

| | |
|----------------|---------------|
| Incident ID | NCE2003757811 |
| District RP | |
| Facility ID | |
| Application ID | |

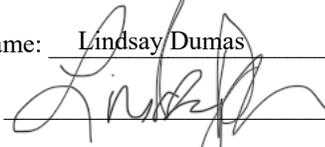
Closure

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 (electronic submittals in .pdf format are preferred) 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.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

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.

Printed Name: Lindsay Dumas Title: Environmental Specialist
 Signature:  Date: _____
 email: LDumas@Hilcorp.com Telephone: 832-839-4585

OCD Only

Received by: Chad Hensley Date: 05/03/2021

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:  Date: 05/03/2021
 Printed Name: Chad Hensley Title: Environmental Specialist Advanced



January 8, 2020

New Mexico Energy, Minerals, and Natural Resources Department
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

**Subject: Site Remediation Report
San Juan 28-4 Unit 18
Rio Arriba County, New Mexico
NMOCD Incident No.: NCE2003757811**

To Whom it May Concern:

WSP USA Inc. (WSP), formerly LT Environmental, Inc. (LTE), has prepared this *Site Remediation Report* for the San Juan 28-4 Unit 18 natural gas production well (Site) on behalf of Hilcorp Energy Company (Hilcorp). The Site is located in Unit M of Section 31, Township 28 North, Range 04 West, in Rio Arriba County, New Mexico (Figure 1). This report details the remedial excavation and confirmation sampling of petroleum-impacted soil at the Site.

SITE CHARACTERIZATION AND BACKGROUND

As outlined in LTE's *Remediation Work Plan* (dated April 27, 2020), LTE characterized the Site according to *Table 1, Closure Criteria for Soils Impacted by a Release*, of 19.15.29.12 New Mexico Administrative Code (NMAC). The Site is approximately 524 feet north of an unnamed first-order tributary to Tecolote Canyon Wash and approximately 4,573 feet north of the Tecolote Canyon Wash. Multiple first-, second-, and third-order tributaries to Muñoz Creek, Tecolote Canyon Wash, and Vigas Canyon Wash are located within one mile of the Site (Figure 2). The Site is greater than 200 feet from any lakebed, natural spring, sinkhole, or playa lake. The Site is greater than 300 feet from any wetland. The Site is greater than 1,000 feet from any freshwater well or spring. The Site is greater than 300 feet from any mapped wetland.

Land use surrounding the Site consists of natural gas development and areas of livestock grazing. No occupied permanent residences, schools, hospitals, institutions, or churches are within 300 feet of the Site. The nearest residence is located approximately 4.43 miles northeast of the Site. The Site is not within the area of a subsurface mine or unstable area and is not within the 100-year flood plain (Figure 2).

The nearest permitted water well to the Site is SP-04028, located approximately 9,373 feet northeast. There is no recorded water data published for this water well. The nearest water well with recorded data is the Harrington Well No. 1 (SJ-00046, shown on Figure 2). Depth to water is reported as 260 feet below ground surface (bgs) and total depth of the well is 506 feet bgs. Lateral distance from the Site to the Harrington Well No. 1 is approximately 3.45 miles. The Site is approximately 741 feet higher in elevation than the Harrington Well No. 1 and approximately 694 feet higher in elevation than the closest major hydrologic feature (Campañero Arroyo, 2.66 miles south). Based on this information, groundwater is estimated to be greater than 100 feet bgs at the Site.

Geology at the Site was determined through observations during excavation of impacted soil and a review of the geologic data available for the area. Based on United States Geological Survey (USGS) geologic mapping, the Site is located within the Tertiary San Jose Formation. Near-surface sediments consist mainly of silty sand with minor occurrences of clay. Compacted and lithified sandstones and claystone are the dominant bedrock lithology that occur between five and ten feet below the surface in this area.

WSP USA
848 EAST 2ND AVENUE
DURANGO CO 81301

Tel.: 970-385-1096
wsp.com



SITE CLOSURE CRITERIA

Due to the Site having a depth to groundwater greater than 100 feet, the following NMOCD Table 1 Closure Criteria apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 2,500 mg/kg total petroleum hydrocarbons (TPH); 1,000 mg/kg gasoline range organics (GRO) + diesel range organics (DRO); and 20,000 mg/kg chloride.

SITE HISTORY AND REMEDIATION ACTIVITIES

On January 11, 2020, Hilcorp discovered a release of approximately 12 barrels (bbls) of produced water and 72 bbls of condensate at the Site. The release was a result of a pipe freezing near the production tank, which allowed some of the contents of the tank to run out onto the frozen ground inside the bermed area. Hilcorp notified the New Mexico Oil Conservation Division (NMOCD), the Bureau of Land Management (BLM) and the United States Forest Service (USFS) of the release on January 11, 2020 via email. Hilcorp submitted an initial C-141 on January 15, 2020. Hilcorp submitted a revised C-141 on January 31, 2020, and the release was assigned incident number NCE2003757811.

On January 17, 2020, Hilcorp began excavating the impacted soil. Hilcorp's excavation measured approximately 55 feet by 65 feet and ranged in depth from 2 feet bgs in the shallow portions to 8 feet bgs in the deeper portions (Figure 3). Approximately 450 cubic yards of impacted soil was removed and stockpiled onsite. Hilcorp conducted confirmation soil sampling of the excavation on January 27 and March 9, 2020. A total of ten confirmation soil samples were collected, as shown on Figure 3. Both sampling events were witnessed and approved by the NMOCD.

Soil samples were collected from the northern side of the excavation on January 27, 2020, and laboratory results indicated the soil was compliant with the NMOCD closure criteria for the parameters tested. The northern sidewall was then sloped to provide access to deeper impacted soil in other parts of the excavation. During the sampling event on March 9, 2020, Hilcorp personnel and the NMOCD representative confirmed soil in the northern portion of the excavation did not need to be resampled during the final sampling event. The laboratory analytical results from confirmation sampling indicated that all samples collected complied with NMOCD closure criteria. Confirmation soil sample results are presented in Table 1, displayed on Figure 3, and the laboratory analytical reports are included as Enclosure A.

LTE submitted a *Remediation Work Plan* (dated April 27, 2020) to the NMOCD and the USFS summarizing the excavation-confirmation sampling and proposed remediation plan for the impacted soil. In the work plan, biopiling was recommended to remediate impacted soils excavated at the Site. The remediation plan proposed biopiling west of the well pad in an area authorized by the USFS. The USFS subsequently approved the remediation plan, however, the NMOCD required the Site to be registered as a "small landfarm" through the NMOCD (as defined by 19.15.36.7 NMAC). Considering the amount of time since the soil had been excavated, NMOCD and USFS allowed Hilcorp to sample the stockpiled soil to assess if landfarming was still necessary at the Site. The stockpile sampling performed at the Site is further discussed below.

STOCKPILE CONFIRMATION SAMPLING

Soil removed from the remedial excavation was placed in two stockpiles (Stockpile 1, or SP1, and Stockpile 2, or SP2, shown on Figure 4) at the Site. After several phone and email conversations, Hilcorp and NMOCD agreed on a confirmation-sampling plan for the two stockpiles (Enclosure B). Specifically, 5-point composite samples would be collected from the stockpiles at a frequency of one every 100 cubic yards. Assuming favorable results, the stockpiled soil could be reused as backfill of the onsite excavation.

Notice to sample the stockpiles was given to the NMOCD and USFS on November 18, 2020. WSP conducted the confirmation soil sampling on November 24, 2020. Sampling frequency was based on the size of the two stockpiles; as such, three composite samples were collected from SP1 (approximately 300 cubic yards) and two samples were collected from SP2 (approximately 150 cubic yards). Sampling areas are shown on Figure 4. To collect representative 5-point composite samples, a hand auger was used to sample soil from different depths within each area of the stockpile. Because the stockpiles were approximately 7 feet tall, samples were collected from depths within the stockpile (starting at the top) of 6 inches, 1.5 feet, 3 feet, 4.5 feet, and 6 feet. Photographs 1 through 4 show the stockpile and sampling areas marked with stakes.



The five soil aliquots from each area were collected into a 1-gallon sealable plastic bag and thoroughly mixed. Samples were field screened for the presence of organic vapors using a photoionization detector (PID). Each sample was then placed into a pre-cleaned jar and labeled with location, date, time, sampler, and method of analysis and immediately placed on ice. Strict chain-of-custody procedures were followed during transport of the samples to Hall Environmental Analysis Laboratory, Inc. (HEAL) in Albuquerque, New Mexico. Soil samples were submitted for laboratory analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021, TPH-GRO, TPH-DRO, and TPH-motor-oil range organics (MRO) by EPA Method 8015, and chloride by EPA method 300.0.

Based on the laboratory analytical results, all collected stockpile soil samples were below the NMOCD Table 1 Closure Criteria, or were below laboratory detection limits for the listed parameters. The soil analytical results, as compared with the NMOCD Closure Criteria, are summarized in Table 2 and presented on Figure 4. The laboratory analytical reports are included as Enclosure C.

REQUEST FOR SITE CLOSURE AND PROPOSED RECLAMATION

Based on conclusions and recommendations presented in this report, Hilcorp is formally requesting a No Further Action determination from the NMOCD for the San Juan 28-4 Unit 18 Site, NMOCD Incident No. NCE2003757811. Once granted, Hilcorp will backfill the excavation using the stockpiled soil, reclaim the well pad to its pre-release condition, and reinstall well-production equipment in its original location.

WSP appreciates the opportunity to provide this report to the NMOCD. If you have any questions or comments regarding this report, do not hesitate to contact Stuart Hyde at (970) 903-1607 or stuart.hyde@wsp.com, or Lindsay Dumas at (281) 794-9159 or ldumas@hilcorp.com.

Kind regards,

A handwritten signature in black ink, appearing to read "Stuart Hyde".

Stuart Hyde, L.G.
Environmental Geologist

A handwritten signature in black ink, appearing to read "Ashley L. Ager".

Ashley Ager, M.S., P.G.
Managing Director, Geologist

Enclosed:

- Figure 1: Site Location Map
- Figure 2: Receptor Map
- Figure 3: Excavation Soil Samples
- Figure 4: Stockpile Soil Samples

- Table 1: Excavation Confirmation Soil Analytical Results
- Table 2: Stockpile Confirmation Soil Analytical Results

- Photographic Log

- Enclosure A: Excavation Analytical Laboratory Reports
- Enclosure B: NMOCD Correspondence, Confirmation Sampling Approval
- Enclosure C: Stockpile Analytical Laboratory Reports

FIGURES

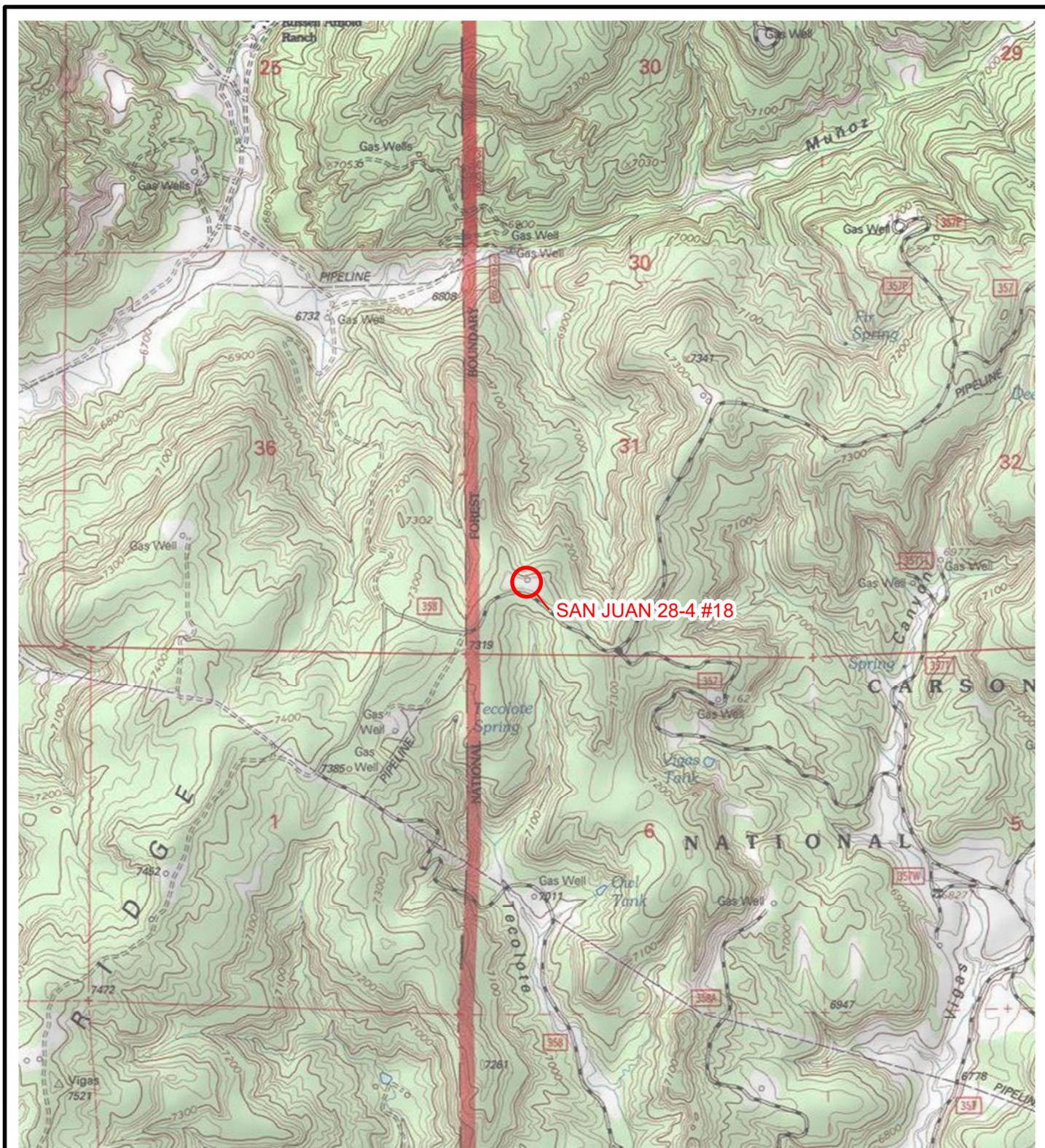


IMAGE COURTESY OF ESRI/USGS

LEGEND

 SITE LOCATION

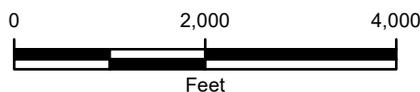
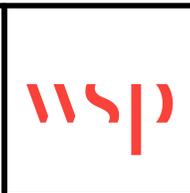


FIGURE 1
SITE LOCATION MAP
 SAN JUAN 28-4 UNIT 18
 LOT 4 SEC 31-T28N-R4W
 RIO ARRIBA COUNTY, NEW MEXICO
 HILCORP ENERGY COMPANY



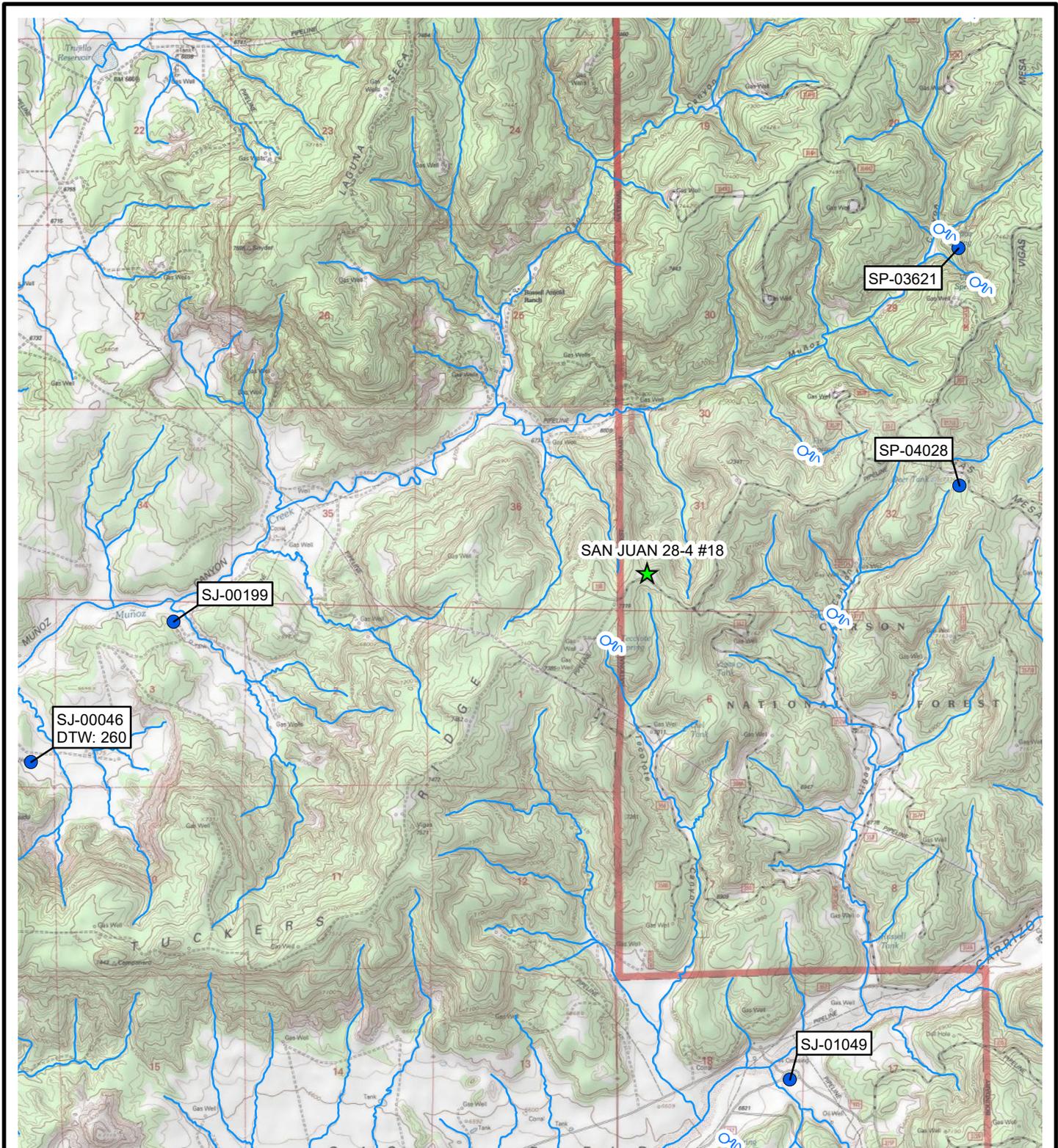


IMAGE COURTESY OF ESRI/USGS

LEGEND

-  SITE LOCATION
-  WATER WELL
-  SPRING/SEEP
-  NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE

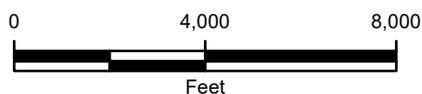
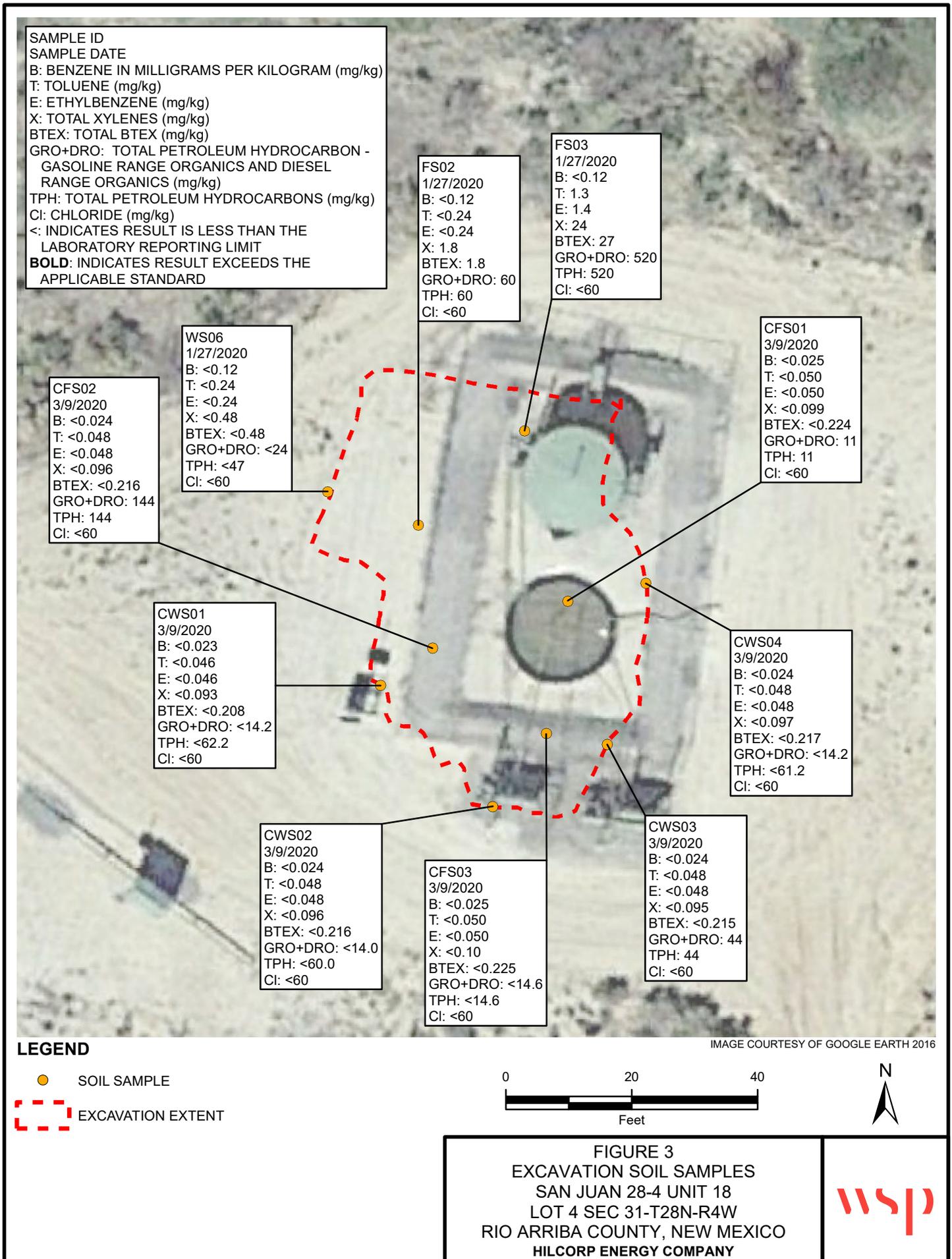


FIGURE 2
RECEPTOR MAP
 SAN JUAN 28-4 UNIT 18
 LOT 4 SEC 31-T28N-R4W
 RIO ARRIBA COUNTY, NEW MEXICO
 HILCORP ENERGY COMPANY



\\EJefel\Projects\Hilcorp\GIS\MXD\017820010_SAN JUAN 28-4 #18\017820010_FIG02_RECEPTOR_MAP.mxd



SAMPLE ID
 SAMPLE DATE
 BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE,
 AND TOTAL XYLENES IN MILLIGRAMS PER KILOGRAM (mg/kg)
 TPH: TOTAL PETROLEUM HYDROCARBONS (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT

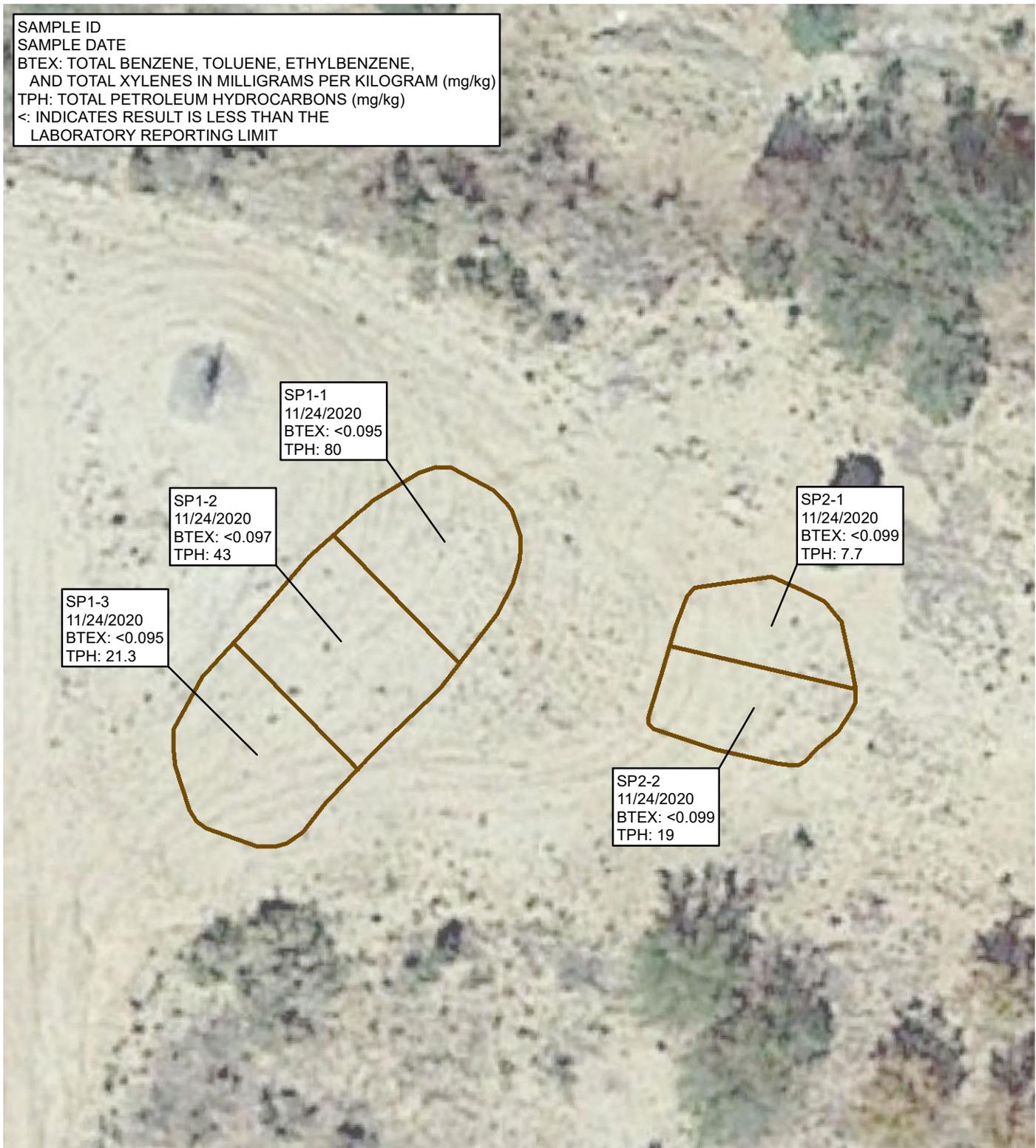


IMAGE COURTESY OF GOOGLE EARTH 2016

LEGEND

 SOIL STOCKPILE

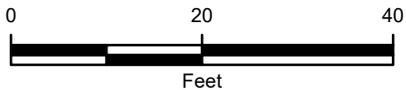


FIGURE 4
 STOCKPILE SOIL SAMPLES
 SAN JUAN 28-4 UNIT 18
 LOT 4 SEC 31-T28N-R4W
 RIO ARRIBA COUNTY, NEW MEXICO
 HILCORP ENERGY COMPANY



P:\Hilcorp\GIS\MXD\017820010_SAN JUAN 28-4 #18\017820010_FIG04_STOCKPILE_SOIL_SAMPLES_2020_04.mxd

TABLES

TABLE 1

**EXCAVATION CONFIRMATION SOIL ANALYTICAL RESULTS
SAN JUAN 28-4 UNIT 18
RIO ARRIBA, NEW MEXICO
HILCORP ENERGY COMPANY**

| Sample Name | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | TPH-GRO (mg/kg) | TPH-DRO (mg/kg) | TPH-MRO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---------------------------------------|-------------|-----------------|-----------------|----------------------|-----------------------|--------------------|-----------------|-----------------|-----------------|-----------------------|--------------|------------------|
| FS02 | 1/27/2020 | <0.12 | <0.24 | <0.24 | 1.8 | 1.8 | 27 | 33 | <47 | 60 | 60 | <60 |
| FS03 | 1/27/2020 | <0.12 | 1.3 | 1.4 | 24 | 26.7 | 350 | 170 | <47 | 520 | 520 | <60 |
| WS06 | 1/27/2020 | <0.12 | <0.24 | <0.24 | <0.48 | <0.48 | <24 | <9.4 | <47 | <24 | <47 | <60 |
| CWS01 | 3/9/2020 | <0.023 | <0.046 | <0.046 | <0.093 | <0.208 | <4.6 | <9.6 | <48 | <14.2 | <62.2 | <60 |
| CWS02 | 3/9/2020 | <0.024 | <0.048 | <0.048 | <0.096 | <0.216 | <4.8 | <9.2 | <46 | <14.0 | <60.0 | <60 |
| CWS03 | 3/9/2020 | <0.024 | <0.048 | <0.048 | <0.095 | <0.215 | 15 | 29 | <48 | 44 | 44 | <59 |
| CWS04 | 3/9/2020 | <0.024 | <0.048 | <0.048 | <0.097 | <0.217 | <4.8 | <9.4 | <47 | <14.2 | <61.2 | <60 |
| CFS01 | 3/9/2020 | <0.025 | <0.050 | <0.050 | <0.099 | <0.224 | <5.0 | 11 | <48 | 11 | 11 | <60 |
| CFS02 | 3/9/2020 | <0.024 | <0.048 | <0.048 | <0.096 | <0.216 | 59 | 85 | <50 | 144 | 144 | <60 |
| CFS03 | 3/9/2020 | <0.025 | <0.050 | <0.050 | <0.10 | <0.225 | <5.0 | <9.6 | <48 | <14.6 | <62.6 | <60 |
| NMOCD Table 1 Closure Criteria | | 10 | NE | NE | NE | 50 | NE | NE | NE | 1,000 | 2,500 | 20,000 |

Notes:

< - indicates result is less than the stated laboratory reporting limit
 BTEX - benzene, toluene, ethylbenzene, and total xylenes
 mg/kg -milligrams per kilogram
 NMOCD - New Mexico Oil Conservation Division
 NS - not sampled
 TPH-DRO - total petroleum hydrocarbons diesel range organics
 TPH-GRO - total petroleum hydrocarbons gasoline range organics
 TPH-MRO - total petroleum hydrocarbons motor oil range organics

TABLE 2

**STOCKPILE CONFIRMATION SOIL ANALYTICAL RESULTS
SAN JUAN 28-4 UNIT 18
RIO ARRIBA, NEW MEXICO
HILCORP ENERGY COMPANY**

| Sample Name | Sample Date | PID (ppm) | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Xylenes (mg/kg) | Total BTEX (mg/kg) | TPH-GRO (mg/kg) | TPH-DRO (mg/kg) | TPH-MRO (mg/kg) | Total GRO+DRO (mg/kg) | Total TPH (mg/kg) | Chloride (mg/kg) |
|---------------------------------------|-------------|-----------|-----------------|-----------------|----------------------|-----------------|--------------------|-----------------|-----------------|-----------------|-----------------------|-------------------|------------------|
| SP1-1 | 11/24/2020 | 660.2 | <0.024 | <0.047 | <0.047 | <0.095 | <0.095 | 51 | 29 | <47 | 80 | 80 | <60 |
| SP1-2 | 11/24/2020 | 115.3 | <0.024 | <0.048 | <0.048 | <0.097 | <0.097 | 19 | 24 | <47 | 43 | 43 | <60 |
| SP1-3 | 11/24/2020 | 65.8 | <0.024 | <0.047 | <0.047 | <0.095 | <0.095 | 5.3 | 16 | <48 | 21.3 | 21.3 | <60 |
| SP2-1 | 11/24/2020 | 186.7 | <0.025 | <0.049 | <0.049 | <0.099 | <0.099 | 7.7 | <9.8 | <49 | 7.7 | 7.7 | <60 |
| SP2-2 | 11/24/2020 | 83.1 | <0.025 | <0.050 | <0.050 | <0.099 | <0.099 | 6.2 | 13 | <49 | 19.2 | 19.2 | <60 |
| NMOCD Table 1 Closure Criteria | | | 10 | NE | NE | NE | 50 | NE | NE | NE | 1,000 | 2,500 | 20,000 |

Notes:

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

BTEX - benzene, toluene, ethylbenzene, and total xylenes

mg/kg -milligrams per kilogram

NMOCD - New Mexico Oil Conservation Division

PID - photoionization detector

ppm - parts per million

TPH-DRO - total petroleum hydrocarbons diesel range organics

TPH-GRO - total petroleum hydrocarbons gasoline range organics

TPH-MRO - total petroleum hydrocarbons motor oil range organics

PHOTOGRAPHIC LOG



| PHOTOGRAPHIC LOG | | |
|-------------------------------|----------------------------------------------------------------------|--------------------|
| Hilcorp Energy Company | San Juan 28-4 Unit 18 Rio Arriba County, New Mexico | TE017820021 |

| Photo No. | Date | |
|-----------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|
| 1 | November 24, 2020 |  |
| View of Stockpile 1 (SP1) looking southwest. Stockpile 1 is approximately 300 cubic yards in volume | | |

| Photo No. | Date | |
|------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------|
| 2 | November 24, 2020 |  |
| View of Stockpile 2 (SP2) looking east. Stockpile 2 is approximately 150 cubic yards in volume | | |



| | | |
|-----------------------------------|----------------------------------------------------------------|--------------------|
| PHOTOGRAPHIC LOG | | |
| Hilcorp Energy Company | San Juan 28-4 Unit 18 Rio Arriba County, New Mexico | TE017820021 |

| Photo No. | Date |
|-----------|----------------------|
| 3 | November 24, 2020 |

Stockpile 1 was divided into three areas, with 5-point composite samples collected at varying depths from each area using a hand auger. View looking north.





| | | |
|-----------------------------------|----------------------------------------------------------------|--------------------|
| PHOTOGRAPHIC LOG | | |
| Hilcorp Energy Company | San Juan 28-4 Unit 18 Rio Arriba County, New Mexico | TE017820021 |

| Photo No. | Date | |
|------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------|
| 4 | November 24, 2020 |  |
| Stockpile 2 was divided into two areas and sampled similar to Stockpile 1. View looking north. | | |

ENCLOSURE A – EXCAVATION ANALYTICAL LABORATORY REPORTS



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

March 24, 2020

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

RE: SJ 28-4 #18

OrderNo.: 2003411

Dear Lindsay Dumas:

Hall Environmental Analysis Laboratory received 7 sample(s) on 3/10/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order **2003411**

Date Reported: 3/24/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: CWS01

Project: SJ 28-4 #18

Collection Date: 3/9/2020 10:25:00 AM

Lab ID: 2003411-001

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 3/13/2020 6:25:04 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 3/13/2020 6:25:04 PM |
| Surr: DNOP | 102 | 55.1-146 | | %Rec | 1 | 3/13/2020 6:25:04 PM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: JMT |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/14/2020 12:18:42 AM |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | Analyst: JMR |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 3/13/2020 2:05:25 PM |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 3/13/2020 2:05:25 PM |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 3/13/2020 2:05:25 PM |
| Xylenes, Total | ND | 0.093 | | mg/Kg | 1 | 3/13/2020 2:05:25 PM |
| Surr: 1,2-Dichloroethane-d4 | 89.0 | 70-130 | | %Rec | 1 | 3/13/2020 2:05:25 PM |
| Surr: 4-Bromofluorobenzene | 92.4 | 70-130 | | %Rec | 1 | 3/13/2020 2:05:25 PM |
| Surr: Dibromofluoromethane | 94.6 | 70-130 | | %Rec | 1 | 3/13/2020 2:05:25 PM |
| Surr: Toluene-d8 | 100 | 70-130 | | %Rec | 1 | 3/13/2020 2:05:25 PM |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | Analyst: JMR |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 3/13/2020 2:05:25 PM |
| Surr: BFB | 94.7 | 70-130 | | %Rec | 1 | 3/13/2020 2:05:25 PM |

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

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

Analytical Report

Lab Order **2003411**

Date Reported: 3/24/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: CWS02

Project: SJ 28-4 #18

Collection Date: 3/9/2020 10:30:00 AM

Lab ID: 2003411-002

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | ND | 9.2 | | mg/Kg | 1 | 3/13/2020 6:52:34 PM |
| Motor Oil Range Organics (MRO) | ND | 46 | | mg/Kg | 1 | 3/13/2020 6:52:34 PM |
| Surr: DNOP | 104 | 55.1-146 | | %Rec | 1 | 3/13/2020 6:52:34 PM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: JMT |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/14/2020 12:31:02 AM |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | Analyst: JMR |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/13/2020 3:31:15 PM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 3/13/2020 3:31:15 PM |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 3/13/2020 3:31:15 PM |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 3/13/2020 3:31:15 PM |
| Surr: 1,2-Dichloroethane-d4 | 89.7 | 70-130 | | %Rec | 1 | 3/13/2020 3:31:15 PM |
| Surr: 4-Bromofluorobenzene | 92.4 | 70-130 | | %Rec | 1 | 3/13/2020 3:31:15 PM |
| Surr: Dibromofluoromethane | 96.2 | 70-130 | | %Rec | 1 | 3/13/2020 3:31:15 PM |
| Surr: Toluene-d8 | 101 | 70-130 | | %Rec | 1 | 3/13/2020 3:31:15 PM |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | Analyst: JMR |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 3/13/2020 3:31:15 PM |
| Surr: BFB | 96.0 | 70-130 | | %Rec | 1 | 3/13/2020 3:31:15 PM |

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

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

Analytical Report

Lab Order **2003411**

Date Reported: 3/24/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: CWS03

Project: SJ 28-4 #18

Collection Date: 3/9/2020 10:35:00 AM

Lab ID: 2003411-003

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | 29 | 9.6 | | mg/Kg | 1 | 3/13/2020 7:01:43 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 3/13/2020 7:01:43 PM |
| Surr: DNOP | 102 | 55.1-146 | | %Rec | 1 | 3/13/2020 7:01:43 PM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: JMT |
| Chloride | ND | 59 | | mg/Kg | 20 | 3/14/2020 10:33:13 AM |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | Analyst: JMR |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/17/2020 6:35:19 PM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 3/17/2020 6:35:19 PM |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 3/17/2020 6:35:19 PM |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 3/17/2020 6:35:19 PM |
| Surr: 1,2-Dichloroethane-d4 | 98.0 | 70-130 | | %Rec | 1 | 3/17/2020 6:35:19 PM |
| Surr: 4-Bromofluorobenzene | 94.2 | 70-130 | | %Rec | 1 | 3/17/2020 6:35:19 PM |
| Surr: Dibromofluoromethane | 99.0 | 70-130 | | %Rec | 1 | 3/17/2020 6:35:19 PM |
| Surr: Toluene-d8 | 99.8 | 70-130 | | %Rec | 1 | 3/17/2020 6:35:19 PM |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | Analyst: JMR |
| Gasoline Range Organics (GRO) | 15 | 4.8 | | mg/Kg | 1 | 3/17/2020 6:35:19 PM |
| Surr: BFB | 101 | 70-130 | | %Rec | 1 | 3/17/2020 6:35:19 PM |

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

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

Analytical Report

Lab Order **2003411**

Date Reported: 3/24/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: CWS04

Project: SJ 28-4 #18

Collection Date: 3/9/2020 10:40:00 AM

Lab ID: 2003411-004

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | ND | 9.4 | | mg/Kg | 1 | 3/13/2020 7:10:53 PM |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 3/13/2020 7:10:53 PM |
| Surr: DNOP | 103 | 55.1-146 | | %Rec | 1 | 3/13/2020 7:10:53 PM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: JMT |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/14/2020 10:45:37 AM |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | Analyst: JMR |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/13/2020 4:28:17 PM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 3/13/2020 4:28:17 PM |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 3/13/2020 4:28:17 PM |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 3/13/2020 4:28:17 PM |
| Surr: 1,2-Dichloroethane-d4 | 86.0 | 70-130 | | %Rec | 1 | 3/13/2020 4:28:17 PM |
| Surr: 4-Bromofluorobenzene | 96.2 | 70-130 | | %Rec | 1 | 3/13/2020 4:28:17 PM |
| Surr: Dibromofluoromethane | 96.5 | 70-130 | | %Rec | 1 | 3/13/2020 4:28:17 PM |
| Surr: Toluene-d8 | 104 | 70-130 | | %Rec | 1 | 3/13/2020 4:28:17 PM |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | Analyst: JMR |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 3/13/2020 4:28:17 PM |
| Surr: BFB | 101 | 70-130 | | %Rec | 1 | 3/13/2020 4:28:17 PM |

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

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

Analytical Report

Lab Order 2003411

Date Reported: 3/24/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: CFS01

Project: SJ 28-4 #18

Collection Date: 3/9/2020 10:45:00 AM

Lab ID: 2003411-005

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | 11 | 9.6 | | mg/Kg | 1 | 3/13/2020 7:20:02 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 3/13/2020 7:20:02 PM |
| Surr: DNOP | 105 | 55.1-146 | | %Rec | 1 | 3/13/2020 7:20:02 PM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: JMT |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/14/2020 10:58:01 AM |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | Analyst: JMR |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 3/13/2020 4:56:56 PM |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 3/13/2020 4:56:56 PM |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 3/13/2020 4:56:56 PM |
| Xylenes, Total | ND | 0.099 | | mg/Kg | 1 | 3/13/2020 4:56:56 PM |
| Surr: 1,2-Dichloroethane-d4 | 92.1 | 70-130 | | %Rec | 1 | 3/13/2020 4:56:56 PM |
| Surr: 4-Bromofluorobenzene | 94.0 | 70-130 | | %Rec | 1 | 3/13/2020 4:56:56 PM |
| Surr: Dibromofluoromethane | 96.1 | 70-130 | | %Rec | 1 | 3/13/2020 4:56:56 PM |
| Surr: Toluene-d8 | 98.9 | 70-130 | | %Rec | 1 | 3/13/2020 4:56:56 PM |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | Analyst: JMR |
| Gasoline Range Organics (GRO) | ND | 5.0 | | mg/Kg | 1 | 3/13/2020 4:56:56 PM |
| Surr: BFB | 99.2 | 70-130 | | %Rec | 1 | 3/13/2020 4:56:56 PM |

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

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

Analytical Report

Lab Order **2003411**

Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: CFS02

Project: SJ 28-4 #18

Collection Date: 3/9/2020 10:50:00 AM

Lab ID: 2003411-006

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | 85 | 9.9 | | mg/Kg | 1 | 3/13/2020 7:29:10 PM |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 3/13/2020 7:29:10 PM |
| Surr: DNOP | 108 | 55.1-146 | | %Rec | 1 | 3/13/2020 7:29:10 PM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: JMT |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/14/2020 11:35:14 AM |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | Analyst: JMR |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/17/2020 7:03:58 PM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 3/17/2020 7:03:58 PM |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 3/17/2020 7:03:58 PM |
| Xylenes, Total | 0.61 | 0.096 | | mg/Kg | 1 | 3/17/2020 7:03:58 PM |
| Surr: 1,2-Dichloroethane-d4 | 101 | 70-130 | | %Rec | 1 | 3/17/2020 7:03:58 PM |
| Surr: 4-Bromofluorobenzene | 77.9 | 70-130 | | %Rec | 1 | 3/17/2020 7:03:58 PM |
| Surr: Dibromofluoromethane | 95.2 | 70-130 | | %Rec | 1 | 3/17/2020 7:03:58 PM |
| Surr: Toluene-d8 | 104 | 70-130 | | %Rec | 1 | 3/17/2020 7:03:58 PM |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | Analyst: JMR |
| Gasoline Range Organics (GRO) | 59 | 4.8 | | mg/Kg | 1 | 3/17/2020 7:03:58 PM |
| Surr: BFB | 112 | 70-130 | | %Rec | 1 | 3/17/2020 7:03:58 PM |

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

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

Analytical Report

Lab Order **2003411**

Date Reported: 3/24/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: CFS03

Project: SJ 28-4 #18

Collection Date: 3/9/2020 10:55:00 AM

Lab ID: 2003411-007

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 3/13/2020 7:38:19 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 3/13/2020 7:38:19 PM |
| Surr: DNOP | 106 | 55.1-146 | | %Rec | 1 | 3/13/2020 7:38:19 PM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: JMT |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/14/2020 11:47:38 AM |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | Analyst: JMR |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 3/13/2020 5:54:07 PM |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 3/13/2020 5:54:07 PM |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 3/13/2020 5:54:07 PM |
| Xylenes, Total | ND | 0.10 | | mg/Kg | 1 | 3/13/2020 5:54:07 PM |
| Surr: 1,2-Dichloroethane-d4 | 84.9 | 70-130 | | %Rec | 1 | 3/13/2020 5:54:07 PM |
| Surr: 4-Bromofluorobenzene | 94.7 | 70-130 | | %Rec | 1 | 3/13/2020 5:54:07 PM |
| Surr: Dibromofluoromethane | 93.7 | 70-130 | | %Rec | 1 | 3/13/2020 5:54:07 PM |
| Surr: Toluene-d8 | 97.7 | 70-130 | | %Rec | 1 | 3/13/2020 5:54:07 PM |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | Analyst: JMR |
| Gasoline Range Organics (GRO) | ND | 5.0 | | mg/Kg | 1 | 3/13/2020 5:54:07 PM |
| Surr: BFB | 95.7 | 70-130 | | %Rec | 1 | 3/13/2020 5:54:07 PM |

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003411

24-Mar-20

Client: HILCORP ENERGY

Project: SJ 28-4 #18

| Sample ID: MB-51099 | SampType: mblk | TestCode: EPA Method 300.0: Anions | | | | | | | | |
|-----------------------------|---------------------------------|-------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 51099 | RunNo: 67280 | | | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/13/2020 | SeqNo: 2320005 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | ND | 1.5 | | | | | | | | |

| Sample ID: LCS-51099 | SampType: ics | TestCode: EPA Method 300.0: Anions | | | | | | | | |
|-----------------------------|---------------------------------|-------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 51099 | RunNo: 67280 | | | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/13/2020 | SeqNo: 2320006 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 14 | 1.5 | 15.00 | 0 | 92.9 | 90 | 110 | | | |

| Sample ID: MB-51105 | SampType: mblk | TestCode: EPA Method 300.0: Anions | | | | | | | | |
|-----------------------------|---------------------------------|-------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 51105 | RunNo: 67316 | | | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/14/2020 | SeqNo: 2320124 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | ND | 1.5 | | | | | | | | |

| Sample ID: LCS-51105 | SampType: ics | TestCode: EPA Method 300.0: Anions | | | | | | | | |
|-----------------------------|---------------------------------|-------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 51105 | RunNo: 67316 | | | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/14/2020 | SeqNo: 2320125 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 14 | 1.5 | 15.00 | 0 | 94.7 | 90 | 110 | | | |

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003411

24-Mar-20

Client: HILCORP ENERGY

Project: SJ 28-4 #18

| Sample ID: 2003411-001AMS | SampType: MS | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | | |
|----------------------------------|---------------------------------|------------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: CWS01 | Batch ID: 51069 | RunNo: 67261 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/13/2020 | SeqNo: 2319778 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 58 | 10 | 49.80 | 5.362 | 105 | 47.4 | 136 | | | |
| Surr: DNOP | 5.1 | | 4.980 | | 103 | 55.1 | 146 | | | |

| Sample ID: 2003411-001AMSD | SampType: MSD | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | | |
|-----------------------------------|---------------------------------|------------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: CWS01 | Batch ID: 51069 | RunNo: 67261 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/13/2020 | SeqNo: 2319779 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 57 | 9.6 | 47.85 | 5.362 | 108 | 47.4 | 136 | 1.60 | 43.4 | |
| Surr: DNOP | 5.0 | | 4.785 | | 104 | 55.1 | 146 | 0 | 0 | |

| Sample ID: LCS-51069 | SampType: LCS | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | | |
|-----------------------------|---------------------------------|------------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 51069 | RunNo: 67261 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/13/2020 | SeqNo: 2319832 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 52 | 10 | 50.00 | 0 | 105 | 70 | 130 | | | |
| Surr: DNOP | 5.2 | | 5.000 | | 104 | 55.1 | 146 | | | |

| Sample ID: MB-51069 | SampType: MBLK | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | | |
|--------------------------------|---------------------------------|------------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 51069 | RunNo: 67261 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/13/2020 | SeqNo: 2319834 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 10 | | 10.00 | | 99.5 | 55.1 | 146 | | | |

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003411

24-Mar-20

Client: HILCORP ENERGY

Project: SJ 28-4 #18

| Sample ID: ics-51068 | SampType: LCS | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|-----------------------------|---------------------------------|---------------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 51068 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/14/2020 | SeqNo: 2319874 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 1,2-Dichloroethane-d4 | 0.42 | | 0.5000 | | 84.6 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.46 | | 0.5000 | | 91.1 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.47 | | 0.5000 | | 93.4 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.49 | | 0.5000 | | 97.7 | 70 | 130 | | | |

| Sample ID: mb-51067 | SampType: MBLK | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|-----------------------------|---------------------------------|---------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 51067 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/13/2020 | SeqNo: 2319875 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | ND | 0.025 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 0.44 | | 0.5000 | | 88.6 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.47 | | 0.5000 | | 93.7 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.50 | | 0.5000 | | 100 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.51 | | 0.5000 | | 103 | 70 | 130 | | | |

| Sample ID: mb-51068 | SampType: MBLK | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|-----------------------------|---------------------------------|---------------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 51068 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/14/2020 | SeqNo: 2319876 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 1,2-Dichloroethane-d4 | 0.45 | | 0.5000 | | 90.5 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.47 | | 0.5000 | | 93.6 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.48 | | 0.5000 | | 95.6 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.51 | | 0.5000 | | 102 | 70 | 130 | | | |

| Sample ID: ics-51067 | SampType: LCS | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|-----------------------------|---------------------------------|---------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 51067 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/13/2020 | SeqNo: 2320114 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 1.0 | 0.025 | 1.000 | 0 | 102 | 70 | 130 | | | |
| Toluene | 1.0 | 0.050 | 1.000 | 0 | 105 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 0.43 | | 0.5000 | | 85.6 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.47 | | 0.5000 | | 94.6 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.45 | | 0.5000 | | 90.4 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.50 | | 0.5000 | | 101 | 70 | 130 | | | |

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003411

24-Mar-20

Client: HILCORP ENERGY

Project: SJ 28-4 #18

| Sample ID: 2003411-001ams | SampType: MS | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | | | |
|----------------------------------|---------------------------------|-------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: CWS01 | Batch ID: 51067 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/13/2020 | SeqNo: 2319882 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 24 | 5.0 | 24.88 | 0 | 95.2 | 70 | 130 | | | |
| Surr: BFB | 480 | | 497.5 | | 96.5 | 70 | 130 | | | |

| Sample ID: 2003411-001amsd | SampType: MSD | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | | | |
|-----------------------------------|---------------------------------|-------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: CWS01 | Batch ID: 51067 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/13/2020 | SeqNo: 2319883 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 22 | 4.7 | 23.72 | 0 | 90.9 | 70 | 130 | 9.44 | 20 | |
| Surr: BFB | 460 | | 474.4 | | 97.4 | 70 | 130 | 0 | 0 | |

| Sample ID: lcs-51067 | SampType: LCS | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | | | |
|-------------------------------|---------------------------------|-------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 51067 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/13/2020 | SeqNo: 2319912 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 22 | 5.0 | 25.00 | 0 | 89.8 | 70 | 130 | | | |
| Surr: BFB | 490 | | 500.0 | | 98.5 | 70 | 130 | | | |

| Sample ID: lcs-51068 | SampType: LCS | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | | | |
|-----------------------------|---------------------------------|-------------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 51068 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/14/2020 | SeqNo: 2319913 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | 490 | | 500.0 | | 97.8 | 70 | 130 | | | |

| Sample ID: mb-51067 | SampType: MBLK | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | | | |
|-------------------------------|---------------------------------|-------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 51067 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/13/2020 | SeqNo: 2319914 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 490 | | 500.0 | | 97.1 | 70 | 130 | | | |

| Sample ID: mb-51068 | SampType: MBLK | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | | | |
|-----------------------------|---------------------------------|-------------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 51068 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/14/2020 | SeqNo: 2319915 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | 480 | | 500.0 | | 96.3 | 70 | 130 | | | |

Qualifiers:

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



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

Sample Log-In Check List

Client Name: HILCORP ENERGY FAR Work Order Number: 2003411 RcptNo: 1

Received By: Yazmine Garduno 3/10/2020 8:15:00 AM
Completed By: Juan Rojas 3/10/2020 12:33:41 PM
Reviewed By: ENM 3/11/20

Chain of Custody

- 1. Is Chain of Custody sufficiently complete? Yes [checked] No [] Not Present []
2. How was the sample delivered? Courier

Log In

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

of preserved bottles checked for pH:
Adjusted?
Checked by: DAD 3/11/20

Special Handling (if applicable)

- 15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

Person Notified: Date:
By Whom: Via: [] eMail [] Phone [] Fax [] In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Contains 2 rows of data.

ENCLOSURE B – NMOCD CORRESPONDENCE, CONFIRMATION SAMPLING
APPROVAL

From: [Smith, Cory, EMNRD](#)
To: [Hyde, Stuart; jjmiller@fs.fed.us](#)
Cc: [Lindsay Dumas; Hencmann, Devin](#)
Subject: RE: Notice to Sample Soil Stockpile - San Juan 28-4 #18, NCE2003757811
Date: Tuesday, November 24, 2020 10:10:10 AM
Attachments: [image001.png](#)

Stuart,

Typically we need some type of sampling plan on how your going to collect the samples. OCD is ok with 1 5pt sample per 100 cubic yards. At least 3 of the aliquots need to come from within the stock piles from varying depths.

In addition if the piles are not clearly separated then they need to be physically marked via flags or survey sticks etc.. If the piles are not completely separated and a pile fails the operator will have to remove 2' into each adjacent pile regardless of that piles results.

Please take photos of the sampling event and send them to me after completion thank you.

Cory Smith • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1000 Rio Brazos | Aztec, NM 87410
505.334.6178 x115 | Cory.Smith@state.nm.us
<http://www.emnrd.state.nm.us/OCD/>

From: Hyde, Stuart <Stuart.Hyde@wsp.com>
Sent: Wednesday, November 18, 2020 3:23 PM
To: jjmiller@fs.fed.us; Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Lindsay Dumas <ldumas@hilcorp.com>; Hencmann, Devin <Devin.Hencmann@wsp.com>
Subject: [EXT] Notice to Sample Soil Stockpile - San Juan 28-4 #18, NCE2003757811

J.J. and Cory,

On behalf of Hilcorp Energy Company, WSP is providing notice to perform confirmation/closure soil sampling of the stockpile at the San Juan 28-4 #18 site (NMOCD Incident No. NCE2003757811) on Tuesday November 24, 2020 at 10:30 a.m. MDT. Per Hilcorp's phone conversation with the NMOCD, representative 5-point composite samples will be collected from the stockpile at a rate of 1 per 100 cubic yards. In total, the stockpiles contain approximately 450 cubic yards of soil; therefore, 5 composite samples will be collected during this work.

Please feel free to call or email with any questions or comments. Thanks and have a great day.

Stuart Hyde, L.G.
Environmental Geologist
Please note the new email address.



T+ 1 970-385-1096
M+ 1 970-903-1607

WSP USA
848 East 2nd Avenue
Durango, Colorado 81301

wsp.com

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-LAEmHhHzdJzBITWfa4Hgs7pbKl

ENCLOSURE C – STOCKPILE ANALYTICAL LABORATORY REPORTS



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

December 02, 2020

Lindsay Dumas

Hilcorp Energy

PO Box 61529

Houston, TX 77208-1529

TEL: (337) 276-7676

FAX:

RE: SJ 28 4 18

OrderNo.: 2011C41

Dear Lindsay Dumas:

Hall Environmental Analysis Laboratory received 5 sample(s) on 11/25/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 2011C41

Date Reported: 12/2/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy

Client Sample ID: SP1-1

Project: SJ 28 4 18

Collection Date: 11/24/2020 11:54:00 AM

Lab ID: 2011C41-001

Matrix: SOIL

Received Date: 11/25/2020 8:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--------------------------------------------------|--------|----------|------|-------|----|------------------------|---------------------|
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: VP |
| Chloride | ND | 60 | | mg/Kg | 20 | 11/29/2020 12:11:48 AM | 56679 |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | | Analyst: DJF |
| Gasoline Range Organics (GRO) | 51 | 4.7 | | mg/Kg | 1 | 11/28/2020 7:03:42 PM | 56661 |
| Surr: BFB | 114 | 70-130 | | %Rec | 1 | 11/28/2020 7:03:42 PM | 56661 |
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | 29 | 9.4 | | mg/Kg | 1 | 11/28/2020 11:56:36 AM | 56662 |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 11/28/2020 11:56:36 AM | 56662 |
| Surr: DNOP | 118 | 30.4-154 | | %Rec | 1 | 11/28/2020 11:56:36 AM | 56662 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: DJF |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 11/28/2020 7:03:42 PM | 56661 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 11/28/2020 7:03:42 PM | 56661 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 11/28/2020 7:03:42 PM | 56661 |
| Xylenes, Total | 0.98 | 0.095 | | mg/Kg | 1 | 11/28/2020 7:03:42 PM | 56661 |
| Surr: 1,2-Dichloroethane-d4 | 97.0 | 70-130 | | %Rec | 1 | 11/28/2020 7:03:42 PM | 56661 |
| Surr: 4-Bromofluorobenzene | 120 | 70-130 | | %Rec | 1 | 11/28/2020 7:03:42 PM | 56661 |
| Surr: Dibromofluoromethane | 110 | 70-130 | | %Rec | 1 | 11/28/2020 7:03:42 PM | 56661 |
| Surr: Toluene-d8 | 99.4 | 70-130 | | %Rec | 1 | 11/28/2020 7:03:42 PM | 56661 |

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

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

Analytical Report

Lab Order 2011C41

Date Reported: 12/2/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy

Client Sample ID: SP1-2

Project: SJ 28 4 18

Collection Date: 11/24/2020 11:58:00 AM

Lab ID: 2011C41-002

Matrix: SOIL

Received Date: 11/25/2020 8:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--------------------------------------------------|--------|----------|------|-------|----|------------------------|---------------------|
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: VP |
| Chloride | ND | 60 | | mg/Kg | 20 | 11/29/2020 12:49:02 AM | 56679 |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | | Analyst: DJF |
| Gasoline Range Organics (GRO) | 19 | 4.8 | | mg/Kg | 1 | 11/28/2020 7:30:56 PM | 56661 |
| Surr: BFB | 103 | 70-130 | | %Rec | 1 | 11/28/2020 7:30:56 PM | 56661 |
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | 24 | 9.4 | | mg/Kg | 1 | 11/28/2020 12:06:10 PM | 56662 |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 11/28/2020 12:06:10 PM | 56662 |
| Surr: DNOP | 106 | 30.4-154 | | %Rec | 1 | 11/28/2020 12:06:10 PM | 56662 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: DJF |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 11/28/2020 7:30:56 PM | 56661 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 11/28/2020 7:30:56 PM | 56661 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 11/28/2020 7:30:56 PM | 56661 |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 11/28/2020 7:30:56 PM | 56661 |
| Surr: 1,2-Dichloroethane-d4 | 96.4 | 70-130 | | %Rec | 1 | 11/28/2020 7:30:56 PM | 56661 |
| Surr: 4-Bromofluorobenzene | 106 | 70-130 | | %Rec | 1 | 11/28/2020 7:30:56 PM | 56661 |
| Surr: Dibromofluoromethane | 113 | 70-130 | | %Rec | 1 | 11/28/2020 7:30:56 PM | 56661 |
| Surr: Toluene-d8 | 96.9 | 70-130 | | %Rec | 1 | 11/28/2020 7:30:56 PM | 56661 |

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

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

Analytical Report

Lab Order 2011C41

Date Reported: 12/2/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy

Client Sample ID: SP1-3

Project: SJ 28 4 18

Collection Date: 11/24/2020 12:00:00 PM

Lab ID: 2011C41-003

Matrix: SOIL

Received Date: 11/25/2020 8:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--------------------------------------------------|--------|----------|------|-------|----|------------------------|---------------------|
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: VP |
| Chloride | ND | 60 | | mg/Kg | 20 | 11/29/2020 1:01:26 AM | 56679 |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | | Analyst: DJF |
| Gasoline Range Organics (GRO) | 5.3 | 4.7 | | mg/Kg | 1 | 11/28/2020 7:58:12 PM | 56661 |
| Surr: BFB | 103 | 70-130 | | %Rec | 1 | 11/28/2020 7:58:12 PM | 56661 |
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | 16 | 9.6 | | mg/Kg | 1 | 11/28/2020 12:15:43 PM | 56662 |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 11/28/2020 12:15:43 PM | 56662 |
| Surr: DNOP | 138 | 30.4-154 | | %Rec | 1 | 11/28/2020 12:15:43 PM | 56662 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: DJF |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 11/28/2020 7:58:12 PM | 56661 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 11/28/2020 7:58:12 PM | 56661 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 11/28/2020 7:58:12 PM | 56661 |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 11/28/2020 7:58:12 PM | 56661 |
| Surr: 1,2-Dichloroethane-d4 | 98.9 | 70-130 | | %Rec | 1 | 11/28/2020 7:58:12 PM | 56661 |
| Surr: 4-Bromofluorobenzene | 105 | 70-130 | | %Rec | 1 | 11/28/2020 7:58:12 PM | 56661 |
| Surr: Dibromofluoromethane | 111 | 70-130 | | %Rec | 1 | 11/28/2020 7:58:12 PM | 56661 |
| Surr: Toluene-d8 | 96.1 | 70-130 | | %Rec | 1 | 11/28/2020 7:58:12 PM | 56661 |

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

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

Analytical Report

Lab Order 2011C41

Date Reported: 12/2/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy

Client Sample ID: SP2-1

Project: SJ 28 4 18

Collection Date: 11/24/2020 12:01:00 PM

Lab ID: 2011C41-004

Matrix: SOIL

Received Date: 11/25/2020 8:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--------------------------------------------------|--------|----------|------|-------|----|------------------------|---------------------|
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: VP |
| Chloride | ND | 60 | | mg/Kg | 20 | 11/29/2020 1:13:50 AM | 56679 |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | | Analyst: DJF |
| Gasoline Range Organics (GRO) | 7.7 | 4.9 | | mg/Kg | 1 | 11/28/2020 8:25:25 PM | 56661 |
| Surr: BFB | 102 | 70-130 | | %Rec | 1 | 11/28/2020 8:25:25 PM | 56661 |
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | ND | 9.8 | | mg/Kg | 1 | 11/28/2020 12:25:17 PM | 56662 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 11/28/2020 12:25:17 PM | 56662 |
| Surr: DNOP | 102 | 30.4-154 | | %Rec | 1 | 11/28/2020 12:25:17 PM | 56662 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: DJF |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 11/28/2020 8:25:25 PM | 56661 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 11/28/2020 8:25:25 PM | 56661 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 11/28/2020 8:25:25 PM | 56661 |
| Xylenes, Total | ND | 0.099 | | mg/Kg | 1 | 11/28/2020 8:25:25 PM | 56661 |
| Surr: 1,2-Dichloroethane-d4 | 96.2 | 70-130 | | %Rec | 1 | 11/28/2020 8:25:25 PM | 56661 |
| Surr: 4-Bromofluorobenzene | 106 | 70-130 | | %Rec | 1 | 11/28/2020 8:25:25 PM | 56661 |
| Surr: Dibromofluoromethane | 110 | 70-130 | | %Rec | 1 | 11/28/2020 8:25:25 PM | 56661 |
| Surr: Toluene-d8 | 97.5 | 70-130 | | %Rec | 1 | 11/28/2020 8:25:25 PM | 56661 |

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

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

Analytical Report

Lab Order 2011C41

Date Reported: 12/2/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy

Client Sample ID: SP2-2

Project: SJ 28 4 18

Collection Date: 11/24/2020 12:05:00 PM

Lab ID: 2011C41-005

Matrix: SOIL

Received Date: 11/25/2020 8:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--------------------------------------------------|--------|----------|------|-------|----|------------------------|---------------------|
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: VP |
| Chloride | ND | 60 | | mg/Kg | 20 | 11/29/2020 1:26:15 AM | 56679 |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | | Analyst: DJF |
| Gasoline Range Organics (GRO) | 6.2 | 5.0 | | mg/Kg | 1 | 11/28/2020 8:52:37 PM | 56661 |
| Surr: BFB | 103 | 70-130 | | %Rec | 1 | 11/28/2020 8:52:37 PM | 56661 |
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | 13 | 9.7 | | mg/Kg | 1 | 11/28/2020 12:34:53 PM | 56662 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 11/28/2020 12:34:53 PM | 56662 |
| Surr: DNOP | 105 | 30.4-154 | | %Rec | 1 | 11/28/2020 12:34:53 PM | 56662 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: DJF |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 11/28/2020 8:52:37 PM | 56661 |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 11/28/2020 8:52:37 PM | 56661 |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 11/28/2020 8:52:37 PM | 56661 |
| Xylenes, Total | ND | 0.099 | | mg/Kg | 1 | 11/28/2020 8:52:37 PM | 56661 |
| Surr: 1,2-Dichloroethane-d4 | 103 | 70-130 | | %Rec | 1 | 11/28/2020 8:52:37 PM | 56661 |
| Surr: 4-Bromofluorobenzene | 106 | 70-130 | | %Rec | 1 | 11/28/2020 8:52:37 PM | 56661 |
| Surr: Dibromofluoromethane | 116 | 70-130 | | %Rec | 1 | 11/28/2020 8:52:37 PM | 56661 |
| Surr: Toluene-d8 | 94.4 | 70-130 | | %Rec | 1 | 11/28/2020 8:52:37 PM | 56661 |

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2011C41

02-Dec-20

Client: Hilcorp Energy

Project: SJ 28 4 18

| Sample ID: MB-56679 | SampType: MBLK | TestCode: EPA Method 300.0: Anions | | | | | | | | |
|------------------------------|----------------------------------|-------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 56679 | RunNo: 73657 | | | | | | | | |
| Prep Date: 11/28/2020 | Analysis Date: 11/28/2020 | SeqNo: 2596167 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | ND | 1.5 | | | | | | | | |

| Sample ID: LCS-56679 | SampType: LCS | TestCode: EPA Method 300.0: Anions | | | | | | | | |
|------------------------------|----------------------------------|-------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 56679 | RunNo: 73657 | | | | | | | | |
| Prep Date: 11/28/2020 | Analysis Date: 11/28/2020 | SeqNo: 2596168 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 14 | 1.5 | 15.00 | 0 | 90.7 | 90 | 110 | | | |

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2011C41

02-Dec-20

Client: Hilcorp Energy

Project: SJ 28 4 18

| Sample ID: LCS-56662 | SampType: LCS | | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | |
|------------------------------|----------------------------------|-----|------------------------------------------------------------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 56662 | | RunNo: 73643 | | | | | | | |
| Prep Date: 11/25/2020 | Analysis Date: 11/28/2020 | | SeqNo: 2595549 | | Units: mg/Kg | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 48 | 10 | 50.00 | 0 | 96.9 | 70 | 130 | | | |
| Surr: DNOP | 5.0 | | 5.000 | | 101 | 30.4 | 154 | | | |

| Sample ID: MB-56662 | SampType: MBLK | | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | |
|--------------------------------|----------------------------------|-----|------------------------------------------------------------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 56662 | | RunNo: 73643 | | | | | | | |
| Prep Date: 11/25/2020 | Analysis Date: 11/28/2020 | | SeqNo: 2595551 | | Units: mg/Kg | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 9.6 | | 10.00 | | 96.5 | 30.4 | 154 | | | |

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2011C41

02-Dec-20

Client: Hilcorp Energy

Project: SJ 28 4 18

| Sample ID: mb-56661 | SampType: MBLK | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|------------------------------|----------------------------------|---------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 56661 | RunNo: 73634 | | | | | | | | |
| Prep Date: 11/25/2020 | Analysis Date: 11/28/2020 | SeqNo: 2595086 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | ND | 0.025 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 0.47 | | 0.5000 | | 94.8 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.51 | | 0.5000 | | 102 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.54 | | 0.5000 | | 109 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.48 | | 0.5000 | | 96.7 | 70 | 130 | | | |

| Sample ID: lcs-56661 | SampType: LCS4 | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|------------------------------|----------------------------------|---------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: 56661 | RunNo: 73634 | | | | | | | | |
| Prep Date: 11/25/2020 | Analysis Date: 11/28/2020 | SeqNo: 2595087 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 1.0 | 0.025 | 1.000 | 0 | 105 | 80 | 120 | | | |
| Toluene | 1.0 | 0.050 | 1.000 | 0 | 101 | 80 | 120 | | | |
| Ethylbenzene | 0.99 | 0.050 | 1.000 | 0 | 98.9 | 80 | 120 | | | |
| Xylenes, Total | 3.0 | 0.10 | 3.000 | 0 | 99.4 | 80 | 120 | | | |
| Surr: 1,2-Dichloroethane-d4 | 0.47 | | 0.5000 | | 93.6 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.50 | | 0.5000 | | 101 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.53 | | 0.5000 | | 106 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.48 | | 0.5000 | | 96.2 | 70 | 130 | | | |

| Sample ID: mb-56668 | SampType: MBLK | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|------------------------------|----------------------------------|---------------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 56668 | RunNo: 73634 | | | | | | | | |
| Prep Date: 11/25/2020 | Analysis Date: 11/28/2020 | SeqNo: 2595110 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 1,2-Dichloroethane-d4 | 0.46 | | 0.5000 | | 92.7 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.49 | | 0.5000 | | 97.6 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.54 | | 0.5000 | | 108 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.46 | | 0.5000 | | 92.5 | 70 | 130 | | | |

| Sample ID: lcs-56668 | SampType: LCS4 | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|------------------------------|----------------------------------|---------------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: 56668 | RunNo: 73634 | | | | | | | | |
| Prep Date: 11/25/2020 | Analysis Date: 11/28/2020 | SeqNo: 2595111 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 1,2-Dichloroethane-d4 | 0.49 | | 0.5000 | | 98.5 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.51 | | 0.5000 | | 102 | 70 | 130 | | | |

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2011C41

02-Dec-20

Client: Hilcorp Energy

Project: SJ 28 4 18

| Sample ID: Ics-56668 | SampType: LCS4 | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|------------------------------|----------------------------------|---------------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: 56668 | RunNo: 73634 | | | | | | | | |
| Prep Date: 11/25/2020 | Analysis Date: 11/28/2020 | SeqNo: 2595111 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: Dibromofluoromethane | 0.55 | | 0.5000 | | 110 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.48 | | 0.5000 | | 95.3 | 70 | 130 | | | |

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2011C41

02-Dec-20

Client: Hilcorp Energy

Project: SJ 28 4 18

| Sample ID: mb-56661 | SampType: MBLK | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | | | |
|-------------------------------|----------------------------------|-------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 56661 | RunNo: 73634 | | | | | | | | |
| Prep Date: 11/25/2020 | Analysis Date: 11/28/2020 | SeqNo: 2595123 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 500 | | 500.0 | | 100 | 70 | 130 | | | |

| Sample ID: lcs-56661 | SampType: LCS | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | | | |
|-------------------------------|----------------------------------|-------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 56661 | RunNo: 73634 | | | | | | | | |
| Prep Date: 11/25/2020 | Analysis Date: 11/28/2020 | SeqNo: 2595124 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 21 | 5.0 | 25.00 | 0 | 85.6 | 70 | 130 | | | |
| Surr: BFB | 490 | | 500.0 | | 97.4 | 70 | 130 | | | |

| Sample ID: mb-56668 | SampType: MBLK | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | | | |
|------------------------------|----------------------------------|-------------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 56668 | RunNo: 73634 | | | | | | | | |
| Prep Date: 11/25/2020 | Analysis Date: 11/28/2020 | SeqNo: 2595147 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | 480 | | 500.0 | | 96.5 | 70 | 130 | | | |

| Sample ID: lcs-56668 | SampType: LCS | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | | | |
|------------------------------|----------------------------------|-------------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 56668 | RunNo: 73634 | | | | | | | | |
| Prep Date: 11/25/2020 | Analysis Date: 11/28/2020 | SeqNo: 2595148 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | 490 | | 500.0 | | 98.6 | 70 | 130 | | | |

Qualifiers:

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



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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2011C41 RcptNo: 1

Received By: Sean Livingston 11/25/2020 8:00:00 AM

Completed By: Desiree Dominguez 11/25/2020 8:29:39 AM

Reviewed By: SGL 11/25/20

Handwritten signatures: S. Livingston and DD

Chain of Custody

- 1. Is Chain of Custody complete? Yes [checked] No [] Not Present []
2. How was the sample delivered? Courier

Log In

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

of preserved bottles checked for pH: (<2 or >12 unless noted) Adjusted? Checked by: JRL 11/25/20

Special Handling (if applicable)

- 15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

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

16. Additional remarks:

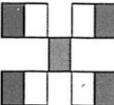
17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Row 1: 1, 2.5, Good, [], [], []

Chain-of-Custody Record

Client: Hilcorp Energy Co
Kinday Burns
 Mailing Address: 1111 Texas St
Houston TX 77002
 Phone #: 832-839-4585
 email or Fax#: ldumas@hilcorp.com
 QA/QC Package: Standard Level 4 (Full Validation)
 Accreditation: Az Compliance Other
 NELAC Other
 EDD (Type)

Turn-Around Time: Standard Rush
 Project Name: SJ 28-4 #18
 Project #: AFF#: 2050499
 Project Manager: Stuart Hyde
Stuart.hyde@cwsp.com
 Sampler: Stuart Hyde
 On Ice: Yes No
 # of Coolers: 1
 Cooler Temp (including CF): 22+03=25 (°C)



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

Analysis Request

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

| Date | Time | Matrix | Sample Name | Container Type and # | Preservative Type | HEAL No. |
|-------|------|--------|-------------|----------------------|-------------------|-----------------|
| 11/24 | 1154 | Soil | SP1-1 | 1.4oz jar | - | 2011C41 -001 |
| | 1158 | | SP1-2 | | | -002 |
| | 1200 | | SP1-3 | | | -003 |
| | 1201 | | SP2-1 | | | -004 |
| | 1201 | | SP2-2 | | | -005 |

Date: 11/24/20 Time: 1530 Relinquished by: Stuart Hyde
 Received by: SEL Via: courier Date: 11/25/20 Time: 8:00
 Relinquished by: _____ Date: _____
 Received by: _____ Via: _____ Date: _____

Remarks:

District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II
 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 14775

CONDITIONS OF APPROVAL

| | | | | | | | | | |
|--------------|------------------------|--------------------|------------------|-----------|--------|----------------|-------|--------------|-------|
| Operator: | HILCORP ENERGY COMPANY | 1111 Travis Street | Houston, TX77002 | OGRID: | 372171 | Action Number: | 14775 | Action Type: | C-141 |
| OCD Reviewer | | | | Condition | | | | | |
| chensley | | | | Condition | None | | | | |