B	6471
MB 885-6471/1-A	Method Blank	Total/NA	Solid	8021B	6471
LCS 885-6471/3-A	Lab Control Sample	Total/NA	Solid	8021B	6471
885-5942-2 MS	SW31	Total/NA	Solid	8021B	6471
885-5942-2 MSD	SW31	Total/NA	Solid	8021B	6471

## GC Semi VOA

## Analysis Batch: 6502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5942-1	SW30	Total/NA	Solid	8015M/D	6510

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QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

GC Semi VOA (Continued)

Analysis Batch: 6502 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5942-2	SW31	Total/NA	Solid	8015M/D	6510
885-5942-3	SW32	Total/NA	Solid	8015M/D	6510
885-5942-4	SW33	Total/NA	Solid	8015M/D	6510
885-5942-5	SW34	Total/NA	Solid	8015M/D	6510
885-5942-6	SW35	Total/NA	Solid	8015M/D	6510
885-5942-7	SW36	Total/NA	Solid	8015M/D	6510
885-5942-8	SW37	Total/NA	Solid	8015M/D	6510
MB 885-6510/1-A	Method Blank	Total/NA	Solid	8015M/D	6510
LCS 885-6510/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	6510

Prep Batch: 6510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5942-1	SW30	Total/NA	Solid	SHAKE	
885-5942-2	SW31	Total/NA	Solid	SHAKE	
885-5942-3	SW32	Total/NA	Solid	SHAKE	
885-5942-4	SW33	Total/NA	Solid	SHAKE	
885-5942-5	SW34	Total/NA	Solid	SHAKE	
885-5942-6	SW35	Total/NA	Solid	SHAKE	
885-5942-7	SW36	Total/NA	Solid	SHAKE	
885-5942-8	SW37	Total/NA	Solid	SHAKE	
MB 885-6510/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-6510/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

**Client Sample ID: SW30**  
**Date Collected: 06/10/24 13:40**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5942-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/12/24 01:17
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/12/24 01:17
Total/NA	Prep	SHAKE			6510	JU	EET ALB	06/11/24 15:24
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 18:43

**Client Sample ID: SW31**  
**Date Collected: 06/10/24 13:42**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5942-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/12/24 02:27
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/12/24 02:27
Total/NA	Prep	SHAKE			6510	JU	EET ALB	06/11/24 15:24
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 18:54

**Client Sample ID: SW32**  
**Date Collected: 06/10/24 13:45**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5942-3**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/12/24 03:38
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/12/24 03:38
Total/NA	Prep	SHAKE			6510	JU	EET ALB	06/11/24 15:24
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 19:06

**Client Sample ID: SW33**  
**Date Collected: 06/10/24 13:47**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5942-4**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/12/24 04:01
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/12/24 04:01
Total/NA	Prep	SHAKE			6510	JU	EET ALB	06/11/24 15:24
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 19:17



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

**Client Sample ID: SW34**  
**Date Collected: 06/10/24 13:50**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5942-5**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/12/24 04:25
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/12/24 04:25
Total/NA	Prep	SHAKE			6510	JU	EET ALB	06/11/24 15:24
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 19:28

**Client Sample ID: SW35**  
**Date Collected: 06/10/24 13:52**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5942-6**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/12/24 05:11
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/12/24 05:11
Total/NA	Prep	SHAKE			6510	JU	EET ALB	06/11/24 15:24
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 19:40

**Client Sample ID: SW36**  
**Date Collected: 06/10/24 13:55**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5942-7**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/12/24 05:35
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/12/24 05:35
Total/NA	Prep	SHAKE			6510	JU	EET ALB	06/11/24 15:24
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 19:51

**Client Sample ID: SW37**  
**Date Collected: 06/10/24 13:57**  
**Date Received: 06/11/24 06:35**

**Lab Sample ID: 885-5942-8**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8015M/D		1	6517	JP	EET ALB	06/12/24 05:58
Total/NA	Prep	5035			6471	AT	EET ALB	06/11/24 09:13
Total/NA	Analysis	8021B		1	6518	JP	EET ALB	06/12/24 05:58
Total/NA	Prep	SHAKE			6510	JU	EET ALB	06/11/24 15:24
Total/NA	Analysis	8015M/D		1	6502	JU	EET ALB	06/11/24 20:02

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

Eurofins Albuquerque



Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-5942-1

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
8015M/D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	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







## Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-5942-1

Login Number: 5942

List Source: Eurofins Albuquerque

List Number: 1

Creator: Dominguez, Desiree

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





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Samantha Grabert  
Hilcorp Energy  
PO BOX 4700  
Farmington, New Mexico 87499

Generated 6/17/2024 5:08:34 PM

## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-6027-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



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



Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-6027-1

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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

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: SJ 27-5 #111

Job ID: 885-6027-1

Job ID: 885-6027-1Eurofins Albuquerque

Job Narrative  
885-6027-1

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

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

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

Receipt

The samples were received on 6/12/2024 6:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.3°C.

Gasoline Range Organics

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

GC/MS 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.

Eurofins Albuquerque



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

Client Sample ID: SW52  
Date Collected: 06/11/24 13:15  
Date Received: 06/12/24 06:30

Lab Sample ID: 885-6027-1  
Matrix: Solid

Method: SW846 8015D - Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	11		3.5	mg/Kg		06/12/24 08:28	06/12/24 14:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130			06/12/24 08:28	06/12/24 14:15	1
Method: SW846 8260B - Volatile Organic Compounds (GC/MS)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018	mg/Kg		06/12/24 08:28	06/12/24 14:15	1
Ethylbenzene	ND		0.035	mg/Kg		06/12/24 08:28	06/12/24 14:15	1
Toluene	ND		0.035	mg/Kg		06/12/24 08:28	06/12/24 14:15	1
Xylenes, Total	0.13		0.070	mg/Kg		06/12/24 08:28	06/12/24 14:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		65 - 147			06/12/24 08:28	06/12/24 14:15	1
Toluene-d8 (Surr)	97		70 - 130			06/12/24 08:28	06/12/24 14:15	1
4-Bromofluorobenzene (Surr)	100		62 - 144			06/12/24 08:28	06/12/24 14:15	1
Dibromofluoromethane (Surr)	93		73 - 145			06/12/24 08:28	06/12/24 14:15	1
Method: SW846 8015D - Diesel Range Organics (DRO) (GC)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	53		9.7	mg/Kg		06/12/24 08:34	06/12/24 11:28	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/12/24 08:34	06/12/24 11:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	100		62 - 134			06/12/24 08:34	06/12/24 11:28	1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

Client Sample ID: SW53

Lab Sample ID: 885-6027-2

Date Collected: 06/11/24 13:20

Matrix: Solid

Date Received: 06/12/24 06:30

Method: SW846 8015D - Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		19	mg/Kg		06/12/24 08:28	06/12/24 10:55	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	82		70 - 130			06/12/24 08:28	06/12/24 10:55	5	
Method: SW846 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.093	mg/Kg		06/12/24 08:28	06/12/24 10:55	5	
Ethylbenzene	ND		0.19	mg/Kg		06/12/24 08:28	06/12/24 10:55	5	
Toluene	ND		0.19	mg/Kg		06/12/24 08:28	06/12/24 10:55	5	
Xylenes, Total	ND		0.37	mg/Kg		06/12/24 08:28	06/12/24 10:55	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	101		65 - 147			06/12/24 08:28	06/12/24 10:55	5	
Toluene-d8 (Surr)	97		70 - 130			06/12/24 08:28	06/12/24 10:55	5	
4-Bromofluorobenzene (Surr)	98		62 - 144			06/12/24 08:28	06/12/24 10:55	5	
Dibromofluoromethane (Surr)	99		73 - 145			06/12/24 08:28	06/12/24 10:55	5	
Method: SW846 8015D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	69		9.3	mg/Kg		06/12/24 08:34	06/12/24 11:38	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		06/12/24 08:34	06/12/24 11:38	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	104		62 - 134			06/12/24 08:34	06/12/24 11:38	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

Client Sample ID: SW54  
Date Collected: 06/11/24 13:25  
Date Received: 06/12/24 06:30

Lab Sample ID: 885-6027-3  
Matrix: Solid

Method: SW846 8015D - Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	68		20	mg/Kg		06/12/24 08:28	06/12/24 11:24	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	83		70 - 130			06/12/24 08:28	06/12/24 11:24	5	
Method: SW846 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.10	mg/Kg		06/12/24 08:28	06/12/24 11:24	5	
Ethylbenzene	ND		0.20	mg/Kg		06/12/24 08:28	06/12/24 11:24	5	
Toluene	ND		0.20	mg/Kg		06/12/24 08:28	06/12/24 11:24	5	
Xylenes, Total	0.75		0.41	mg/Kg		06/12/24 08:28	06/12/24 11:24	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	99		65 - 147			06/12/24 08:28	06/12/24 11:24	5	
Toluene-d8 (Surr)	99		70 - 130			06/12/24 08:28	06/12/24 11:24	5	
4-Bromofluorobenzene (Surr)	103		62 - 144			06/12/24 08:28	06/12/24 11:24	5	
Dibromofluoromethane (Surr)	99		73 - 145			06/12/24 08:28	06/12/24 11:24	5	
Method: SW846 8015D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	14		9.0	mg/Kg		06/12/24 08:34	06/12/24 11:49	1	
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		06/12/24 08:34	06/12/24 11:49	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	103		62 - 134			06/12/24 08:34	06/12/24 11:49	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

Client Sample ID: SW55

Lab Sample ID: 885-6027-4

Date Collected: 06/11/24 13:30

Matrix: Solid

Date Received: 06/12/24 06:30

Method: SW846 8015D - Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	40		17	mg/Kg		06/12/24 08:28	06/12/24 11:52	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	85		70 - 130			06/12/24 08:28	06/12/24 11:52	5	

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.087	mg/Kg		06/12/24 08:28	06/12/24 11:52	5	
Ethylbenzene	ND		0.17	mg/Kg		06/12/24 08:28	06/12/24 11:52	5	
Toluene	ND		0.17	mg/Kg		06/12/24 08:28	06/12/24 11:52	5	
Xylenes, Total	0.38		0.35	mg/Kg		06/12/24 08:28	06/12/24 11:52	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	102		65 - 147			06/12/24 08:28	06/12/24 11:52	5	
Toluene-d8 (Surr)	99		70 - 130			06/12/24 08:28	06/12/24 11:52	5	
4-Bromofluorobenzene (Surr)	101		62 - 144			06/12/24 08:28	06/12/24 11:52	5	
Dibromofluoromethane (Surr)	99		73 - 145			06/12/24 08:28	06/12/24 11:52	5	

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	120		9.4	mg/Kg		06/12/24 08:34	06/12/24 12:00	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		06/12/24 08:34	06/12/24 12:00	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	108		62 - 134			06/12/24 08:34	06/12/24 12:00	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

Client Sample ID: FS19  
Date Collected: 06/11/24 13:35  
Date Received: 06/12/24 06:30

Lab Sample ID: 885-6027-5  
Matrix: Solid

Method: SW846 8015D - Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.4	mg/Kg		06/12/24 08:28	06/12/24 12:21	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	84		70 - 130			06/12/24 08:28	06/12/24 12:21	1	

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.022	mg/Kg		06/12/24 08:28	06/12/24 12:21	1	
Ethylbenzene	ND		0.044	mg/Kg		06/12/24 08:28	06/12/24 12:21	1	
Toluene	ND		0.044	mg/Kg		06/12/24 08:28	06/12/24 12:21	1	
Xylenes, Total	ND		0.088	mg/Kg		06/12/24 08:28	06/12/24 12:21	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	101		65 - 147			06/12/24 08:28	06/12/24 12:21	1	
Toluene-d8 (Surr)	99		70 - 130			06/12/24 08:28	06/12/24 12:21	1	
4-Bromofluorobenzene (Surr)	100		62 - 144			06/12/24 08:28	06/12/24 12:21	1	
Dibromofluoromethane (Surr)	95		73 - 145			06/12/24 08:28	06/12/24 12:21	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		8.6	mg/Kg		06/12/24 08:34	06/12/24 12:11	1	
Motor Oil Range Organics [C28-C40]	ND		43	mg/Kg		06/12/24 08:34	06/12/24 12:11	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	102		62 - 134			06/12/24 08:34	06/12/24 12:11	1	



## Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

Client Sample ID: FS20

Lab Sample ID: 885-6027-6

Date Collected: 06/11/24 13:40

Matrix: Solid

Date Received: 06/12/24 06:30

## Method: SW846 8015D - Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.5	mg/Kg		06/12/24 08:37	06/12/24 12:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		70 - 130			06/12/24 08:37	06/12/24 12:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.022	mg/Kg		06/12/24 08:37	06/12/24 12:49	1
Ethylbenzene	ND		0.045	mg/Kg		06/12/24 08:37	06/12/24 12:49	1
Toluene	ND		0.045	mg/Kg		06/12/24 08:37	06/12/24 12:49	1
Xylenes, Total	ND		0.089	mg/Kg		06/12/24 08:37	06/12/24 12:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		65 - 147			06/12/24 08:37	06/12/24 12:49	1
Toluene-d8 (Surr)	98		70 - 130			06/12/24 08:37	06/12/24 12:49	1
4-Bromofluorobenzene (Surr)	98		62 - 144			06/12/24 08:37	06/12/24 12:49	1
Dibromofluoromethane (Surr)	95		73 - 145			06/12/24 08:37	06/12/24 12:49	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		8.5	mg/Kg		06/12/24 08:34	06/12/24 09:55	1
Motor Oil Range Organics [C28-C40]	ND		43	mg/Kg		06/12/24 08:34	06/12/24 09:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	112		62 - 134			06/12/24 08:34	06/12/24 09:55	1

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Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

Client Sample ID: FS21      Lab Sample ID: 885-6027-7  
Date Collected: 06/11/24 13:45      Matrix: Solid  
Date Received: 06/12/24 06:30

Method: SW846 8015D - Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	38		3.3	mg/Kg		06/12/24 08:43	06/12/24 13:18	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	86		70 - 130			06/12/24 08:43	06/12/24 13:18	1	
Method: SW846 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.017	mg/Kg		06/12/24 08:43	06/12/24 13:18	1	
Ethylbenzene	0.067		0.033	mg/Kg		06/12/24 08:43	06/12/24 13:18	1	
Toluene	0.13		0.033	mg/Kg		06/12/24 08:43	06/12/24 13:18	1	
Xylenes, Total	1.3		0.067	mg/Kg		06/12/24 08:43	06/12/24 13:18	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	102		65 - 147			06/12/24 08:43	06/12/24 13:18	1	
Toluene-d8 (Surr)	100		70 - 130			06/12/24 08:43	06/12/24 13:18	1	
4-Bromofluorobenzene (Surr)	102		62 - 144			06/12/24 08:43	06/12/24 13:18	1	
Dibromofluoromethane (Surr)	95		73 - 145			06/12/24 08:43	06/12/24 13:18	1	
Method: SW846 8015D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	110		9.4	mg/Kg		06/12/24 08:34	06/12/24 10:08	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		06/12/24 08:34	06/12/24 10:08	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	112		62 - 134			06/12/24 08:34	06/12/24 10:08	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

Client Sample ID: FS22

Lab Sample ID: 885-6027-8

Date Collected: 06/11/24 13:50

Matrix: Solid

Date Received: 06/12/24 06:30

Method: SW846 8015D - Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	28		18	mg/Kg		06/12/24 08:43	06/12/24 13:46	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130			06/12/24 08:43	06/12/24 13:46	5
Method: SW846 8260B - Volatile Organic Compounds (GC/MS)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.089	mg/Kg		06/12/24 08:43	06/12/24 13:46	5
Ethylbenzene	ND		0.18	mg/Kg		06/12/24 08:43	06/12/24 13:46	5
Toluene	ND		0.18	mg/Kg		06/12/24 08:43	06/12/24 13:46	5
Xylenes, Total	0.50		0.35	mg/Kg		06/12/24 08:43	06/12/24 13:46	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		65 - 147			06/12/24 08:43	06/12/24 13:46	5
Toluene-d8 (Surr)	98		70 - 130			06/12/24 08:43	06/12/24 13:46	5
4-Bromofluorobenzene (Surr)	102		62 - 144			06/12/24 08:43	06/12/24 13:46	5
Dibromofluoromethane (Surr)	97		73 - 145			06/12/24 08:43	06/12/24 13:46	5
Method: SW846 8015D - Diesel Range Organics (DRO) (GC)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	130		9.0	mg/Kg		06/12/24 08:34	06/12/24 10:21	1
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		06/12/24 08:34	06/12/24 10:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	117		62 - 134			06/12/24 08:34	06/12/24 10:21	1



## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

## Method: 8015D - Nonhalogenated Organics using GC/MS -Modified (Gasoline Range Organics)

Lab Sample ID: MB 885-6540/1-A

Matrix: Solid

Analysis Batch: 6608

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6540

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/12/24 08:28	06/12/24 09:58	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130			06/12/24 08:28	06/12/24 09:58	1

Lab Sample ID: LCS 885-6608/2

Matrix: Solid

Analysis Batch: 6608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	84		70 - 130					

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

Lab Sample ID: MB 885-6540/1-A

Matrix: Solid

Analysis Batch: 6600

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6540

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		06/12/24 08:28	06/12/24 09:58	1
Ethylbenzene	ND		0.050	mg/Kg		06/12/24 08:28	06/12/24 09:58	1
Toluene	ND		0.050	mg/Kg		06/12/24 08:28	06/12/24 09:58	1
Xylenes, Total	ND		0.10	mg/Kg		06/12/24 08:28	06/12/24 09:58	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		65 - 147			06/12/24 08:28	06/12/24 09:58	1
Toluene-d8 (Surr)	98		70 - 130			06/12/24 08:28	06/12/24 09:58	1
4-Bromofluorobenzene (Surr)	101		62 - 144			06/12/24 08:28	06/12/24 09:58	1
Dibromofluoromethane (Surr)	92		73 - 145			06/12/24 08:28	06/12/24 09:58	1

Lab Sample ID: LCS 885-6540/4-A

Matrix: Solid

Analysis Batch: 6600

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6540

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Benzene	1.00	1.11		mg/Kg		111	70 - 130	
Toluene	1.01	1.07		mg/Kg		106	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
1,2-Dichloroethane-d4 (Surr)	101		65 - 147					
Toluene-d8 (Surr)	97		70 - 130					
4-Bromofluorobenzene (Surr)	100		62 - 144					
Dibromofluoromethane (Surr)	96		73 - 145					

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

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

Lab Sample ID: 885-6027-1 MS  
Matrix: Solid  
Analysis Batch: 6600

Client Sample ID: SW52  
Prep Type: Total/NA  
Prep Batch: 6540

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		0.708	0.784		mg/Kg		111	61 - 141
Toluene	ND		0.710	0.748		mg/Kg		105	15 - 261
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	101		65 - 147						
Toluene-d8 (Surr)	96		70 - 130						
4-Bromofluorobenzene (Surr)	100		62 - 144						
Dibromofluoromethane (Surr)	93		73 - 145						

Lab Sample ID: 885-6027-1 MSD  
Matrix: Solid  
Analysis Batch: 6600

Client Sample ID: SW52  
Prep Type: Total/NA  
Prep Batch: 6540

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.708	0.763		mg/Kg		108	61 - 141	3	20
Toluene	ND		0.710	0.747		mg/Kg		105	15 - 261	0	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	102		65 - 147								
Toluene-d8 (Surr)	99		70 - 130								
4-Bromofluorobenzene (Surr)	100		62 - 144								
Dibromofluoromethane (Surr)	93		73 - 145								

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

Lab Sample ID: MB 885-6541/1-A  
Matrix: Solid  
Analysis Batch: 6582

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 6541

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		06/12/24 08:34	06/12/24 10:14	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/12/24 08:34	06/12/24 10:14	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac		
Di-n-octyl phthalate (Surr)	97		62 - 134	06/12/24 08:34	06/12/24 10:14	1		

Lab Sample ID: LCS 885-6541/2-A  
Matrix: Solid  
Analysis Batch: 6582

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 6541

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	47.4		mg/Kg		95	60 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Di-n-octyl phthalate (Surr)	85		62 - 134				



## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

## GC/MS VOA

## Prep Batch: 6540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6027-1	SW52	Total/NA	Solid	5035	
885-6027-2	SW53	Total/NA	Solid	5035	
885-6027-3	SW54	Total/NA	Solid	5035	
885-6027-4	SW55	Total/NA	Solid	5035	
885-6027-5	FS19	Total/NA	Solid	5035	
885-6027-6	FS20	Total/NA	Solid	5035	
885-6027-7	FS21	Total/NA	Solid	5035	
885-6027-8	FS22	Total/NA	Solid	5035	
MB 885-6540/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-6540/4-A	Lab Control Sample	Total/NA	Solid	5035	
885-6027-1 MS	SW52	Total/NA	Solid	5035	
885-6027-1 MSD	SW52	Total/NA	Solid	5035	

## Analysis Batch: 6600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6027-1	SW52	Total/NA	Solid	8260B	6540
885-6027-2	SW53	Total/NA	Solid	8260B	6540
885-6027-3	SW54	Total/NA	Solid	8260B	6540
885-6027-4	SW55	Total/NA	Solid	8260B	6540
885-6027-5	FS19	Total/NA	Solid	8260B	6540
885-6027-6	FS20	Total/NA	Solid	8260B	6540
885-6027-7	FS21	Total/NA	Solid	8260B	6540
885-6027-8	FS22	Total/NA	Solid	8260B	6540
MB 885-6540/1-A	Method Blank	Total/NA	Solid	8260B	6540
LCS 885-6540/4-A	Lab Control Sample	Total/NA	Solid	8260B	6540
885-6027-1 MS	SW52	Total/NA	Solid	8260B	6540
885-6027-1 MSD	SW52	Total/NA	Solid	8260B	6540

## Analysis Batch: 6608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6027-1	SW52	Total/NA	Solid	8015D	6540
885-6027-2	SW53	Total/NA	Solid	8015D	6540
885-6027-3	SW54	Total/NA	Solid	8015D	6540
885-6027-4	SW55	Total/NA	Solid	8015D	6540
885-6027-5	FS19	Total/NA	Solid	8015D	6540
885-6027-6	FS20	Total/NA	Solid	8015D	6540
885-6027-7	FS21	Total/NA	Solid	8015D	6540
885-6027-8	FS22	Total/NA	Solid	8015D	6540
MB 885-6540/1-A	Method Blank	Total/NA	Solid	8015D	6540
LCS 885-6608/2	Lab Control Sample	Total/NA	Solid	8015D	

## GC Semi VOA

## Prep Batch: 6541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6027-1	SW52	Total/NA	Solid	SHAKE	
885-6027-2	SW53	Total/NA	Solid	SHAKE	
885-6027-3	SW54	Total/NA	Solid	SHAKE	
885-6027-4	SW55	Total/NA	Solid	SHAKE	
885-6027-5	FS19	Total/NA	Solid	SHAKE	
885-6027-6	FS20	Total/NA	Solid	SHAKE	

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QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

GC Semi VOA (Continued)

Prep Batch: 6541 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6027-7	FS21	Total/NA	Solid	SHAKE	
885-6027-8	FS22	Total/NA	Solid	SHAKE	
MB 885-6541/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-6541/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 6580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6027-6	FS20	Total/NA	Solid	8015D	6541
885-6027-7	FS21	Total/NA	Solid	8015D	6541
885-6027-8	FS22	Total/NA	Solid	8015D	6541

Analysis Batch: 6582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6027-1	SW52	Total/NA	Solid	8015D	6541
885-6027-2	SW53	Total/NA	Solid	8015D	6541
885-6027-3	SW54	Total/NA	Solid	8015D	6541
885-6027-4	SW55	Total/NA	Solid	8015D	6541
885-6027-5	FS19	Total/NA	Solid	8015D	6541
MB 885-6541/1-A	Method Blank	Total/NA	Solid	8015D	6541
LCS 885-6541/2-A	Lab Control Sample	Total/NA	Solid	8015D	6541



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

**Client Sample ID: SW52**  
**Date Collected: 06/11/24 13:15**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6027-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:28
Total/NA	Analysis	8015D		1	6608	CM	EET ALB	06/12/24 14:15
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:28
Total/NA	Analysis	8260B		1	6600	JR	EET ALB	06/12/24 14:15
Total/NA	Prep	SHAKE			6541	JU	EET ALB	06/12/24 08:34
Total/NA	Analysis	8015D		1	6582	JU	EET ALB	06/12/24 11:28

**Client Sample ID: SW53**  
**Date Collected: 06/11/24 13:20**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6027-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:28
Total/NA	Analysis	8015D		5	6608	CM	EET ALB	06/12/24 10:55
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:28
Total/NA	Analysis	8260B		5	6600	JR	EET ALB	06/12/24 10:55
Total/NA	Prep	SHAKE			6541	JU	EET ALB	06/12/24 08:34
Total/NA	Analysis	8015D		1	6582	JU	EET ALB	06/12/24 11:38

**Client Sample ID: SW54**  
**Date Collected: 06/11/24 13:25**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6027-3**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:28
Total/NA	Analysis	8015D		5	6608	CM	EET ALB	06/12/24 11:24
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:28
Total/NA	Analysis	8260B		5	6600	JR	EET ALB	06/12/24 11:24
Total/NA	Prep	SHAKE			6541	JU	EET ALB	06/12/24 08:34
Total/NA	Analysis	8015D		1	6582	JU	EET ALB	06/12/24 11:49

**Client Sample ID: SW55**  
**Date Collected: 06/11/24 13:30**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6027-4**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:28
Total/NA	Analysis	8015D		5	6608	CM	EET ALB	06/12/24 11:52
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:28
Total/NA	Analysis	8260B		5	6600	JR	EET ALB	06/12/24 11:52
Total/NA	Prep	SHAKE			6541	JU	EET ALB	06/12/24 08:34
Total/NA	Analysis	8015D		1	6582	JU	EET ALB	06/12/24 12:00



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

**Client Sample ID: FS19**  
**Date Collected: 06/11/24 13:35**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6027-5**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:28
Total/NA	Analysis	8015D		1	6608	CM	EET ALB	06/12/24 12:21
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:28
Total/NA	Analysis	8260B		1	6600	JR	EET ALB	06/12/24 12:21
Total/NA	Prep	SHAKE			6541	JU	EET ALB	06/12/24 08:34
Total/NA	Analysis	8015D		1	6582	JU	EET ALB	06/12/24 12:11

**Client Sample ID: FS20**  
**Date Collected: 06/11/24 13:40**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6027-6**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:37
Total/NA	Analysis	8015D		1	6608	CM	EET ALB	06/12/24 12:49
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:37
Total/NA	Analysis	8260B		1	6600	JR	EET ALB	06/12/24 12:49
Total/NA	Prep	SHAKE			6541	JU	EET ALB	06/12/24 08:34
Total/NA	Analysis	8015D		1	6580	JU	EET ALB	06/12/24 09:55

**Client Sample ID: FS21**  
**Date Collected: 06/11/24 13:45**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6027-7**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:43
Total/NA	Analysis	8015D		1	6608	CM	EET ALB	06/12/24 13:18
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:43
Total/NA	Analysis	8260B		1	6600	JR	EET ALB	06/12/24 13:18
Total/NA	Prep	SHAKE			6541	JU	EET ALB	06/12/24 08:34
Total/NA	Analysis	8015D		1	6580	JU	EET ALB	06/12/24 10:08

**Client Sample ID: FS22**  
**Date Collected: 06/11/24 13:50**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6027-8**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:43
Total/NA	Analysis	8015D		5	6608	CM	EET ALB	06/12/24 13:46
Total/NA	Prep	5035			6540	AT	EET ALB	06/12/24 08:43
Total/NA	Analysis	8260B		5	6600	JR	EET ALB	06/12/24 13:46
Total/NA	Prep	SHAKE			6541	JU	EET ALB	06/12/24 08:34
Total/NA	Analysis	8015D		1	6580	JU	EET ALB	06/12/24 10:21

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



Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6027-1

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
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]
8260B	5035	Solid	Benzene
8260B	5035	Solid	Ethylbenzene
8260B	5035	Solid	Toluene
8260B	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
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]







## Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-6027-1

Login Number: 6027

List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

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





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Samantha Grabert  
Hilcorp Energy  
PO BOX 4700  
Farmington, New Mexico 87499

Generated 6/17/2024 4:59:12 PM

## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-6033-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



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6/17/2024 4:59:12 PM

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



Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-6033-1



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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Qualifiers

GC VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: SJ 27-5 #111

Job ID: 885-6033-1

Job ID: 885-6033-1Eurofins Albuquerque

Job Narrative  
885-6033-1

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

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

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

Receipt

The samples were received on 6/12/2024 6:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.1°C.

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.

Eurofins Albuquerque



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW38  
Date Collected: 06/11/24 12:30  
Date Received: 06/12/24 06:30

Lab Sample ID: 885-6033-1  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/12/24 10:24	06/13/24 22:54	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		35 - 166			06/12/24 10:24	06/13/24 22:54	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/12/24 10:24	06/13/24 22:54	1	
Ethylbenzene	ND		0.050	mg/Kg		06/12/24 10:24	06/13/24 22:54	1	
Toluene	ND		0.050	mg/Kg		06/12/24 10:24	06/13/24 22:54	1	
Xylenes, Total	ND		0.10	mg/Kg		06/12/24 10:24	06/13/24 22:54	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	87		48 - 145			06/12/24 10:24	06/13/24 22:54	1	

Method: SW846 8015M/D - 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		06/13/24 10:38	06/13/24 12:52	1	
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		06/13/24 10:38	06/13/24 12:52	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	102		62 - 134			06/13/24 10:38	06/13/24 12:52	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW39  
Date Collected: 06/11/24 12:32  
Date Received: 06/12/24 06:30

Lab Sample ID: 885-6033-2  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/12/24 10:24	06/14/24 00:04	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		35 - 166			06/12/24 10:24	06/14/24 00:04	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/12/24 10:24	06/14/24 00:04	1	
Ethylbenzene	ND		0.050	mg/Kg		06/12/24 10:24	06/14/24 00:04	1	
Toluene	ND		0.050	mg/Kg		06/12/24 10:24	06/14/24 00:04	1	
Xylenes, Total	ND		0.10	mg/Kg		06/12/24 10:24	06/14/24 00:04	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	87		48 - 145			06/12/24 10:24	06/14/24 00:04	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	15		9.7	mg/Kg		06/13/24 10:38	06/13/24 13:05	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/13/24 10:38	06/13/24 13:05	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	103		62 - 134			06/13/24 10:38	06/13/24 13:05	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW40  
Date Collected: 06/11/24 12:35  
Date Received: 06/12/24 06:30

Lab Sample ID: 885-6033-3  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/12/24 10:24	06/14/24 01:14	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		35 - 166			06/12/24 10:24	06/14/24 01:14	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/12/24 10:24	06/14/24 01:14	1	
Ethylbenzene	ND		0.050	mg/Kg		06/12/24 10:24	06/14/24 01:14	1	
Toluene	ND		0.050	mg/Kg		06/12/24 10:24	06/14/24 01:14	1	
Xylenes, Total	ND		0.099	mg/Kg		06/12/24 10:24	06/14/24 01:14	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	89		48 - 145			06/12/24 10:24	06/14/24 01:14	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		06/13/24 10:38	06/13/24 13:18	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/13/24 10:38	06/13/24 13:18	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	101		62 - 134			06/13/24 10:38	06/13/24 13:18	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW41

Lab Sample ID: 885-6033-4

Date Collected: 06/11/24 12:37

Matrix: Solid

Date Received: 06/12/24 06:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/12/24 10:24	06/14/24 01:38	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		35 - 166			06/12/24 10:24	06/14/24 01:38	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/12/24 10:24	06/14/24 01:38	1	
Ethylbenzene	ND		0.050	mg/Kg		06/12/24 10:24	06/14/24 01:38	1	
Toluene	ND		0.050	mg/Kg		06/12/24 10:24	06/14/24 01:38	1	
Xylenes, Total	ND		0.10	mg/Kg		06/12/24 10:24	06/14/24 01:38	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			06/12/24 10:24	06/14/24 01:38	1	

Method: SW846 8015M/D - 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		06/13/24 10:38	06/13/24 13:31	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		06/13/24 10:38	06/13/24 13:31	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	102		62 - 134			06/13/24 10:38	06/13/24 13:31	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW42

Lab Sample ID: 885-6033-5

Date Collected: 06/11/24 12:40

Matrix: Solid

Date Received: 06/12/24 06:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		06/12/24 10:24	06/14/24 02:01	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		35 - 166			06/12/24 10:24	06/14/24 02:01	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/12/24 10:24	06/14/24 02:01	1	
Ethylbenzene	ND		0.049	mg/Kg		06/12/24 10:24	06/14/24 02:01	1	
Toluene	ND		0.049	mg/Kg		06/12/24 10:24	06/14/24 02:01	1	
Xylenes, Total	ND		0.099	mg/Kg		06/12/24 10:24	06/14/24 02:01	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			06/12/24 10:24	06/14/24 02:01	1	
Method: SW846 8015M/D - 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		06/13/24 10:38	06/13/24 13:45	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		06/13/24 10:38	06/13/24 13:45	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	104		62 - 134			06/13/24 10:38	06/13/24 13:45	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW43  
Date Collected: 06/11/24 12:42  
Date Received: 06/12/24 06:30

Lab Sample ID: 885-6033-6  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		06/12/24 10:24	06/14/24 02:25	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	90		35 - 166			06/12/24 10:24	06/14/24 02:25	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/12/24 10:24	06/14/24 02:25	1	
Ethylbenzene	ND		0.049	mg/Kg		06/12/24 10:24	06/14/24 02:25	1	
Toluene	ND		0.049	mg/Kg		06/12/24 10:24	06/14/24 02:25	1	
Xylenes, Total	ND		0.098	mg/Kg		06/12/24 10:24	06/14/24 02:25	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	84		48 - 145			06/12/24 10:24	06/14/24 02:25	1	
Method: SW846 8015M/D - 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		06/13/24 10:38	06/13/24 13:58	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		06/13/24 10:38	06/13/24 13:58	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	104		62 - 134			06/13/24 10:38	06/13/24 13:58	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW44

Lab Sample ID: 885-6033-7

Date Collected: 06/11/24 12:45

Matrix: Solid

Date Received: 06/12/24 06:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		06/12/24 10:24	06/14/24 02:48	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		35 - 166			06/12/24 10:24	06/14/24 02:48	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/12/24 10:24	06/14/24 02:48	1	
Ethylbenzene	ND		0.049	mg/Kg		06/12/24 10:24	06/14/24 02:48	1	
Toluene	ND		0.049	mg/Kg		06/12/24 10:24	06/14/24 02:48	1	
Xylenes, Total	ND		0.098	mg/Kg		06/12/24 10:24	06/14/24 02:48	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	86		48 - 145			06/12/24 10:24	06/14/24 02:48	1	
Method: SW846 8015M/D - 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		06/13/24 10:38	06/13/24 14:11	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/13/24 10:38	06/13/24 14:11	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	103		62 - 134			06/13/24 10:38	06/13/24 14:11	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW45

Lab Sample ID: 885-6033-8

Date Collected: 06/11/24 12:47

Matrix: Solid

Date Received: 06/12/24 06:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		06/12/24 10:24	06/14/24 03:35	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		35 - 166			06/12/24 10:24	06/14/24 03:35	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		06/12/24 10:24	06/14/24 03:35	1	
Ethylbenzene	ND		0.048	mg/Kg		06/12/24 10:24	06/14/24 03:35	1	
Toluene	ND		0.048	mg/Kg		06/12/24 10:24	06/14/24 03:35	1	
Xylenes, Total	ND		0.096	mg/Kg		06/12/24 10:24	06/14/24 03:35	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	90		48 - 145			06/12/24 10:24	06/14/24 03:35	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.9	mg/Kg		06/13/24 10:38	06/13/24 14:25	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/13/24 10:38	06/13/24 14:25	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	104		62 - 134			06/13/24 10:38	06/13/24 14:25	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW46  
Date Collected: 06/11/24 12:50  
Date Received: 06/12/24 06:30

Lab Sample ID: 885-6033-9  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.7	mg/Kg		06/12/24 10:24	06/14/24 03:58	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			06/12/24 10:24	06/14/24 03:58	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.023	mg/Kg		06/12/24 10:24	06/14/24 03:58	1	
Ethylbenzene	ND		0.047	mg/Kg		06/12/24 10:24	06/14/24 03:58	1	
Toluene	ND		0.047	mg/Kg		06/12/24 10:24	06/14/24 03:58	1	
Xylenes, Total	ND		0.094	mg/Kg		06/12/24 10:24	06/14/24 03:58	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	89		48 - 145			06/12/24 10:24	06/14/24 03:58	1	
Method: SW846 8015M/D - 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		06/13/24 10:38	06/13/24 14:38	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		06/13/24 10:38	06/13/24 14:38	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	105		62 - 134			06/13/24 10:38	06/13/24 14:38	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW47  
Date Collected: 06/11/24 12:52  
Date Received: 06/12/24 06:30

Lab Sample ID: 885-6033-10  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		06/12/24 10:24	06/14/24 04:22		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	117		35 - 166			06/12/24 10:24	06/14/24 04:22		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		06/12/24 10:24	06/14/24 04:22		1
Ethylbenzene	ND		0.048	mg/Kg		06/12/24 10:24	06/14/24 04:22		1
Toluene	ND		0.048	mg/Kg		06/12/24 10:24	06/14/24 04:22		1
Xylenes, Total	ND		0.096	mg/Kg		06/12/24 10:24	06/14/24 04:22		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			06/12/24 10:24	06/14/24 04:22		1
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	50		9.3	mg/Kg		06/13/24 10:38	06/13/24 14:52		1
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		06/13/24 10:38	06/13/24 14:52		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	100		62 - 134			06/13/24 10:38	06/13/24 14:52		1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW48  
Date Collected: 06/11/24 12:55  
Date Received: 06/12/24 06:30

Lab Sample ID: 885-6033-11  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/12/24 10:24	06/14/24 04:45		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			06/12/24 10:24	06/14/24 04:45		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/12/24 10:24	06/14/24 04:45		1
Ethylbenzene	ND		0.050	mg/Kg		06/12/24 10:24	06/14/24 04:45		1
Toluene	ND		0.050	mg/Kg		06/12/24 10:24	06/14/24 04:45		1
Xylenes, Total	ND		0.10	mg/Kg		06/12/24 10:24	06/14/24 04:45		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	90		48 - 145			06/12/24 10:24	06/14/24 04:45		1
Method: SW846 8015M/D - 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		06/13/24 10:38	06/13/24 15:05		1
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		06/13/24 10:38	06/13/24 15:05		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	105		62 - 134			06/13/24 10:38	06/13/24 15:05		1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW49

Lab Sample ID: 885-6033-12

Date Collected: 06/11/24 12:57

Matrix: Solid

Date Received: 06/12/24 06:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.7	mg/Kg		06/12/24 10:24	06/14/24 05:08		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		35 - 166			06/12/24 10:24	06/14/24 05:08		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		06/12/24 10:24	06/14/24 05:08		1
Ethylbenzene	ND		0.047	mg/Kg		06/12/24 10:24	06/14/24 05:08		1
Toluene	ND		0.047	mg/Kg		06/12/24 10:24	06/14/24 05:08		1
Xylenes, Total	ND		0.095	mg/Kg		06/12/24 10:24	06/14/24 05:08		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	87		48 - 145			06/12/24 10:24	06/14/24 05:08		1
Method: SW846 8015M/D - 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		06/13/24 10:38	06/13/24 15:19		1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/13/24 10:38	06/13/24 15:19		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	101		62 - 134			06/13/24 10:38	06/13/24 15:19		1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW50  
Date Collected: 06/11/24 13:00  
Date Received: 06/12/24 06:30

Lab Sample ID: 885-6033-13  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/12/24 10:24	06/14/24 05:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	91		35 - 166			06/12/24 10:24	06/14/24 05:32	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/12/24 10:24	06/14/24 05:32	1	
Ethylbenzene	ND		0.050	mg/Kg		06/12/24 10:24	06/14/24 05:32	1	
Toluene	ND		0.050	mg/Kg		06/12/24 10:24	06/14/24 05:32	1	
Xylenes, Total	ND		0.099	mg/Kg		06/12/24 10:24	06/14/24 05:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	87		48 - 145			06/12/24 10:24	06/14/24 05:32	1	

Method: SW846 8015M/D - 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		06/13/24 10:38	06/13/24 15:32	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		06/13/24 10:38	06/13/24 15:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	104		62 - 134			06/13/24 10:38	06/13/24 15:32	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

Client Sample ID: SW51

Lab Sample ID: 885-6033-14

Date Collected: 06/11/24 13:02

Matrix: Solid

Date Received: 06/12/24 06:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		06/12/24 10:24	06/14/24 05:55	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		35 - 166			06/12/24 10:24	06/14/24 05:55	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/12/24 10:24	06/14/24 05:55	1	
Ethylbenzene	ND		0.049	mg/Kg		06/12/24 10:24	06/14/24 05:55	1	
Toluene	ND		0.049	mg/Kg		06/12/24 10:24	06/14/24 05:55	1	
Xylenes, Total	ND		0.099	mg/Kg		06/12/24 10:24	06/14/24 05:55	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	89		48 - 145			06/12/24 10:24	06/14/24 05:55	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		8.6	mg/Kg		06/13/24 10:38	06/13/24 15:46	1	
Motor Oil Range Organics [C28-C40]	ND		43	mg/Kg		06/13/24 10:38	06/13/24 15:46	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	99		62 - 134			06/13/24 10:38	06/13/24 15:46	1	



QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

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

Lab Sample ID: MB 885-6560/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 6669						Prep Batch: 6560			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/12/24 10:24	06/13/24 22:31	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	96		35 - 166			06/12/24 10:24	06/13/24 22:31	1	

Lab Sample ID: LCS 885-6560/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 6669						Prep Batch: 6560			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]			25.0	22.7		mg/Kg		91	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	204	S1+	35 - 166						

Lab Sample ID: 885-6033-1 MS						Client Sample ID: SW38			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 6669						Prep Batch: 6560			
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	ND		25.0	22.9		mg/Kg		92	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	205	S1+	35 - 166						

Lab Sample ID: 885-6033-1 MSD								Client Sample ID: SW38			
Matrix: Solid								Prep Type: Total/NA			
Analysis Batch: 6669								Prep Batch: 6560			
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limits
Gasoline Range Organics [C6 - C10]	ND		25.0	23.6		mg/Kg		94	70 - 130	3	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	208	S1+	35 - 166								

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-6560/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 6670						Prep Batch: 6560			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		06/12/24 10:24	06/13/24 22:31	1	
Ethylbenzene	ND		0.050	mg/Kg		06/12/24 10:24	06/13/24 22:31	1	
Toluene	ND		0.050	mg/Kg		06/12/24 10:24	06/13/24 22:31	1	

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## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

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

Lab Sample ID: MB 885-6560/1-A

Matrix: Solid

Analysis Batch: 6670

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6560

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10	mg/Kg		06/12/24 10:24	06/13/24 22:31	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		48 - 145			06/12/24 10:24	06/13/24 22:31	1

Lab Sample ID: LCS 885-6560/3-A

Matrix: Solid

Analysis Batch: 6670

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6560

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.864		mg/Kg		86	70 - 130
Ethylbenzene	1.00	0.839		mg/Kg		84	70 - 130
m&p-Xylene	2.00	1.70		mg/Kg		85	70 - 130
o-Xylene	1.00	0.833		mg/Kg		83	70 - 130
Toluene	1.00	0.825		mg/Kg		82	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	91		48 - 145				

Lab Sample ID: 885-6033-2 MS

Matrix: Solid

Analysis Batch: 6670

Client Sample ID: SW39

Prep Type: Total/NA

Prep Batch: 6560

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		0.993	0.883		mg/Kg		89	70 - 130
Ethylbenzene	ND		0.993	0.892		mg/Kg		90	70 - 130
m&p-Xylene	ND		1.99	1.80		mg/Kg		89	70 - 130
o-Xylene	ND		0.993	0.879		mg/Kg		87	70 - 130
Toluene	ND		0.993	0.862		mg/Kg		85	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	91		48 - 145						

Lab Sample ID: 885-6033-2 MSD

Matrix: Solid

Analysis Batch: 6670

Client Sample ID: SW39

Prep Type: Total/NA

Prep Batch: 6560

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.994	0.881		mg/Kg		89	70 - 130	0	20
Ethylbenzene	ND		0.994	0.862		mg/Kg		87	70 - 130	3	20
m&p-Xylene	ND		1.99	1.76		mg/Kg		87	70 - 130	2	20
o-Xylene	ND		0.994	0.856		mg/Kg		85	70 - 130	3	20
Toluene	ND		0.994	0.856		mg/Kg		85	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	89		48 - 145								

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

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

Lab Sample ID: MB 885-6646/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 6748						Prep Batch: 6646			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		06/13/24 10:38	06/13/24 12:26	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/13/24 10:38	06/13/24 12:26	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	102		62 - 134			06/13/24 10:38	06/13/24 12:26	1	

Lab Sample ID: LCS 885-6646/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 6748						Prep Batch: 6646			
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	50.0	43.4		mg/Kg		87	60 - 135		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	102		62 - 134						



## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

## GC VOA

## Prep Batch: 6560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6033-1	SW38	Total/NA	Solid	5030C	
885-6033-2	SW39	Total/NA	Solid	5030C	
885-6033-3	SW40	Total/NA	Solid	5030C	
885-6033-4	SW41	Total/NA	Solid	5030C	
885-6033-5	SW42	Total/NA	Solid	5030C	
885-6033-6	SW43	Total/NA	Solid	5030C	
885-6033-7	SW44	Total/NA	Solid	5030C	
885-6033-8	SW45	Total/NA	Solid	5030C	
885-6033-9	SW46	Total/NA	Solid	5030C	
885-6033-10	SW47	Total/NA	Solid	5030C	
885-6033-11	SW48	Total/NA	Solid	5030C	
885-6033-12	SW49	Total/NA	Solid	5030C	
885-6033-13	SW50	Total/NA	Solid	5030C	
885-6033-14	SW51	Total/NA	Solid	5030C	
MB 885-6560/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-6560/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-6560/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-6033-1 MS	SW38	Total/NA	Solid	5030C	
885-6033-1 MSD	SW38	Total/NA	Solid	5030C	
885-6033-2 MS	SW39	Total/NA	Solid	5030C	
885-6033-2 MSD	SW39	Total/NA	Solid	5030C	

## Analysis Batch: 6669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6033-1	SW38	Total/NA	Solid	8015M/D	6560
885-6033-2	SW39	Total/NA	Solid	8015M/D	6560
885-6033-3	SW40	Total/NA	Solid	8015M/D	6560
885-6033-4	SW41	Total/NA	Solid	8015M/D	6560
885-6033-5	SW42	Total/NA	Solid	8015M/D	6560
885-6033-6	SW43	Total/NA	Solid	8015M/D	6560
885-6033-7	SW44	Total/NA	Solid	8015M/D	6560
885-6033-8	SW45	Total/NA	Solid	8015M/D	6560
885-6033-9	SW46	Total/NA	Solid	8015M/D	6560
885-6033-10	SW47	Total/NA	Solid	8015M/D	6560
885-6033-11	SW48	Total/NA	Solid	8015M/D	6560
885-6033-12	SW49	Total/NA	Solid	8015M/D	6560
885-6033-13	SW50	Total/NA	Solid	8015M/D	6560
885-6033-14	SW51	Total/NA	Solid	8015M/D	6560
MB 885-6560/1-A	Method Blank	Total/NA	Solid	8015M/D	6560
LCS 885-6560/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	6560
885-6033-1 MS	SW38	Total/NA	Solid	8015M/D	6560
885-6033-1 MSD	SW38	Total/NA	Solid	8015M/D	6560

## Analysis Batch: 6670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6033-1	SW38	Total/NA	Solid	8021B	6560
885-6033-2	SW39	Total/NA	Solid	8021B	6560
885-6033-3	SW40	Total/NA	Solid	8021B	6560
885-6033-4	SW41	Total/NA	Solid	8021B	6560
885-6033-5	SW42	Total/NA	Solid	8021B	6560
885-6033-6	SW43	Total/NA	Solid	8021B	6560

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## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

## GC VOA (Continued)

## Analysis Batch: 6670 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6033-7	SW44	Total/NA	Solid	8021B	6560
885-6033-8	SW45	Total/NA	Solid	8021B	6560
885-6033-9	SW46	Total/NA	Solid	8021B	6560
885-6033-10	SW47	Total/NA	Solid	8021B	6560
885-6033-11	SW48	Total/NA	Solid	8021B	6560
885-6033-12	SW49	Total/NA	Solid	8021B	6560
885-6033-13	SW50	Total/NA	Solid	8021B	6560
885-6033-14	SW51	Total/NA	Solid	8021B	6560
MB 885-6560/1-A	Method Blank	Total/NA	Solid	8021B	6560
LCS 885-6560/3-A	Lab Control Sample	Total/NA	Solid	8021B	6560
885-6033-2 MS	SW39	Total/NA	Solid	8021B	6560
885-6033-2 MSD	SW39	Total/NA	Solid	8021B	6560

## GC Semi VOA

## Prep Batch: 6646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6033-1	SW38	Total/NA	Solid	SHAKE	
885-6033-2	SW39	Total/NA	Solid	SHAKE	
885-6033-3	SW40	Total/NA	Solid	SHAKE	
885-6033-4	SW41	Total/NA	Solid	SHAKE	
885-6033-5	SW42	Total/NA	Solid	SHAKE	
885-6033-6	SW43	Total/NA	Solid	SHAKE	
885-6033-7	SW44	Total/NA	Solid	SHAKE	
885-6033-8	SW45	Total/NA	Solid	SHAKE	
885-6033-9	SW46	Total/NA	Solid	SHAKE	
885-6033-10	SW47	Total/NA	Solid	SHAKE	
885-6033-11	SW48	Total/NA	Solid	SHAKE	
885-6033-12	SW49	Total/NA	Solid	SHAKE	
885-6033-13	SW50	Total/NA	Solid	SHAKE	
885-6033-14	SW51	Total/NA	Solid	SHAKE	
MB 885-6646/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-6646/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

## Analysis Batch: 6748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6033-1	SW38	Total/NA	Solid	8015M/D	6646
885-6033-2	SW39	Total/NA	Solid	8015M/D	6646
885-6033-3	SW40	Total/NA	Solid	8015M/D	6646
885-6033-4	SW41	Total/NA	Solid	8015M/D	6646
885-6033-5	SW42	Total/NA	Solid	8015M/D	6646
885-6033-6	SW43	Total/NA	Solid	8015M/D	6646
885-6033-7	SW44	Total/NA	Solid	8015M/D	6646
885-6033-8	SW45	Total/NA	Solid	8015M/D	6646
885-6033-9	SW46	Total/NA	Solid	8015M/D	6646
885-6033-10	SW47	Total/NA	Solid	8015M/D	6646
885-6033-11	SW48	Total/NA	Solid	8015M/D	6646
885-6033-12	SW49	Total/NA	Solid	8015M/D	6646
885-6033-13	SW50	Total/NA	Solid	8015M/D	6646
885-6033-14	SW51	Total/NA	Solid	8015M/D	6646
MB 885-6646/1-A	Method Blank	Total/NA	Solid	8015M/D	6646

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QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

GC Semi VOA (Continued)

Analysis Batch: 6748 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 885-6646/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	6646

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

**Client Sample ID: SW38**  
**Date Collected: 06/11/24 12:30**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/13/24 22:54
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/13/24 22:54
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 12:52

**Client Sample ID: SW39**  
**Date Collected: 06/11/24 12:32**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 00:04
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 00:04
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 13:05

**Client Sample ID: SW40**  
**Date Collected: 06/11/24 12:35**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-3**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 01:14
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 01:14
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 13:18

**Client Sample ID: SW41**  
**Date Collected: 06/11/24 12:37**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-4**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 01:38
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 01:38
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 13:31



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

**Client Sample ID: SW42**  
**Date Collected: 06/11/24 12:40**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-5**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 02:01
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 02:01
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 13:45

**Client Sample ID: SW43**  
**Date Collected: 06/11/24 12:42**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-6**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 02:25
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 02:25
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 13:58

**Client Sample ID: SW44**  
**Date Collected: 06/11/24 12:45**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-7**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 02:48
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 02:48
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 14:11

**Client Sample ID: SW45**  
**Date Collected: 06/11/24 12:47**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-8**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 03:35
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 03:35
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 14:25



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

**Client Sample ID: SW46**  
**Date Collected: 06/11/24 12:50**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-9**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 03:58
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 03:58
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 14:38

**Client Sample ID: SW47**  
**Date Collected: 06/11/24 12:52**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-10**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 04:22
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 04:22
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 14:52

**Client Sample ID: SW48**  
**Date Collected: 06/11/24 12:55**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-11**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 04:45
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 04:45
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 15:05

**Client Sample ID: SW49**  
**Date Collected: 06/11/24 12:57**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-12**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 05:08
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 05:08
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 15:19



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

**Client Sample ID: SW50**  
**Date Collected: 06/11/24 13:00**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-13**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 05:32
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 05:32
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 15:32

**Client Sample ID: SW51**  
**Date Collected: 06/11/24 13:02**  
**Date Received: 06/12/24 06:30**

**Lab Sample ID: 885-6033-14**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8015M/D		1	6669	JP	EET ALB	06/14/24 05:55
Total/NA	Prep	5030C			6560	AT	EET ALB	06/12/24 10:24
Total/NA	Analysis	8021B		1	6670	JP	EET ALB	06/14/24 05:55
Total/NA	Prep	SHAKE			6646	SB	EET ALB	06/13/24 10:38
Total/NA	Analysis	8015M/D		1	6748	JU	EET ALB	06/13/24 15:46

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



Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6033-1

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
8015M/D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total
Oregon	NELAP	NM100001	02-26-25











## Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-6033-1

Login Number: 6033

List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

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





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Samantha Grabert  
Hilcorp Energy  
PO BOX 4700  
Farmington, New Mexico 87499

Generated 7/2/2024 3:14:03 PM

## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-6729-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



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

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Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-6729-1

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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: SJ 27-5 #111

Job ID: 885-6729-1

Job ID: 885-6729-1

Eurofins Albuquerque

**Job Narrative**  
**885-6729-1**

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

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

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

**Receipt**

The samples were received on 6/22/2024 6:25 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.4°C.

**Gasoline Range Organics**

Method 8015D\_GRO: Surrogate recovery for the following samples were outside control limits: TSP12 (885-6729-1), TSP13 (885-6729-2), TSP15 (885-6729-4), TSP16 (885-6729-5), TSP19 (885-6729-8) and TSP21 (885-6729-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D\_GRO: Surrogate recovery for the following sample was outside control limits: TSP14 (885-6729-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D\_GRO: Surrogate recovery for the following sample was outside control limits: TSP17 (885-6729-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D\_GRO: Surrogate recovery for the following sample was outside control limits: TSP18 (885-6729-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D\_GRO: Surrogate recovery for the following sample was outside control limits: TSP20 (885-6729-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D\_GRO: Surrogate recovery for the following sample was outside control limits: TSP13 (885-6729-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D\_GRO: Surrogate recovery for the following sample was outside control limits: TSP16 (885-6729-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D\_GRO: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 885-7231 and analytical batch 885-7279 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

**GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 885-7231 and analytical batch 885-7280 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

**Diesel Range Organics**

Method 8015D\_DRO: Surrogate recovery for the following sample is outside the upper control limit: TSP21 (885-6729-10). Results requested by the client ASAP. We are unable to re-extract sample to confirm high recovery. Results will be reported as is.

Eurofins Albuquerque



Case Narrative

Client: Hilcorp Energy  
Project: SJ 27-5 #111

Job ID: 885-6729-1

**Job ID: 885-6729-1 (Continued)** **Eurofins Albuquerque**

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

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Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

Client Sample ID: TSP12

Lab Sample ID: 885-6729-1

Date Collected: 06/21/24 12:30

Matrix: Solid

Date Received: 06/22/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	170		2.9	mg/Kg		06/24/24 08:17	06/24/24 12:06	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	502	S1+	35 - 166			06/24/24 08:17	06/24/24 12:06	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	0.031		0.015	mg/Kg		06/24/24 08:17	06/24/24 12:06	1	
Ethylbenzene	0.52		0.029	mg/Kg		06/24/24 08:17	06/24/24 12:06	1	
Toluene	0.86		0.029	mg/Kg		06/24/24 08:17	06/24/24 12:06	1	
Xylenes, Total	7.1		0.29	mg/Kg		06/24/24 08:17	06/24/24 17:13	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	127		48 - 145			06/24/24 08:17	06/24/24 12:06	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	44		9.4	mg/Kg		06/24/24 08:23	06/24/24 13:57	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		06/24/24 08:23	06/24/24 13:57	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	95		62 - 134			06/24/24 08:23	06/24/24 13:57	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

Client Sample ID: TSP13  
Date Collected: 06/21/24 12:40  
Date Received: 06/22/24 06:25

Lab Sample ID: 885-6729-2  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	130		6.6	mg/Kg		06/24/24 08:17	06/24/24 16:02	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	258	S1+	35 - 166			06/24/24 08:17	06/24/24 16:02	2	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.033	mg/Kg		06/24/24 08:17	06/24/24 16:02	2	
Ethylbenzene	0.39	F1	0.066	mg/Kg		06/24/24 08:17	06/24/24 16:02	2	
Toluene	0.12		0.066	mg/Kg		06/24/24 08:17	06/24/24 16:02	2	
Xylenes, Total	2.7		0.13	mg/Kg		06/24/24 08:17	06/24/24 16:02	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	109		48 - 145			06/24/24 08:17	06/24/24 16:02	2	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	35		9.9	mg/Kg		06/24/24 08:23	06/24/24 14:07	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/24/24 08:23	06/24/24 14:07	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	89		62 - 134			06/24/24 08:23	06/24/24 14:07	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

Client Sample ID: TSP14

Lab Sample ID: 885-6729-3

Date Collected: 06/21/24 12:50

Matrix: Solid

Date Received: 06/22/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	150		9.1	mg/Kg		06/24/24 08:17	06/24/24 12:53	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	481	S1+	35 - 166			06/24/24 08:17	06/24/24 12:53	2	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.045	mg/Kg		06/24/24 08:17	06/24/24 12:53	2	
Ethylbenzene	0.48		0.091	mg/Kg		06/24/24 08:17	06/24/24 12:53	2	
Toluene	0.14		0.091	mg/Kg		06/24/24 08:17	06/24/24 12:53	2	
Xylenes, Total	2.4		0.18	mg/Kg		06/24/24 08:17	06/24/24 12:53	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	108		48 - 145			06/24/24 08:17	06/24/24 12:53	2	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	32		9.8	mg/Kg		06/24/24 08:23	06/24/24 14:18	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/24/24 08:23	06/24/24 14:18	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	96		62 - 134			06/24/24 08:23	06/24/24 14:18	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

Client Sample ID: TSP15  
Date Collected: 06/21/24 13:00  
Date Received: 06/22/24 06:25

Lab Sample ID: 885-6729-4  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	740		12	mg/Kg		06/24/24 08:17	06/24/24 13:17	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	439	S1+	35 - 166			06/24/24 08:17	06/24/24 13:17	2	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	0.18		0.060	mg/Kg		06/24/24 08:17	06/24/24 13:17	2	
Ethylbenzene	2.6		0.12	mg/Kg		06/24/24 08:17	06/24/24 13:17	2	
Toluene	8.4		0.12	mg/Kg		06/24/24 08:17	06/24/24 13:17	2	
Xylenes, Total	44		2.4	mg/Kg		06/24/24 08:17	06/24/24 16:49	20	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	125		48 - 145			06/24/24 08:17	06/24/24 13:17	2	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	45		9.8	mg/Kg		06/24/24 08:23	06/24/24 14:29	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/24/24 08:23	06/24/24 14:29	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	95		62 - 134			06/24/24 08:23	06/24/24 14:29	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

Client Sample ID: TSP16  
Date Collected: 06/21/24 13:10  
Date Received: 06/22/24 06:25

Lab Sample ID: 885-6729-5  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	150		18	mg/Kg		06/24/24 08:17	06/24/24 17:36	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	312	S1+	35 - 166			06/24/24 08:17	06/24/24 17:36	5	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.090	mg/Kg		06/24/24 08:17	06/24/24 17:36	5	
Ethylbenzene	0.44		0.18	mg/Kg		06/24/24 08:17	06/24/24 17:36	5	
Toluene	ND		0.18	mg/Kg		06/24/24 08:17	06/24/24 17:36	5	
Xylenes, Total	4.1		0.36	mg/Kg		06/24/24 08:17	06/24/24 17:36	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	102		48 - 145			06/24/24 08:17	06/24/24 17:36	5	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	94		10	mg/Kg		06/24/24 08:23	06/24/24 14:40	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/24/24 08:23	06/24/24 14:40	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	105		62 - 134			06/24/24 08:23	06/24/24 14:40	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

Client Sample ID: TSP17  
Date Collected: 06/21/24 13:20  
Date Received: 06/22/24 06:25

Lab Sample ID: 885-6729-6  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	490		16	mg/Kg		06/24/24 08:17	06/24/24 14:04	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	251	S1+	35 - 166			06/24/24 08:17	06/24/24 14:04	5	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.081	mg/Kg		06/24/24 08:17	06/24/24 14:04	5	
Ethylbenzene	1.4		0.16	mg/Kg		06/24/24 08:17	06/24/24 14:04	5	
Toluene	2.0		0.16	mg/Kg		06/24/24 08:17	06/24/24 14:04	5	
Xylenes, Total	23		0.32	mg/Kg		06/24/24 08:17	06/24/24 14:04	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	111		48 - 145			06/24/24 08:17	06/24/24 14:04	5	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	130		9.7	mg/Kg		06/24/24 08:23	06/24/24 14:51	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/24/24 08:23	06/24/24 14:51	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	98		62 - 134			06/24/24 08:23	06/24/24 14:51	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

Client Sample ID: TSP18

Lab Sample ID: 885-6729-7

Date Collected: 06/21/24 13:30

Matrix: Solid

Date Received: 06/22/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	190		7.1	mg/Kg		06/24/24 08:17	06/24/24 14:27	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	267	S1+	35 - 166			06/24/24 08:17	06/24/24 14:27	2	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.036	mg/Kg		06/24/24 08:17	06/24/24 14:27	2	
Ethylbenzene	0.47		0.071	mg/Kg		06/24/24 08:17	06/24/24 14:27	2	
Toluene	0.12		0.071	mg/Kg		06/24/24 08:17	06/24/24 14:27	2	
Xylenes, Total	6.2		0.14	mg/Kg		06/24/24 08:17	06/24/24 14:27	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	109		48 - 145			06/24/24 08:17	06/24/24 14:27	2	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	130		9.8	mg/Kg		06/24/24 08:23	06/24/24 15:02	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/24/24 08:23	06/24/24 15:02	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	95		62 - 134			06/24/24 08:23	06/24/24 15:02	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

Client Sample ID: TSP19  
Date Collected: 06/21/24 13:40  
Date Received: 06/22/24 06:25

Lab Sample ID: 885-6729-8  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	220		18	mg/Kg		06/24/24 08:17	06/24/24 14:51	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	378	S1+	35 - 166			06/24/24 08:17	06/24/24 14:51	5	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.090	mg/Kg		06/24/24 08:17	06/24/24 14:51	5	
Ethylbenzene	0.69		0.18	mg/Kg		06/24/24 08:17	06/24/24 14:51	5	
Toluene	0.58		0.18	mg/Kg		06/24/24 08:17	06/24/24 14:51	5	
Xylenes, Total	7.5		0.36	mg/Kg		06/24/24 08:17	06/24/24 14:51	5	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	102		48 - 145			06/24/24 08:17	06/24/24 14:51	5	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	79		9.7	mg/Kg		06/24/24 08:23	06/24/24 15:13	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/24/24 08:23	06/24/24 15:13	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	94		62 - 134			06/24/24 08:23	06/24/24 15:13	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

Client Sample ID: TSP20  
Date Collected: 06/21/24 13:50  
Date Received: 06/22/24 06:25

Lab Sample ID: 885-6729-9  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	190		7.4	mg/Kg		06/24/24 08:17	06/24/24 15:14	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	239	S1+	35 - 166			06/24/24 08:17	06/24/24 15:14	2	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.037	mg/Kg		06/24/24 08:17	06/24/24 15:14	2	
Ethylbenzene	0.48		0.074	mg/Kg		06/24/24 08:17	06/24/24 15:14	2	
Toluene	0.18		0.074	mg/Kg		06/24/24 08:17	06/24/24 15:14	2	
Xylenes, Total	6.4		0.15	mg/Kg		06/24/24 08:17	06/24/24 15:14	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	109		48 - 145			06/24/24 08:17	06/24/24 15:14	2	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	86		10	mg/Kg		06/24/24 08:23	06/24/24 15:24	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/24/24 08:23	06/24/24 15:24	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	93		62 - 134			06/24/24 08:23	06/24/24 15:24	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

Client Sample ID: TSP21

Lab Sample ID: 885-6729-10

Date Collected: 06/21/24 14:00

Matrix: Solid

Date Received: 06/22/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	78		6.9	mg/Kg		06/24/24 08:17	06/24/24 15:38	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	379	S1+	35 - 166			06/24/24 08:17	06/24/24 15:38	2	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.035	mg/Kg		06/24/24 08:17	06/24/24 15:38	2	
Ethylbenzene	0.24		0.069	mg/Kg		06/24/24 08:17	06/24/24 15:38	2	
Toluene	0.069		0.069	mg/Kg		06/24/24 08:17	06/24/24 15:38	2	
Xylenes, Total	1.4		0.14	mg/Kg		06/24/24 08:17	06/24/24 15:38	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	103		48 - 145			06/24/24 08:17	06/24/24 15:38	2	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	70		10	mg/Kg		06/24/24 08:23	06/24/24 15:35	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/24/24 08:23	06/24/24 15:35	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	159	S1+	62 - 134			06/24/24 08:23	06/24/24 15:35	1	



## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

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

Lab Sample ID: MB 885-7231/1-A

Matrix: Solid

Analysis Batch: 7279

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 7231

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/24/24 08:17	06/24/24 11:43	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		35 - 166			06/24/24 08:17	06/24/24 11:43	1

Lab Sample ID: LCS 885-7231/2-A

Matrix: Solid

Analysis Batch: 7279

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 7231

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	25.0	24.2		mg/Kg		97	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	202	S1+	35 - 166				

Lab Sample ID: 885-6729-1 MS

Matrix: Solid

Analysis Batch: 7279

Client Sample ID: TSP12

Prep Type: Total/NA

Prep Batch: 7231

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	170		14.6	167	4	mg/Kg		-20	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	521	S1+	35 - 166						

Lab Sample ID: 885-6729-1 MSD

Matrix: Solid

Analysis Batch: 7279

Client Sample ID: TSP12

Prep Type: Total/NA

Prep Batch: 7231

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	170		14.6	177	4	mg/Kg		51	70 - 130	6	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	584	S1+	35 - 166								

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

Lab Sample ID: MB 885-7231/1-A

Matrix: Solid

Analysis Batch: 7280

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 7231

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		06/24/24 08:17	06/24/24 11:43	1
Ethylbenzene	ND		0.050	mg/Kg		06/24/24 08:17	06/24/24 11:43	1
Toluene	ND		0.050	mg/Kg		06/24/24 08:17	06/24/24 11:43	1

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## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

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

Lab Sample ID: MB 885-7231/1-A

Matrix: Solid

Analysis Batch: 7280

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 7231

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10	mg/Kg		06/24/24 08:17	06/24/24 11:43	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		48 - 145			06/24/24 08:17	06/24/24 11:43	1

Lab Sample ID: LCS 885-7231/3-A

Matrix: Solid

Analysis Batch: 7280

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 7231

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.903		mg/Kg		90	70 - 130
Ethylbenzene	1.00	0.844		mg/Kg		84	70 - 130
m&p-Xylene	2.00	1.70		mg/Kg		85	70 - 130
o-Xylene	1.00	0.833		mg/Kg		83	70 - 130
Toluene	1.00	0.847		mg/Kg		85	70 - 130
Xylenes, Total	3.00	2.53		mg/Kg		84	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	93		48 - 145				

Lab Sample ID: 885-6729-2 MS

Matrix: Solid

Analysis Batch: 7280

Client Sample ID: TSP13

Prep Type: Total/NA

Prep Batch: 7231

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		1.32	1.14		mg/Kg		84	70 - 130
Ethylbenzene	0.39	F1	1.32	1.34		mg/Kg		72	70 - 130
m&p-Xylene	2.3		2.65	4.49		mg/Kg		82	70 - 130
o-Xylene	0.43		1.32	1.55		mg/Kg		85	70 - 130
Toluene	0.12		1.32	1.21		mg/Kg		82	70 - 130
Xylenes, Total	2.7		3.97	6.04		mg/Kg		83	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	106		48 - 145						

Lab Sample ID: 885-6729-2 MSD

Matrix: Solid

Analysis Batch: 7280

Client Sample ID: TSP13

Prep Type: Total/NA

Prep Batch: 7231

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	ND		1.32	1.13		mg/Kg		85	70 - 130	2	20
Ethylbenzene	0.39	F1	1.32	1.31	F1	mg/Kg		69	70 - 130	2	20
m&p-Xylene	2.3		2.65	4.39		mg/Kg		79	70 - 130	2	20
o-Xylene	0.43		1.32	1.55		mg/Kg		85	70 - 130	0	20
Toluene	0.12		1.32	1.18		mg/Kg		80	70 - 130	3	20
Xylenes, Total	2.7		3.97	5.94		mg/Kg		81	70 - 130	2	20

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

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

Lab Sample ID: 885-6729-2 MSD  
Matrix: Solid  
Analysis Batch: 7280

Client Sample ID: TSP13  
Prep Type: Total/NA  
Prep Batch: 7231

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		48 - 145

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

Lab Sample ID: MB 885-7232/1-A  
Matrix: Solid  
Analysis Batch: 7241

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 7232

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		06/24/24 08:23	06/24/24 11:05	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/24/24 08:23	06/24/24 11:05	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	84		62 - 134			06/24/24 08:23	06/24/24 11:05	1

Lab Sample ID: LCS 885-7232/2-A  
Matrix: Solid  
Analysis Batch: 7241

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 7232

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	48.4		mg/Kg		97	60 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Di-n-octyl phthalate (Surr)	91		62 - 134				

Lab Sample ID: 885-6729-10 MS  
Matrix: Solid  
Analysis Batch: 7241

Client Sample ID: TSP21  
Prep Type: Total/NA  
Prep Batch: 7232

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	70		45.8	96.6		mg/Kg		58	44 - 136
Surrogate	MS %Recovery	MS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	116		62 - 134						

Lab Sample ID: 885-6729-10 MSD  
Matrix: Solid  
Analysis Batch: 7241

Client Sample ID: TSP21  
Prep Type: Total/NA  
Prep Batch: 7232

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Diesel Range Organics [C10-C28]	70		44.9	102		mg/Kg		71	44 - 136	5	32
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Di-n-octyl phthalate (Surr)	99		62 - 134								

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QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

GC VOA

Prep Batch: 7231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6729-1	TSP12	Total/NA	Solid	5035	
885-6729-2	TSP13	Total/NA	Solid	5035	
885-6729-3	TSP14	Total/NA	Solid	5035	
885-6729-4	TSP15	Total/NA	Solid	5035	
885-6729-5	TSP16	Total/NA	Solid	5035	
885-6729-6	TSP17	Total/NA	Solid	5035	
885-6729-7	TSP18	Total/NA	Solid	5035	
885-6729-8	TSP19	Total/NA	Solid	5035	
885-6729-9	TSP20	Total/NA	Solid	5035	
885-6729-10	TSP21	Total/NA	Solid	5035	
MB 885-7231/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-7231/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-7231/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-6729-1 MS	TSP12	Total/NA	Solid	5035	
885-6729-1 MSD	TSP12	Total/NA	Solid	5035	
885-6729-2 MS	TSP13	Total/NA	Solid	5035	
885-6729-2 MSD	TSP13	Total/NA	Solid	5035	

Analysis Batch: 7279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6729-1	TSP12	Total/NA	Solid	8015M/D	7231
885-6729-2	TSP13	Total/NA	Solid	8015M/D	7231
885-6729-3	TSP14	Total/NA	Solid	8015M/D	7231
885-6729-4	TSP15	Total/NA	Solid	8015M/D	7231
885-6729-5	TSP16	Total/NA	Solid	8015M/D	7231
885-6729-6	TSP17	Total/NA	Solid	8015M/D	7231
885-6729-7	TSP18	Total/NA	Solid	8015M/D	7231
885-6729-8	TSP19	Total/NA	Solid	8015M/D	7231
885-6729-9	TSP20	Total/NA	Solid	8015M/D	7231
885-6729-10	TSP21	Total/NA	Solid	8015M/D	7231
MB 885-7231/1-A	Method Blank	Total/NA	Solid	8015M/D	7231
LCS 885-7231/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	7231
885-6729-1 MS	TSP12	Total/NA	Solid	8015M/D	7231
885-6729-1 MSD	TSP12	Total/NA	Solid	8015M/D	7231

Analysis Batch: 7280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6729-1	TSP12	Total/NA	Solid	8021B	7231
885-6729-1	TSP12	Total/NA	Solid	8021B	7231
885-6729-2	TSP13	Total/NA	Solid	8021B	7231
885-6729-3	TSP14	Total/NA	Solid	8021B	7231
885-6729-4	TSP15	Total/NA	Solid	8021B	7231
885-6729-4	TSP15	Total/NA	Solid	8021B	7231
885-6729-5	TSP16	Total/NA	Solid	8021B	7231
885-6729-6	TSP17	Total/NA	Solid	8021B	7231
885-6729-7	TSP18	Total/NA	Solid	8021B	7231
885-6729-8	TSP19	Total/NA	Solid	8021B	7231
885-6729-9	TSP20	Total/NA	Solid	8021B	7231
885-6729-10	TSP21	Total/NA	Solid	8021B	7231
MB 885-7231/1-A	Method Blank	Total/NA	Solid	8021B	7231
LCS 885-7231/3-A	Lab Control Sample	Total/NA	Solid	8021B	7231

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## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

## GC VOA (Continued)

## Analysis Batch: 7280 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6729-2 MS	TSP13	Total/NA	Solid	8021B	7231
885-6729-2 MSD	TSP13	Total/NA	Solid	8021B	7231

## GC Semi VOA

## Prep Batch: 7232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6729-1	TSP12	Total/NA	Solid	SHAKE	
885-6729-2	TSP13	Total/NA	Solid	SHAKE	
885-6729-3	TSP14	Total/NA	Solid	SHAKE	
885-6729-4	TSP15	Total/NA	Solid	SHAKE	
885-6729-5	TSP16	Total/NA	Solid	SHAKE	
885-6729-6	TSP17	Total/NA	Solid	SHAKE	
885-6729-7	TSP18	Total/NA	Solid	SHAKE	
885-6729-8	TSP19	Total/NA	Solid	SHAKE	
885-6729-9	TSP20	Total/NA	Solid	SHAKE	
885-6729-10	TSP21	Total/NA	Solid	SHAKE	
MB 885-7232/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-7232/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-6729-10 MS	TSP21	Total/NA	Solid	SHAKE	
885-6729-10 MSD	TSP21	Total/NA	Solid	SHAKE	

## Analysis Batch: 7241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6729-1	TSP12	Total/NA	Solid	8015M/D	7232
885-6729-2	TSP13	Total/NA	Solid	8015M/D	7232
885-6729-3	TSP14	Total/NA	Solid	8015M/D	7232
885-6729-4	TSP15	Total/NA	Solid	8015M/D	7232
885-6729-5	TSP16	Total/NA	Solid	8015M/D	7232
885-6729-6	TSP17	Total/NA	Solid	8015M/D	7232
885-6729-7	TSP18	Total/NA	Solid	8015M/D	7232
885-6729-8	TSP19	Total/NA	Solid	8015M/D	7232
885-6729-9	TSP20	Total/NA	Solid	8015M/D	7232
885-6729-10	TSP21	Total/NA	Solid	8015M/D	7232
MB 885-7232/1-A	Method Blank	Total/NA	Solid	8015M/D	7232
LCS 885-7232/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	7232
885-6729-10 MS	TSP21	Total/NA	Solid	8015M/D	7232
885-6729-10 MSD	TSP21	Total/NA	Solid	8015M/D	7232

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Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

**Client Sample ID: TSP12**  
**Date Collected: 06/21/24 12:30**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8015M/D		1	7279	JP	EET ALB	06/24/24 12:06
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		1	7280	JP	EET ALB	06/24/24 12:06
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		5	7280	JP	EET ALB	06/24/24 17:13
Total/NA	Prep	SHAKE			7232	KR	EET ALB	06/24/24 08:23
Total/NA	Analysis	8015M/D		1	7241	PD	EET ALB	06/24/24 13:57

**Client Sample ID: TSP13**  
**Date Collected: 06/21/24 12:40**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8015M/D		2	7279	JP	EET ALB	06/24/24 16:02
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		2	7280	JP	EET ALB	06/24/24 16:02
Total/NA	Prep	SHAKE			7232	KR	EET ALB	06/24/24 08:23
Total/NA	Analysis	8015M/D		1	7241	PD	EET ALB	06/24/24 14:07

**Client Sample ID: TSP14**  
**Date Collected: 06/21/24 12:50**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-3**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8015M/D		2	7279	JP	EET ALB	06/24/24 12:53
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		2	7280	JP	EET ALB	06/24/24 12:53
Total/NA	Prep	SHAKE			7232	KR	EET ALB	06/24/24 08:23
Total/NA	Analysis	8015M/D		1	7241	PD	EET ALB	06/24/24 14:18

**Client Sample ID: TSP15**  
**Date Collected: 06/21/24 13:00**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-4**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8015M/D		2	7279	JP	EET ALB	06/24/24 13:17
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		2	7280	JP	EET ALB	06/24/24 13:17
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		20	7280	JP	EET ALB	06/24/24 16:49

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Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

**Client Sample ID: TSP15**  
**Date Collected: 06/21/24 13:00**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-4**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			7232	KR	EET ALB	06/24/24 08:23
Total/NA	Analysis	8015M/D		1	7241	PD	EET ALB	06/24/24 14:29

**Client Sample ID: TSP16**  
**Date Collected: 06/21/24 13:10**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-5**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8015M/D		5	7279	JP	EET ALB	06/24/24 17:36
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		5	7280	JP	EET ALB	06/24/24 17:36
Total/NA	Prep	SHAKE			7232	KR	EET ALB	06/24/24 08:23
Total/NA	Analysis	8015M/D		1	7241	PD	EET ALB	06/24/24 14:40

**Client Sample ID: TSP17**  
**Date Collected: 06/21/24 13:20**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-6**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8015M/D		5	7279	JP	EET ALB	06/24/24 14:04
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		5	7280	JP	EET ALB	06/24/24 14:04
Total/NA	Prep	SHAKE			7232	KR	EET ALB	06/24/24 08:23
Total/NA	Analysis	8015M/D		1	7241	PD	EET ALB	06/24/24 14:51

**Client Sample ID: TSP18**  
**Date Collected: 06/21/24 13:30**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-7**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8015M/D		2	7279	JP	EET ALB	06/24/24 14:27
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		2	7280	JP	EET ALB	06/24/24 14:27
Total/NA	Prep	SHAKE			7232	KR	EET ALB	06/24/24 08:23
Total/NA	Analysis	8015M/D		1	7241	PD	EET ALB	06/24/24 15:02

**Client Sample ID: TSP19**  
**Date Collected: 06/21/24 13:40**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-8**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8015M/D		5	7279	JP	EET ALB	06/24/24 14:51

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Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

**Client Sample ID: TSP19**  
**Date Collected: 06/21/24 13:40**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-8**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		5	7280	JP	EET ALB	06/24/24 14:51
Total/NA	Prep	SHAKE			7232	KR	EET ALB	06/24/24 08:23
Total/NA	Analysis	8015M/D		1	7241	PD	EET ALB	06/24/24 15:13

**Client Sample ID: TSP20**  
**Date Collected: 06/21/24 13:50**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-9**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8015M/D		2	7279	JP	EET ALB	06/24/24 15:14
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		2	7280	JP	EET ALB	06/24/24 15:14
Total/NA	Prep	SHAKE			7232	KR	EET ALB	06/24/24 08:23
Total/NA	Analysis	8015M/D		1	7241	PD	EET ALB	06/24/24 15:24

**Client Sample ID: TSP21**  
**Date Collected: 06/21/24 14:00**  
**Date Received: 06/22/24 06:25**

**Lab Sample ID: 885-6729-10**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8015M/D		2	7279	JP	EET ALB	06/24/24 15:38
Total/NA	Prep	5035			7231	AT	EET ALB	06/24/24 08:17
Total/NA	Analysis	8021B		2	7280	JP	EET ALB	06/24/24 15:38
Total/NA	Prep	SHAKE			7232	KR	EET ALB	06/24/24 08:23
Total/NA	Analysis	8015M/D		1	7241	PD	EET ALB	06/24/24 15:35

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



Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6729-1

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
8015M/D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	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







## Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-6729-1

Login Number: 6729

List Source: Eurofins Albuquerque

List Number: 1

Creator: Rojas, Juan

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





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Samantha Grabert  
Hilcorp Energy  
PO BOX 4700  
Farmington, New Mexico 87499

Generated 7/3/2024 5:19:13 PM

## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-6875-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



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

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Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-6875-1

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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6875-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: SJ 27-5 #111

Job ID: 885-6875-1

Job ID: 885-6875-1Eurofins Albuquerque

Job Narrative  
885-6875-1

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 sample was received on 6/26/2024 6:40 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C.

Gasoline Range Organics

Method 8015D\_GRO: Surrogate recovery for the following sample was outside control limits: TSP15A (885-6875-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 8021B Batch 885-7406 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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.

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Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6875-1

Client Sample ID: TSP15A  
Date Collected: 06/25/24 13:30  
Date Received: 06/26/24 06:40

Lab Sample ID: 885-6875-1  
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	180		6.5	mg/Kg		06/26/24 08:52	06/26/24 13:40	2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	266	S1+	35 - 166			06/26/24 08:52	06/26/24 13:40	2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.033	mg/Kg		06/26/24 08:52	06/26/24 13:40	2
Ethylbenzene	0.49	F1	0.065	mg/Kg		06/26/24 08:52	06/26/24 13:40	2
Toluene	0.088		0.065	mg/Kg		06/26/24 08:52	06/26/24 13:40	2
Xylenes, Total	6.8		0.13	mg/Kg		06/26/24 08:52	06/26/24 13:40	2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		48 - 145			06/26/24 08:52	06/26/24 13:40	2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	160		9.5	mg/Kg		06/26/24 08:45	06/26/24 14:57	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/26/24 08:45	06/26/24 14:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	111		62 - 134			06/26/24 08:45	06/26/24 14:57	1



## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6875-1

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

Lab Sample ID: MB 885-7388/1-A

Matrix: Solid

Analysis Batch: 7405

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 7388

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		06/26/24 08:52	06/26/24 10:32	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		35 - 166			06/26/24 08:52	06/26/24 10:32	1

Lab Sample ID: LCS 885-7388/2-A

Matrix: Solid

Analysis Batch: 7405

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 7388

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	25.0	23.5		mg/Kg		94	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	205	S1+	35 - 166				

Lab Sample ID: 885-6875-1 MS

Matrix: Solid

Analysis Batch: 7405

Client Sample ID: TSP15A

Prep Type: Total/NA

Prep Batch: 7388

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	180		32.7	215	4	mg/Kg		103	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	363	S1+	35 - 166						

Lab Sample ID: 885-6875-1 MSD

Matrix: Solid

Analysis Batch: 7405

Client Sample ID: TSP15A

Prep Type: Total/NA

Prep Batch: 7388

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	180		32.7	213	4	mg/Kg		98	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	362	S1+	35 - 166								

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

Lab Sample ID: MB 885-7388/1-A

Matrix: Solid

Analysis Batch: 7406

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 7388

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		06/26/24 08:52	06/26/24 10:32	1
Ethylbenzene	ND		0.050	mg/Kg		06/26/24 08:52	06/26/24 10:32	1
Toluene	ND		0.050	mg/Kg		06/26/24 08:52	06/26/24 10:32	1

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6875-1

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

Lab Sample ID: MB 885-7388/1-A						Client Sample ID: Method Blank		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 7406						Prep Batch: 7388		
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10	mg/Kg		06/26/24 08:52	06/26/24 10:32	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		48 - 145			06/26/24 08:52	06/26/24 10:32	1

Lab Sample ID: LCS 885-7388/3-A						Client Sample ID: Lab Control Sample		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 7406						Prep Batch: 7388		
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Benzene	1.00	0.894		mg/Kg		89	70 - 130	
Ethylbenzene	1.00	0.839		mg/Kg		84	70 - 130	
m&p-Xylene	2.00	1.70		mg/Kg		85	70 - 130	
o-Xylene	1.00	0.828		mg/Kg		83	70 - 130	
Toluene	1.00	0.837		mg/Kg		84	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	94		48 - 145					

Lab Sample ID: 885-6875-1 MS						Client Sample ID: TSP15A					
Matrix: Solid						Prep Type: Total/NA					
Analysis Batch: 7406						Prep Batch: 7388					
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Benzene	ND		1.31	1.17		mg/Kg		88	70 - 130		
Ethylbenzene	0.49	F1	1.31	1.40		mg/Kg		70	70 - 130		
m&p-Xylene	5.3		2.61	7.47		mg/Kg		84	70 - 130		
o-Xylene	1.6		1.31	2.78		mg/Kg		92	70 - 130		
Toluene	0.088		1.31	1.22		mg/Kg		86	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	111		48 - 145								

Lab Sample ID: 885-6875-1 MSD							Client Sample ID: TSP15A					
Matrix: Solid							Prep Type: Total/NA					
Analysis Batch: 7406							Prep Batch: 7388					
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	ND		1.31	1.15		mg/Kg		86	70 - 130	2	20	
Ethylbenzene	0.49	F1	1.31	1.38	F1	mg/Kg		68	70 - 130	2	20	
m&p-Xylene	5.3		2.61	7.48		mg/Kg		85	70 - 130	0	20	
o-Xylene	1.6		1.31	2.73		mg/Kg		88	70 - 130	2	20	
Toluene	0.088		1.31	1.18		mg/Kg		83	70 - 130	3	20	
	MSD	MSD										
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)	110		48 - 145									



QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6875-1

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

Lab Sample ID: MB 885-7386/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7443						Prep Batch: 7386			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		06/26/24 08:45	06/26/24 14:31	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/26/24 08:45	06/26/24 14:31	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	118		62 - 134			06/26/24 08:45	06/26/24 14:31	1	

Lab Sample ID: LCS 885-7386/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7443						Prep Batch: 7386			
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	50.0	47.7		mg/Kg		95	60 - 135		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	112		62 - 134						



QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6875-1

GC VOA

Prep Batch: 7388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6875-1	TSP15A	Total/NA	Solid	5035	
MB 885-7388/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-7388/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-7388/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-6875-1 MS	TSP15A	Total/NA	Solid	5035	
885-6875-1 MS	TSP15A	Total/NA	Solid	5035	
885-6875-1 MSD	TSP15A	Total/NA	Solid	5035	
885-6875-1 MSD	TSP15A	Total/NA	Solid	5035	

Analysis Batch: 7405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6875-1	TSP15A	Total/NA	Solid	8015M/D	7388
MB 885-7388/1-A	Method Blank	Total/NA	Solid	8015M/D	7388
LCS 885-7388/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	7388
885-6875-1 MS	TSP15A	Total/NA	Solid	8015M/D	7388
885-6875-1 MSD	TSP15A	Total/NA	Solid	8015M/D	7388

Analysis Batch: 7406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6875-1	TSP15A	Total/NA	Solid	8021B	7388
MB 885-7388/1-A	Method Blank	Total/NA	Solid	8021B	7388
LCS 885-7388/3-A	Lab Control Sample	Total/NA	Solid	8021B	7388
885-6875-1 MS	TSP15A	Total/NA	Solid	8021B	7388
885-6875-1 MSD	TSP15A	Total/NA	Solid	8021B	7388

GC Semi VOA

Prep Batch: 7386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6875-1	TSP15A	Total/NA	Solid	SHAKE	
MB 885-7386/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-7386/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 7443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6875-1	TSP15A	Total/NA	Solid	8015M/D	7386
MB 885-7386/1-A	Method Blank	Total/NA	Solid	8015M/D	7386
LCS 885-7386/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	7386



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6875-1

Client Sample ID: TSP15A

Date Collected: 06/25/24 13:30

Date Received: 06/26/24 06:40

Lab Sample ID: 885-6875-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			7388	JP	EET ALB	06/26/24 08:52
Total/NA	Analysis	8015M/D		2	7405	JP	EET ALB	06/26/24 13:40
Total/NA	Prep	5035			7388	JP	EET ALB	06/26/24 08:52
Total/NA	Analysis	8021B		2	7406	JP	EET ALB	06/26/24 13:40
Total/NA	Prep	SHAKE			7386	KR	EET ALB	06/26/24 08:45
Total/NA	Analysis	8015M/D		1	7443	DH	EET ALB	06/26/24 14:57

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



Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-6875-1

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
8015M/D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	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







## Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-6875-1

Login Number: 6875

List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Samantha Grabert  
Hilcorp Energy  
PO BOX 4700  
Farmington, New Mexico 87499

Generated 7/23/2024 3:04:05 PM

## JOB DESCRIPTION

SJ 27-5 #111

## JOB NUMBER

885-7740-1

Eurofins Albuquerque  
4901 Hawkins NE  
Albuquerque NM 87109



# Eurofins Albuquerque

## Job Notes

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

## Authorization



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



Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Laboratory Job ID: 885-7740-1

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Definitions/Glossary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Qualifiers

GC VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: SJ 27-5 #111

Job ID: 885-7740-1

**Job ID: 885-7740-1**

**Eurofins Albuquerque**

### Job Narrative 885-7740-1

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

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

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

#### Receipt

The samples were received on 7/11/2024 6:25 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 2.1°C.

#### Gasoline Range Organics

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

#### GC VOA

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

#### Diesel Range Organics

Method 8015D\_DRO: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 885-8353 and analytical batch 885-8410 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

Eurofins Albuquerque



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ01

Lab Sample ID: 885-7740-1

Date Collected: 07/10/24 11:00

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg	-	07/11/24 11:54	07/12/24 12:34	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	101		35 - 166			07/11/24 11:54	07/12/24 12:34	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg	-	07/11/24 11:54	07/12/24 12:34	1	
Ethylbenzene	ND		0.049	mg/Kg	-	07/11/24 11:54	07/12/24 12:34	1	
Toluene	ND		0.049	mg/Kg	-	07/11/24 11:54	07/12/24 12:34	1	
Xylenes, Total	ND		0.098	mg/Kg	-	07/11/24 11:54	07/12/24 12:34	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		48 - 145			07/11/24 11:54	07/12/24 12:34	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.9	mg/Kg	-	07/11/24 16:27	07/12/24 12:01	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg	-	07/11/24 16:27	07/12/24 12:01	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	115		62 - 134			07/11/24 16:27	07/12/24 12:01	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ02

Lab Sample ID: 885-7740-2

Date Collected: 07/10/24 11:10

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg	-	07/11/24 11:54	07/12/24 14:47	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	100		35 - 166			07/11/24 11:54	07/12/24 14:47	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg	-	07/11/24 11:54	07/12/24 14:47	1	
Ethylbenzene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 14:47	1	
Toluene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 14:47	1	
Xylenes, Total	ND		0.095	mg/Kg	-	07/11/24 11:54	07/12/24 14:47	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		48 - 145			07/11/24 11:54	07/12/24 14:47	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.9	mg/Kg	-	07/11/24 16:27	07/12/24 12:12	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg	-	07/11/24 16:27	07/12/24 12:12	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	118		62 - 134			07/11/24 16:27	07/12/24 12:12	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ03

Lab Sample ID: 885-7740-3

Date Collected: 07/10/24 11:20

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg	-	07/11/24 11:54	07/12/24 15:53	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		35 - 166			07/11/24 11:54	07/12/24 15:53	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg	-	07/11/24 11:54	07/12/24 15:53	1	
Ethylbenzene	ND		0.049	mg/Kg	-	07/11/24 11:54	07/12/24 15:53	1	
Toluene	ND		0.049	mg/Kg	-	07/11/24 11:54	07/12/24 15:53	1	
Xylenes, Total	ND		0.098	mg/Kg	-	07/11/24 11:54	07/12/24 15:53	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	91		48 - 145			07/11/24 11:54	07/12/24 15:53	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.9	mg/Kg	-	07/11/24 16:27	07/12/24 12:22	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg	-	07/11/24 16:27	07/12/24 12:22	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	103		62 - 134			07/11/24 16:27	07/12/24 12:22	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ04  
Date Collected: 07/10/24 11:30  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-4  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.6	mg/Kg	-	07/11/24 11:54	07/12/24 16:15	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		35 - 166			07/11/24 11:54	07/12/24 16:15	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.023	mg/Kg	-	07/11/24 11:54	07/12/24 16:15	1	
Ethylbenzene	ND		0.046	mg/Kg	-	07/11/24 11:54	07/12/24 16:15	1	
Toluene	ND		0.046	mg/Kg	-	07/11/24 11:54	07/12/24 16:15	1	
Xylenes, Total	ND		0.093	mg/Kg	-	07/11/24 11:54	07/12/24 16:15	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	90		48 - 145			07/11/24 11:54	07/12/24 16:15	1	
Method: SW846 8015M/D - 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	-	07/11/24 16:27	07/12/24 12:33	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg	-	07/11/24 16:27	07/12/24 12:33	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	118		62 - 134			07/11/24 16:27	07/12/24 12:33	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ05

Lab Sample ID: 885-7740-5

Date Collected: 07/10/24 11:40

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg	-	07/11/24 11:54	07/12/24 16:36	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		35 - 166			07/11/24 11:54	07/12/24 16:36	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg	-	07/11/24 11:54	07/12/24 16:36	1	
Ethylbenzene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 16:36	1	
Toluene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 16:36	1	
Xylenes, Total	ND		0.095	mg/Kg	-	07/11/24 11:54	07/12/24 16:36	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		48 - 145			07/11/24 11:54	07/12/24 16:36	1	
Method: SW846 8015M/D - 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	-	07/11/24 16:27	07/12/24 12:44	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg	-	07/11/24 16:27	07/12/24 12:44	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	102		62 - 134			07/11/24 16:27	07/12/24 12:44	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ06

Lab Sample ID: 885-7740-6

Date Collected: 07/10/24 11:50

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		07/11/24 11:54	07/12/24 16:58	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	104		35 - 166			07/11/24 11:54	07/12/24 16:58	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		07/11/24 11:54	07/12/24 16:58	1	
Ethylbenzene	ND		0.050	mg/Kg		07/11/24 11:54	07/12/24 16:58	1	
Toluene	ND		0.050	mg/Kg		07/11/24 11:54	07/12/24 16:58	1	
Xylenes, Total	ND		0.099	mg/Kg		07/11/24 11:54	07/12/24 16:58	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	91		48 - 145			07/11/24 11:54	07/12/24 16:58	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	10		9.9	mg/Kg		07/11/24 16:27	07/12/24 12:54	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/11/24 16:27	07/12/24 12:54	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	111		62 - 134			07/11/24 16:27	07/12/24 12:54	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ07

Lab Sample ID: 885-7740-7

Date Collected: 07/10/24 12:00

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		07/11/24 11:54	07/12/24 17:20	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		35 - 166			07/11/24 11:54	07/12/24 17:20	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		07/11/24 11:54	07/12/24 17:20	1	
Ethylbenzene	ND		0.048	mg/Kg		07/11/24 11:54	07/12/24 17:20	1	
Toluene	ND		0.048	mg/Kg		07/11/24 11:54	07/12/24 17:20	1	
Xylenes, Total	ND		0.097	mg/Kg		07/11/24 11:54	07/12/24 17:20	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		48 - 145			07/11/24 11:54	07/12/24 17:20	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	15		9.2	mg/Kg		07/11/24 16:27	07/12/24 13:05	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		07/11/24 16:27	07/12/24 13:05	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	114		62 - 134			07/11/24 16:27	07/12/24 13:05	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ08

Lab Sample ID: 885-7740-8

Date Collected: 07/10/24 12:10

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg		07/11/24 11:54	07/12/24 17:42	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			07/11/24 11:54	07/12/24 17:42	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		07/11/24 11:54	07/12/24 17:42	1	
Ethylbenzene	ND		0.048	mg/Kg		07/11/24 11:54	07/12/24 17:42	1	
Toluene	ND		0.048	mg/Kg		07/11/24 11:54	07/12/24 17:42	1	
Xylenes, Total	ND		0.097	mg/Kg		07/11/24 11:54	07/12/24 17:42	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	91		48 - 145			07/11/24 11:54	07/12/24 17:42	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		07/11/24 16:27	07/12/24 13:16	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/11/24 16:27	07/12/24 13:16	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	113		62 - 134			07/11/24 16:27	07/12/24 13:16	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ09

Lab Sample ID: 885-7740-9

Date Collected: 07/10/24 12:20

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		07/11/24 11:54	07/12/24 18:04	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	97		35 - 166			07/11/24 11:54	07/12/24 18:04	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		07/11/24 11:54	07/12/24 18:04	1	
Ethylbenzene	ND		0.049	mg/Kg		07/11/24 11:54	07/12/24 18:04	1	
Toluene	ND		0.049	mg/Kg		07/11/24 11:54	07/12/24 18:04	1	
Xylenes, Total	ND		0.098	mg/Kg		07/11/24 11:54	07/12/24 18:04	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	91		48 - 145			07/11/24 11:54	07/12/24 18:04	1	
Method: SW846 8015M/D - 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		07/11/24 16:27	07/12/24 13:27	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		07/11/24 16:27	07/12/24 13:27	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	102		62 - 134			07/11/24 16:27	07/12/24 13:27	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ10

Lab Sample ID: 885-7740-10

Date Collected: 07/10/24 12:30

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg	-	07/11/24 11:54	07/12/24 18:26	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	91		35 - 166			07/11/24 11:54	07/12/24 18:26	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg	-	07/11/24 11:54	07/12/24 18:26	1	
Ethylbenzene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 18:26	1	
Toluene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 18:26	1	
Xylenes, Total	ND		0.095	mg/Kg	-	07/11/24 11:54	07/12/24 18:26	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	91		48 - 145			07/11/24 11:54	07/12/24 18:26	1	
Method: SW846 8015M/D - 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	-	07/11/24 16:27	07/12/24 13:48	1	
Motor Oil Range Organics [C28-C40]	ND		44	mg/Kg	-	07/11/24 16:27	07/12/24 13:48	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	107		62 - 134			07/11/24 16:27	07/12/24 13:48	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ11

Lab Sample ID: 885-7740-11

Date Collected: 07/10/24 12:40

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.7	mg/Kg	-	07/11/24 11:54	07/12/24 19:09	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			07/11/24 11:54	07/12/24 19:09	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.023	mg/Kg	-	07/11/24 11:54	07/12/24 19:09	1	
Ethylbenzene	ND		0.047	mg/Kg	-	07/11/24 11:54	07/12/24 19:09	1	
Toluene	ND		0.047	mg/Kg	-	07/11/24 11:54	07/12/24 19:09	1	
Xylenes, Total	ND		0.094	mg/Kg	-	07/11/24 11:54	07/12/24 19:09	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			07/11/24 11:54	07/12/24 19:09	1	
Method: SW846 8015M/D - 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	-	07/11/24 16:27	07/12/24 13:59	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg	-	07/11/24 16:27	07/12/24 13:59	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	71		62 - 134			07/11/24 16:27	07/12/24 13:59	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ12

Lab Sample ID: 885-7740-12

Date Collected: 07/10/24 12:50

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg	-	07/11/24 11:54	07/12/24 19:31	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	103		35 - 166			07/11/24 11:54	07/12/24 19:31	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg	-	07/11/24 11:54	07/12/24 19:31	1	
Ethylbenzene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 19:31	1	
Toluene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 19:31	1	
Xylenes, Total	ND		0.095	mg/Kg	-	07/11/24 11:54	07/12/24 19:31	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	90		48 - 145			07/11/24 11:54	07/12/24 19:31	1	
Method: SW846 8015M/D - 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	-	07/11/24 16:27	07/12/24 14:10	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg	-	07/11/24 16:27	07/12/24 14:10	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	98		62 - 134			07/11/24 16:27	07/12/24 14:10	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ13

Lab Sample ID: 885-7740-13

Date Collected: 07/10/24 13:00

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg	-	07/11/24 11:54	07/12/24 19:53	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	100		35 - 166			07/11/24 11:54	07/12/24 19:53	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg	-	07/11/24 11:54	07/12/24 19:53	1	
Ethylbenzene	ND		0.050	mg/Kg	-	07/11/24 11:54	07/12/24 19:53	1	
Toluene	ND		0.050	mg/Kg	-	07/11/24 11:54	07/12/24 19:53	1	
Xylenes, Total	ND		0.10	mg/Kg	-	07/11/24 11:54	07/12/24 19:53	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	89		48 - 145			07/11/24 11:54	07/12/24 19:53	1	
Method: SW846 8015M/D - 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	-	07/11/24 16:27	07/12/24 14:21	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg	-	07/11/24 16:27	07/12/24 14:21	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	131		62 - 134			07/11/24 16:27	07/12/24 14:21	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ14

Lab Sample ID: 885-7740-14

Date Collected: 07/10/24 13:10

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg	-	07/11/24 11:54	07/12/24 20:15	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		35 - 166			07/11/24 11:54	07/12/24 20:15	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg	-	07/11/24 11:54	07/12/24 20:15	1	
Ethylbenzene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 20:15	1	
Toluene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 20:15	1	
Xylenes, Total	ND		0.097	mg/Kg	-	07/11/24 11:54	07/12/24 20:15	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	89		48 - 145			07/11/24 11:54	07/12/24 20:15	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg	-	07/11/24 16:27	07/12/24 14:32	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg	-	07/11/24 16:27	07/12/24 14:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	117		62 - 134			07/11/24 16:27	07/12/24 14:32	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ15  
Date Collected: 07/10/24 13:20  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-15  
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.7	mg/Kg	-	07/11/24 11:54	07/12/24 20:36	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	101		35 - 166			07/11/24 11:54	07/12/24 20:36	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.023	mg/Kg	-	07/11/24 11:54	07/12/24 20:36	1	
Ethylbenzene	ND		0.047	mg/Kg	-	07/11/24 11:54	07/12/24 20:36	1	
Toluene	ND		0.047	mg/Kg	-	07/11/24 11:54	07/12/24 20:36	1	
Xylenes, Total	ND		0.094	mg/Kg	-	07/11/24 11:54	07/12/24 20:36	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	90		48 - 145			07/11/24 11:54	07/12/24 20:36	1	
Method: SW846 8015M/D - 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	-	07/11/24 16:27	07/12/24 14:42	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg	-	07/11/24 16:27	07/12/24 14:42	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	117		62 - 134			07/11/24 16:27	07/12/24 14:42	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ16

Lab Sample ID: 885-7740-16

Date Collected: 07/10/24 13:30

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg	-	07/11/24 11:54	07/12/24 20:58	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		35 - 166			07/11/24 11:54	07/12/24 20:58	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg	-	07/11/24 11:54	07/12/24 20:58	1	
Ethylbenzene	ND		0.049	mg/Kg	-	07/11/24 11:54	07/12/24 20:58	1	
Toluene	ND		0.049	mg/Kg	-	07/11/24 11:54	07/12/24 20:58	1	
Xylenes, Total	ND		0.098	mg/Kg	-	07/11/24 11:54	07/12/24 20:58	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			07/11/24 11:54	07/12/24 20:58	1	
Method: SW846 8015M/D - 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	-	07/11/24 16:27	07/12/24 14:53	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg	-	07/11/24 16:27	07/12/24 14:53	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	121		62 - 134			07/11/24 16:27	07/12/24 14:53	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ17

Lab Sample ID: 885-7740-17

Date Collected: 07/10/24 13:40

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg	-	07/11/24 11:54	07/12/24 21:20	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		35 - 166			07/11/24 11:54	07/12/24 21:20	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg	-	07/11/24 11:54	07/12/24 21:20	1	
Ethylbenzene	ND		0.050	mg/Kg	-	07/11/24 11:54	07/12/24 21:20	1	
Toluene	ND		0.050	mg/Kg	-	07/11/24 11:54	07/12/24 21:20	1	
Xylenes, Total	ND		0.099	mg/Kg	-	07/11/24 11:54	07/12/24 21:20	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	89		48 - 145			07/11/24 11:54	07/12/24 21:20	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		10	mg/Kg	-	07/11/24 16:27	07/12/24 15:04	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg	-	07/11/24 16:27	07/12/24 15:04	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	111		62 - 134			07/11/24 16:27	07/12/24 15:04	1	



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ18

Lab Sample ID: 885-7740-18

Date Collected: 07/10/24 13:50

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.7	mg/Kg	-	07/11/24 11:54	07/12/24 21:41		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		35 - 166			07/11/24 11:54	07/12/24 21:41		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg	-	07/11/24 11:54	07/12/24 21:41		1
Ethylbenzene	ND		0.047	mg/Kg	-	07/11/24 11:54	07/12/24 21:41		1
Toluene	ND		0.047	mg/Kg	-	07/11/24 11:54	07/12/24 21:41		1
Xylenes, Total	ND		0.095	mg/Kg	-	07/11/24 11:54	07/12/24 21:41		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	90		48 - 145			07/11/24 11:54	07/12/24 21:41		1
Method: SW846 8015M/D - 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	-	07/11/24 16:27	07/12/24 15:15		1
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg	-	07/11/24 16:27	07/12/24 15:15		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	105		62 - 134			07/11/24 16:27	07/12/24 15:15		1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ19

Lab Sample ID: 885-7740-19

Date Collected: 07/10/24 14:00

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.8	mg/Kg	-	07/11/24 11:54	07/12/24 22:03		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		35 - 166			07/11/24 11:54	07/12/24 22:03		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg	-	07/11/24 11:54	07/12/24 22:03		1
Ethylbenzene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 22:03		1
Toluene	ND		0.048	mg/Kg	-	07/11/24 11:54	07/12/24 22:03		1
Xylenes, Total	ND		0.096	mg/Kg	-	07/11/24 11:54	07/12/24 22:03		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		48 - 145			07/11/24 11:54	07/12/24 22:03		1
Method: SW846 8015M/D - 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	-	07/11/24 16:27	07/12/24 15:26		1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg	-	07/11/24 16:27	07/12/24 15:26		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	122		62 - 134			07/11/24 16:27	07/12/24 15:26		1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ20

Lab Sample ID: 885-7740-20

Date Collected: 07/10/24 14:10

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.6	mg/Kg	-	07/11/24 11:54	07/12/24 22:25		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		35 - 166			07/11/24 11:54	07/12/24 22:25		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.023	mg/Kg	-	07/11/24 11:54	07/12/24 22:25		1
Ethylbenzene	ND		0.046	mg/Kg	-	07/11/24 11:54	07/12/24 22:25		1
Toluene	ND		0.046	mg/Kg	-	07/11/24 11:54	07/12/24 22:25		1
Xylenes, Total	ND		0.093	mg/Kg	-	07/11/24 11:54	07/12/24 22:25		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		48 - 145			07/11/24 11:54	07/12/24 22:25		1
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg	-	07/11/24 16:27	07/12/24 15:37		1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg	-	07/11/24 16:27	07/12/24 15:37		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	123		62 - 134			07/11/24 16:27	07/12/24 15:37		1



Client Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ21

Lab Sample ID: 885-7740-21

Date Collected: 07/10/24 14:20

Matrix: Solid

Date Received: 07/11/24 06:25

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg	-	07/11/24 14:31	07/13/24 03:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		35 - 166			07/11/24 14:31	07/13/24 03:29	1
Method: SW846 8021B - Volatile Organic Compounds (GC)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg	-	07/11/24 14:31	07/13/24 03:29	1
Ethylbenzene	ND		0.050	mg/Kg	-	07/11/24 14:31	07/13/24 03:29	1
Toluene	ND		0.050	mg/Kg	-	07/11/24 14:31	07/13/24 03:29	1
Xylenes, Total	ND		0.099	mg/Kg	-	07/11/24 14:31	07/13/24 03:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		48 - 145			07/11/24 14:31	07/13/24 03:29	1
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg	-	07/12/24 14:53	07/15/24 12:50	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg	-	07/12/24 14:53	07/15/24 12:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	111		62 - 134			07/12/24 14:53	07/15/24 12:50	1



## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

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

Lab Sample ID: MB 885-8239/1-A

Matrix: Solid

Analysis Batch: 8389

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8239

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		07/11/24 11:54	07/12/24 12:13	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		35 - 166			07/11/24 11:54	07/12/24 12:13	1

Lab Sample ID: LCS 885-8239/2-A

Matrix: Solid

Analysis Batch: 8389

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8239

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	25.0	22.9		mg/Kg		91	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	206	S1+	35 - 166				

Lab Sample ID: 885-7740-1 MS

Matrix: Solid

Analysis Batch: 8389

Client Sample ID: VZ01

Prep Type: Total/NA

Prep Batch: 8239

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	ND		24.7	25.3		mg/Kg		103	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	233	S1+	35 - 166						

Lab Sample ID: 885-7740-1 MSD

Matrix: Solid

Analysis Batch: 8389

Client Sample ID: VZ01

Prep Type: Total/NA

Prep Batch: 8239

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		24.5	27.0		mg/Kg		110	70 - 130	6	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	218	S1+	35 - 166								

Lab Sample ID: MB 885-8263/1-A

Matrix: Solid

Analysis Batch: 8390

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8263

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		07/11/24 14:31	07/13/24 00:14	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		35 - 166			07/11/24 14:31	07/13/24 00:14	1

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## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

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

Lab Sample ID: LCS 885-8263/2-A

Matrix: Solid

Analysis Batch: 8390

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	25.0	22.3		mg/Kg		89	70 - 130
Surrogate	%Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	195	S1+	35 - 166				

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

Lab Sample ID: MB 885-8239/1-A

Matrix: Solid

Analysis Batch: 8391

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8239

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		07/11/24 11:54	07/12/24 12:13	1
Ethylbenzene	ND		0.050	mg/Kg		07/11/24 11:54	07/12/24 12:13	1
Toluene	ND		0.050	mg/Kg		07/11/24 11:54	07/12/24 12:13	1
Xylenes, Total	ND		0.10	mg/Kg		07/11/24 11:54	07/12/24 12:13	1
Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac		
4-Bromofluorobenzene (Surr)	89		48 - 145	07/11/24 11:54	07/12/24 12:13	1		

Lab Sample ID: LCS 885-8239/3-A

Matrix: Solid

Analysis Batch: 8391

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8239

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.878		mg/Kg		88	70 - 130
Ethylbenzene	1.00	0.892		mg/Kg		89	70 - 130
m&p-Xylene	2.00	1.78		mg/Kg		89	70 - 130
o-Xylene	1.00	0.889		mg/Kg		89	70 - 130
Toluene	1.00	0.877		mg/Kg		88	70 - 130
Surrogate	%Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	92		48 - 145				

Lab Sample ID: 885-7740-2 MS

Matrix: Solid

Analysis Batch: 8391

Client Sample ID: VZ02

Prep Type: Total/NA

Prep Batch: 8239

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier			Limits			
Benzene	ND		0.950	0.927		mg/Kg		98	70 - 130		
Ethylbenzene	ND		0.950	0.956		mg/Kg		101	70 - 130		
m&p-Xylene	ND		1.90	1.91		mg/Kg		100	70 - 130		
o-Xylene	ND		0.950	0.958		mg/Kg		101	70 - 130		
Toluene	ND		0.950	0.940		mg/Kg		99	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	91		48 - 145								

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## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

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

Lab Sample ID: 885-7740-2 MSD

Matrix: Solid

Analysis Batch: 8391

Client Sample ID: VZ02

Prep Type: Total/NA

Prep Batch: 8239

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.947	0.918		mg/Kg		97	70 - 130	1	20
Ethylbenzene	ND		0.947	0.939		mg/Kg		99	70 - 130	2	20
m&p-Xylene	ND		1.89	1.88		mg/Kg		99	70 - 130	1	20
o-Xylene	ND		0.947	0.941		mg/Kg		99	70 - 130	2	20
Toluene	ND		0.947	0.923		mg/Kg		97	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		48 - 145

Lab Sample ID: MB 885-8263/1-A

Matrix: Solid

Analysis Batch: 8407

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8263

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		07/11/24 14:31	07/13/24 00:14	1
Ethylbenzene	ND		0.050	mg/Kg		07/11/24 14:31	07/13/24 00:14	1
Toluene	ND		0.050	mg/Kg		07/11/24 14:31	07/13/24 00:14	1
Xylenes, Total	ND		0.10	mg/Kg		07/11/24 14:31	07/13/24 00:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		48 - 145	07/11/24 14:31	07/13/24 00:14	1

Lab Sample ID: LCS 885-8263/3-A

Matrix: Solid

Analysis Batch: 8407

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.891		mg/Kg		89	70 - 130
Ethylbenzene	1.00	0.890		mg/Kg		89	70 - 130
m&p-Xylene	2.00	1.77		mg/Kg		89	70 - 130
o-Xylene	1.00	0.893		mg/Kg		89	70 - 130
Toluene	1.00	0.884		mg/Kg		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		48 - 145

Lab Sample ID: 885-7740-21 MS

Matrix: Solid

Analysis Batch: 8407

Client Sample ID: VZ21

Prep Type: Total/NA

Prep Batch: 8263

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		0.986	0.904		mg/Kg		92	70 - 130
Ethylbenzene	ND		0.986	0.924		mg/Kg		94	70 - 130
m&p-Xylene	ND		1.97	1.84		mg/Kg		93	70 - 130
o-Xylene	ND		0.986	0.938		mg/Kg		95	70 - 130
Toluene	ND		0.986	0.912		mg/Kg		93	70 - 130

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QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

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

Lab Sample ID: 885-7740-21 MS  
Matrix: Solid  
Analysis Batch: 8407

Client Sample ID: VZ21  
Prep Type: Total/NA  
Prep Batch: 8263

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		48 - 145

Lab Sample ID: 885-7740-21 MSD  
Matrix: Solid  
Analysis Batch: 8407

Client Sample ID: VZ21  
Prep Type: Total/NA  
Prep Batch: 8263

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.987	0.905		mg/Kg		92	70 - 130	0	20
Ethylbenzene	ND		0.987	0.917		mg/Kg		93	70 - 130	1	20
m&p-Xylene	ND		1.97	1.83		mg/Kg		93	70 - 130	1	20
o-Xylene	ND		0.987	0.923		mg/Kg		94	70 - 130	2	20
Toluene	ND		0.987	0.904		mg/Kg		92	70 - 130	1	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		48 - 145

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

Lab Sample ID: MB 885-8280/1-A  
Matrix: Solid  
Analysis Batch: 8331

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 8280

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		07/11/24 16:27	07/12/24 11:40	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/11/24 16:27	07/12/24 11:40	1

	MB	MB						
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
Di-n-octyl phthalate (Surr)	98		62 - 134	07/11/24 16:27	07/12/24 11:40	1		

Lab Sample ID: LCS 885-8280/2-A  
Matrix: Solid  
Analysis Batch: 8331

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 8280

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	50.0	48.5		mg/Kg		97	60 - 135		

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Di-n-octyl phthalate (Surr)	94		62 - 134

Lab Sample ID: 885-7740-20 MS  
Matrix: Solid  
Analysis Batch: 8331

Client Sample ID: VZ20  
Prep Type: Total/NA  
Prep Batch: 8280

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		49.8	54.6		mg/Kg		110	44 - 136		

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## QC Sample Results

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

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

Lab Sample ID: 885-7740-20 MS

Matrix: Solid

Analysis Batch: 8331

Client Sample ID: VZ20

Prep Type: Total/NA

Prep Batch: 8280

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Di-n-octyl phthalate (Surr)	106		62 - 134

Lab Sample ID: 885-7740-20 MSD

Matrix: Solid

Analysis Batch: 8331

Client Sample ID: VZ20

Prep Type: Total/NA

Prep Batch: 8280

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		48.9	56.9		mg/Kg		116	44 - 136	4	32
Surrogate	MSD	MSD									
	%Recovery	Qualifier	Limits								
Di-n-octyl phthalate (Surr)	116		62 - 134								

Lab Sample ID: MB 885-8353/1-A

Matrix: Solid

Analysis Batch: 8410

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8353

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		07/12/24 14:53	07/15/24 11:46	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/12/24 14:53	07/15/24 11:46	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
Di-n-octyl phthalate (Surr)	90		62 - 134			07/12/24 14:53	07/15/24 11:46	1

Lab Sample ID: LCS 885-8353/2-A

Matrix: Solid

Analysis Batch: 8410

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8353

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Diesel Range Organics [C10-C28]	50.0	42.5		mg/Kg		85	60 - 135	
Surrogate	LCS	LCS	Limits					
	%Recovery	Qualifier						
Di-n-octyl phthalate (Surr)	82		62 - 134					

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## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

## GC VOA

## Prep Batch: 8239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-1	VZ01	Total/NA	Solid	5030C	
885-7740-2	VZ02	Total/NA	Solid	5030C	
885-7740-3	VZ03	Total/NA	Solid	5030C	
885-7740-4	VZ04	Total/NA	Solid	5030C	
885-7740-5	VZ05	Total/NA	Solid	5030C	
885-7740-6	VZ06	Total/NA	Solid	5030C	
885-7740-7	VZ07	Total/NA	Solid	5030C	
885-7740-8	VZ08	Total/NA	Solid	5030C	
885-7740-9	VZ09	Total/NA	Solid	5030C	
885-7740-10	VZ10	Total/NA	Solid	5030C	
885-7740-11	VZ11	Total/NA	Solid	5030C	
885-7740-12	VZ12	Total/NA	Solid	5030C	
885-7740-13	VZ13	Total/NA	Solid	5030C	
885-7740-14	VZ14	Total/NA	Solid	5030C	
885-7740-15	VZ15	Total/NA	Solid	5030C	
885-7740-16	VZ16	Total/NA	Solid	5030C	
885-7740-17	VZ17	Total/NA	Solid	5030C	
885-7740-18	VZ18	Total/NA	Solid	5030C	
885-7740-19	VZ19	Total/NA	Solid	5030C	
885-7740-20	VZ20	Total/NA	Solid	5030C	
MB 885-8239/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-8239/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-8239/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-7740-1 MS	VZ01	Total/NA	Solid	5030C	
885-7740-1 MSD	VZ01	Total/NA	Solid	5030C	
885-7740-2 MS	VZ02	Total/NA	Solid	5030C	
885-7740-2 MSD	VZ02	Total/NA	Solid	5030C	

## Prep Batch: 8263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-21	VZ21	Total/NA	Solid	5030C	
MB 885-8263/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-8263/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-8263/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-7740-21 MS	VZ21	Total/NA	Solid	5030C	
885-7740-21 MSD	VZ21	Total/NA	Solid	5030C	

## Analysis Batch: 8389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-1	VZ01	Total/NA	Solid	8015M/D	8239
885-7740-2	VZ02	Total/NA	Solid	8015M/D	8239
885-7740-3	VZ03	Total/NA	Solid	8015M/D	8239
885-7740-4	VZ04	Total/NA	Solid	8015M/D	8239
885-7740-5	VZ05	Total/NA	Solid	8015M/D	8239
885-7740-6	VZ06	Total/NA	Solid	8015M/D	8239
885-7740-7	VZ07	Total/NA	Solid	8015M/D	8239
885-7740-8	VZ08	Total/NA	Solid	8015M/D	8239
885-7740-9	VZ09	Total/NA	Solid	8015M/D	8239
885-7740-10	VZ10	Total/NA	Solid	8015M/D	8239
885-7740-11	VZ11	Total/NA	Solid	8015M/D	8239
885-7740-12	VZ12	Total/NA	Solid	8015M/D	8239

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## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

## GC VOA (Continued)

## Analysis Batch: 8389 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-13	VZ13	Total/NA	Solid	8015M/D	8239
885-7740-14	VZ14	Total/NA	Solid	8015M/D	8239
885-7740-15	VZ15	Total/NA	Solid	8015M/D	8239
885-7740-16	VZ16	Total/NA	Solid	8015M/D	8239
885-7740-17	VZ17	Total/NA	Solid	8015M/D	8239
885-7740-18	VZ18	Total/NA	Solid	8015M/D	8239
885-7740-19	VZ19	Total/NA	Solid	8015M/D	8239
885-7740-20	VZ20	Total/NA	Solid	8015M/D	8239
MB 885-8239/1-A	Method Blank	Total/NA	Solid	8015M/D	8239
LCS 885-8239/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	8239
885-7740-1 MS	VZ01	Total/NA	Solid	8015M/D	8239
885-7740-1 MSD	VZ01	Total/NA	Solid	8015M/D	8239

## Analysis Batch: 8390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-21	VZ21	Total/NA	Solid	8015M/D	8263
MB 885-8263/1-A	Method Blank	Total/NA	Solid	8015M/D	8263
LCS 885-8263/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	8263

## Analysis Batch: 8391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-1	VZ01	Total/NA	Solid	8021B	8239
885-7740-2	VZ02	Total/NA	Solid	8021B	8239
885-7740-3	VZ03	Total/NA	Solid	8021B	8239
885-7740-4	VZ04	Total/NA	Solid	8021B	8239
885-7740-5	VZ05	Total/NA	Solid	8021B	8239
885-7740-6	VZ06	Total/NA	Solid	8021B	8239
885-7740-7	VZ07	Total/NA	Solid	8021B	8239
885-7740-8	VZ08	Total/NA	Solid	8021B	8239
885-7740-9	VZ09	Total/NA	Solid	8021B	8239
885-7740-10	VZ10	Total/NA	Solid	8021B	8239
885-7740-11	VZ11	Total/NA	Solid	8021B	8239
885-7740-12	VZ12	Total/NA	Solid	8021B	8239
885-7740-13	VZ13	Total/NA	Solid	8021B	8239
885-7740-14	VZ14	Total/NA	Solid	8021B	8239
885-7740-15	VZ15	Total/NA	Solid	8021B	8239
885-7740-16	VZ16	Total/NA	Solid	8021B	8239
885-7740-17	VZ17	Total/NA	Solid	8021B	8239
885-7740-18	VZ18	Total/NA	Solid	8021B	8239
885-7740-19	VZ19	Total/NA	Solid	8021B	8239
885-7740-20	VZ20	Total/NA	Solid	8021B	8239
MB 885-8239/1-A	Method Blank	Total/NA	Solid	8021B	8239
LCS 885-8239/3-A	Lab Control Sample	Total/NA	Solid	8021B	8239
885-7740-2 MS	VZ02	Total/NA	Solid	8021B	8239
885-7740-2 MSD	VZ02	Total/NA	Solid	8021B	8239

## Analysis Batch: 8407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-21	VZ21	Total/NA	Solid	8021B	8263
MB 885-8263/1-A	Method Blank	Total/NA	Solid	8021B	8263
LCS 885-8263/3-A	Lab Control Sample	Total/NA	Solid	8021B	8263

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## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

## GC VOA (Continued)

## Analysis Batch: 8407 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-21 MS	VZ21	Total/NA	Solid	8021B	8263
885-7740-21 MSD	VZ21	Total/NA	Solid	8021B	8263

## GC Semi VOA

## Prep Batch: 8280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-1	VZ01	Total/NA	Solid	SHAKE	
885-7740-2	VZ02	Total/NA	Solid	SHAKE	
885-7740-3	VZ03	Total/NA	Solid	SHAKE	
885-7740-4	VZ04	Total/NA	Solid	SHAKE	
885-7740-5	VZ05	Total/NA	Solid	SHAKE	
885-7740-6	VZ06	Total/NA	Solid	SHAKE	
885-7740-7	VZ07	Total/NA	Solid	SHAKE	
885-7740-8	VZ08	Total/NA	Solid	SHAKE	
885-7740-9	VZ09	Total/NA	Solid	SHAKE	
885-7740-10	VZ10	Total/NA	Solid	SHAKE	
885-7740-11	VZ11	Total/NA	Solid	SHAKE	
885-7740-12	VZ12	Total/NA	Solid	SHAKE	
885-7740-13	VZ13	Total/NA	Solid	SHAKE	
885-7740-14	VZ14	Total/NA	Solid	SHAKE	
885-7740-15	VZ15	Total/NA	Solid	SHAKE	
885-7740-16	VZ16	Total/NA	Solid	SHAKE	
885-7740-17	VZ17	Total/NA	Solid	SHAKE	
885-7740-18	VZ18	Total/NA	Solid	SHAKE	
885-7740-19	VZ19	Total/NA	Solid	SHAKE	
885-7740-20	VZ20	Total/NA	Solid	SHAKE	
MB 885-8280/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-8280/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-7740-20 MS	VZ20	Total/NA	Solid	SHAKE	
885-7740-20 MSD	VZ20	Total/NA	Solid	SHAKE	

## Analysis Batch: 8331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-1	VZ01	Total/NA	Solid	8015M/D	8280
885-7740-2	VZ02	Total/NA	Solid	8015M/D	8280
885-7740-3	VZ03	Total/NA	Solid	8015M/D	8280
885-7740-4	VZ04	Total/NA	Solid	8015M/D	8280
885-7740-5	VZ05	Total/NA	Solid	8015M/D	8280
885-7740-6	VZ06	Total/NA	Solid	8015M/D	8280
885-7740-7	VZ07	Total/NA	Solid	8015M/D	8280
885-7740-8	VZ08	Total/NA	Solid	8015M/D	8280
885-7740-9	VZ09	Total/NA	Solid	8015M/D	8280
885-7740-10	VZ10	Total/NA	Solid	8015M/D	8280
885-7740-11	VZ11	Total/NA	Solid	8015M/D	8280
885-7740-12	VZ12	Total/NA	Solid	8015M/D	8280
885-7740-13	VZ13	Total/NA	Solid	8015M/D	8280
885-7740-14	VZ14	Total/NA	Solid	8015M/D	8280
885-7740-15	VZ15	Total/NA	Solid	8015M/D	8280
885-7740-16	VZ16	Total/NA	Solid	8015M/D	8280
885-7740-17	VZ17	Total/NA	Solid	8015M/D	8280

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## QC Association Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

## GC Semi VOA (Continued)

## Analysis Batch: 8331 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-18	VZ18	Total/NA	Solid	8015M/D	8280
885-7740-19	VZ19	Total/NA	Solid	8015M/D	8280
885-7740-20	VZ20	Total/NA	Solid	8015M/D	8280
MB 885-8280/1-A	Method Blank	Total/NA	Solid	8015M/D	8280
LCS 885-8280/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	8280
885-7740-20 MS	VZ20	Total/NA	Solid	8015M/D	8280
885-7740-20 MSD	VZ20	Total/NA	Solid	8015M/D	8280

## Prep Batch: 8353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-21	VZ21	Total/NA	Solid	SHAKE	
MB 885-8353/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-8353/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

## Analysis Batch: 8410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7740-21	VZ21	Total/NA	Solid	8015M/D	8353
MB 885-8353/1-A	Method Blank	Total/NA	Solid	8015M/D	8353
LCS 885-8353/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	8353

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## Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ01

Lab Sample ID: 885-7740-1

Date Collected: 07/10/24 11:00

Matrix: Solid

Date Received: 07/11/24 06:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 12:34
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 12:34
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 12:01

Client Sample ID: VZ02

Lab Sample ID: 885-7740-2

Date Collected: 07/10/24 11:10

Matrix: Solid

Date Received: 07/11/24 06:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 14:47
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 14:47
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 12:12

Client Sample ID: VZ03

Lab Sample ID: 885-7740-3

Date Collected: 07/10/24 11:20

Matrix: Solid

Date Received: 07/11/24 06:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 15:53
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 15:53
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 12:22

Client Sample ID: VZ04

Lab Sample ID: 885-7740-4

Date Collected: 07/10/24 11:30

Matrix: Solid

Date Received: 07/11/24 06:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 16:15
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 16:15
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 12:33

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Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ05  
Date Collected: 07/10/24 11:40  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-5  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 16:36
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 16:36
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 12:44

Client Sample ID: VZ06  
Date Collected: 07/10/24 11:50  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-6  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 16:58
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 16:58
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 12:54

Client Sample ID: VZ07  
Date Collected: 07/10/24 12:00  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-7  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 17:20
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 17:20
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 13:05

Client Sample ID: VZ08  
Date Collected: 07/10/24 12:10  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-8  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 17:42
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 17:42
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 13:16



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ09  
Date Collected: 07/10/24 12:20  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-9  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 18:04
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 18:04
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 13:27

Client Sample ID: VZ10  
Date Collected: 07/10/24 12:30  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-10  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 18:26
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 18:26
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 13:48

Client Sample ID: VZ11  
Date Collected: 07/10/24 12:40  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-11  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 19:09
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 19:09
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 13:59

Client Sample ID: VZ12  
Date Collected: 07/10/24 12:50  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-12  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 19:31
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 19:31
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 14:10



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ13  
Date Collected: 07/10/24 13:00  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-13  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 19:53
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 19:53
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 14:21

Client Sample ID: VZ14  
Date Collected: 07/10/24 13:10  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-14  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 20:15
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 20:15
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 14:32

Client Sample ID: VZ15  
Date Collected: 07/10/24 13:20  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-15  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 20:36
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 20:36
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 14:42

Client Sample ID: VZ16  
Date Collected: 07/10/24 13:30  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-16  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 20:58
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 20:58
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 14:53



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ17  
Date Collected: 07/10/24 13:40  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-17  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 21:20
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 21:20
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 15:04

Client Sample ID: VZ18  
Date Collected: 07/10/24 13:50  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-18  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 21:41
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 21:41
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 15:15

Client Sample ID: VZ19  
Date Collected: 07/10/24 14:00  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-19  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 22:03
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 22:03
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 15:26

Client Sample ID: VZ20  
Date Collected: 07/10/24 14:10  
Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-20  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8015M/D		1	8389	AT	EET ALB	07/12/24 22:25
Total/NA	Prep	5030C			8239	JP	EET ALB	07/11/24 11:54
Total/NA	Analysis	8021B		1	8391	AT	EET ALB	07/12/24 22:25
Total/NA	Prep	SHAKE			8280	KR	EET ALB	07/11/24 16:27
Total/NA	Analysis	8015M/D		1	8331	KR	EET ALB	07/12/24 15:37



Lab Chronicle

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

Client Sample ID: VZ21

Date Collected: 07/10/24 14:20

Date Received: 07/11/24 06:25

Lab Sample ID: 885-7740-21

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8263	AT	EET ALB	07/11/24 14:31
Total/NA	Analysis	8015M/D		1	8390	AT	EET ALB	07/13/24 03:29
Total/NA	Prep	5030C			8263	AT	EET ALB	07/11/24 14:31
Total/NA	Analysis	8021B		1	8407	AT	EET ALB	07/13/24 03:29
Total/NA	Prep	SHAKE			8353	KR	EET ALB	07/12/24 14:53
Total/NA	Analysis	8015M/D		1	8410	KR	EET ALB	07/15/24 12:50

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

- 1
- 2
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Accreditation/Certification Summary

Client: Hilcorp Energy  
Project/Site: SJ 27-5 #111

Job ID: 885-7740-1

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
8015M/D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total
Oregon	NELAP	NM100001	02-26-25



## Chain-of-Custody Record

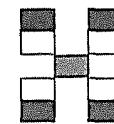
Client: Hilcorp  
Attn: Samantha Grabert  
 Mailing Address:  
 Phone #:  
 email or Fax#:  
 QA/QC Package:  
☐ Standard ☐ Level 4 (Full Validation)  
 Accreditation: ☐ Az Compliance  
☐ NELAC ☐ Other \_\_\_\_\_  
☐ EDD (Type) \_\_\_\_\_

Turn-Around Time:  
~~Standard~~ 5 Day ~~Rush~~ 3 Day  
 Project Name:  
SJ 275 #111  
 Project #:  
 Project Manager:  
Stuart Hyde  
 Sampler: DB  
 On Ice: ☒ Yes ☐ No Yes  
 # of Coolers: 1

Cooler Temp (including CF): 2.2 - 0.1 - 2.1 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
7-10-2024	1100	SOIL	VZ01	1-402	cool	1
	1110		VZ02			2
	1120		VZ03			3
	1130		VZ04			4
	1140		VZ05			5
	1150		VZ06			6
	1200		VZ07			7
	1210		VZ08			8
	1220		VZ09			9
	1230		VZ10			10
	1240		VZ11			11
	1250		VZ12			12

Date 7-10-2024	Time 1527	Relinquished by <u>[Signature]</u>	Received by <u>[Signature]</u>	Via Date 7/10/24	Time 1527
Date 7/10/24	Time 1730	Relinquished by <u>[Signature]</u>	Received by <u>[Signature]</u>	Via Date 7/11/24	Time 625



# HALL ENVIRONME ANALYSIS LABOR

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 8710

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

885-7740 COC



## Analysis Request

BTX'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 <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		

Remarks:

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







## Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-7740-1

Login Number: 7740

List Number: 1

Creator: Casarrubias, Tracy

List Source: Eurofins Albuquerque

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





## APPENDIX C

### Photographic Log



**Photographic Log**

Hilcorp Energy Company  
San Juan 27-5 Unit 111  
Rio Arriba County, New Mexico



Photograph: 1                      Date: 5/15/2024  
Description: Excavation Activities  
View: Northeast



Photograph: 2                      Date: 5/16/2024  
Description: Impacted Stockpile 3  
View: East



Photograph: 3                      Date: 5/16/2024  
Description: Excavation Activities  
View: South



Photograph: 4                      Date: 5/16/2024  
Description: Hydrogen Peroxide Berm  
View: South





### Photographic Log

Hilcorp Energy Company  
San Juan 27-5 Unit 111  
Rio Arriba County, New Mexico



Photograph: 5 Date: 5/17/2024  
Description: Hydrogen Peroxide Berm  
View: South



Photograph: 6 Date: 5/17/2024  
Description: Excavation Activities  
View: West



Photograph: 7 Date: 5/20/2024  
Description: Excavation Pit  
View: Northeast



Photograph: 8 Date: 5/21/2024  
Description: Anaconda Processor  
View: Southeast



**Photographic Log**

Hilcorp Energy Company  
San Juan 27-5 Unit 111  
Rio Arriba County, New Mexico



Photograph: 9 Date: 5/22/2024  
Description: Stockpiles and Excavation Activities  
View: South



Photograph: 10 Date: 5/23/2024  
Description: Pit and Soil Shredding  
View: South



Photograph: 11 Date: 5/24/2024  
Description: Equipment and Site Overview  
View: North



Photograph: 12 Date: 5/24/2024  
Description: Excavation Pit  
View: Northeast



**Photographic Log**

Hilcorp Energy Company

San Juan 27-5 Unit 111

Rio Arriba County, New Mexico



Photograph: 13      Date: 5/28/2024  
Description: Excavation Activities  
View: South



Photograph: 14      Date: 5/28/2024  
Description: Excavation Activities  
View: East



Photograph: 15      Date: 5/29/2024  
Description: Excavation Activities  
View: North



Photograph: 16      Date: 5/30/2024  
Description: Exposed Pipeline  
View: East





### Photographic Log

Hilcorp Energy Company  
San Juan 27-5 Unit 111  
Rio Arriba County, New Mexico



Photograph: 17  
Description: Backfill Progress  
View: Southeast

Date: 6/3/2024



Photograph: 18  
Description: Backfill Progress  
View: Southwest

Date: 6/7/2024



Photograph: 19  
Description: Backfill Progress  
View: South

Date: 6/10/2024



Photograph: 20  
Description: Backfill Progress  
View: East

Date: 6/11/2024



**Photographic Log**

Hilcorp Energy Company

San Juan 27-5 Unit 111

Rio Arriba County, New Mexico



Photograph: 21  
Description: Backfill Progress  
View: South

Date: 6/21/2024



Photograph: 22  
Description: Backfill Progress  
View: North

Date: 6/21/2024



Photograph: 23  
Description: Completed Backfill  
View: Northeast

Date: 7/10/2024



Photograph: 24  
Description: Completed Backfill  
View: East

Date: 7/10/2024



Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS

Action 391382

QUESTIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 391382
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2300554747
Incident Name	NAPP2300554747 SAN JUAN 27-5 UNIT 111 @ 30-039-20218
Incident Type	Oil Release
Incident Status	Remediation Closure Report Approved
Incident Well	[30-039-20218] SAN JUAN 27 5 UNIT #111

Location of Release Source	
Please answer all the questions in this group.	
Site Name	SAN JUAN 27-5 UNIT 111
Date Release Discovered	12/21/2022
Surface Owner	State

Incident Details	
Please answer all the questions in this group.	
Incident Type	Oil 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   Production Tank   Produced Water   Released: 9 BBL   Recovered: 0 BBL   Lost: 9 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Cause: Corrosion   Production Tank   Condensate   Released: 91 BBL   Recovered: 0 BBL   Lost: 91 BBL.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.



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

QUESTIONS, Page 2

Action 391382

**QUESTIONS (continued)**

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 391382
	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	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
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: 03/12/2024
--	--



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

QUESTIONS, Page 3

Action 391382

**QUESTIONS (continued)**

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 391382
	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)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	OCD Imaging Records Lookup
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
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 ½ and 1 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 300 and 500 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	None
A 100-year floodplain	Between ½ and 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

**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
<i>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.</i>	
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)	230
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	14500
GRO+DRO (EPA SW-846 Method 8015M)	14500
BTEX (EPA SW-846 Method 8021B or 8260B)	1687
Benzene (EPA SW-846 Method 8021B or 8260B)	34

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	07/01/2024
On what date will (or did) the final sampling or liner inspection occur	08/01/2024
On what date will (or was) the remediation complete(d)	08/01/2024
What is the estimated surface area (in square feet) that will be reclaimed	4000
What is the estimated volume (in cubic yards) that will be reclaimed	600
What is the estimated surface area (in square feet) that will be remediated	6500
What is the estimated volume (in cubic yards) that will be remediated	1600

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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Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS, Page 4

Action 391382

**QUESTIONS (continued)**

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 391382
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>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.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
(Select all answers below that apply.)	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	No
(Ex Situ) Excavation and <b>on-site</b> 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.)	Yes
(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
<i>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>	
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: 03/12/2024
<i>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.</i>	



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QUESTIONS, Page 5  
  
Action 391382

QUESTIONS (continued)

Operator:  HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID:  372171
	Action Number:  391382
	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, Page 6

Action 391382

**QUESTIONS (continued)**

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 391382
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	360963
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	07/10/2024
What was the (estimated) number of samples that were to be gathered	21
What was the sampling surface area in square feet	2000

**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	7800
What was the total volume (cubic yards) remediated	2050
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)	N/A

*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: 10/09/2024
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QUESTIONS, Page 7

Action 391382

QUESTIONS (continued)

Operator:  HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID:  372171
	Action Number:  391382
	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 391382

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 391382
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
nvez	None	11/27/2024