District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NCE2003757811
District RP	
Facility ID	
Application ID	

Release Notification

Site Characterization Accepted
Remediation plan needs addtional
Submital

Responsible Party

Responsible Party Hilcorp Energy Company	OGRID 372171
Contact Name Lindsay Dumas	Contact Telephone 832-839-4585
Contact email ldumas@hilcorp.com	Incident # *(assigned by OCD)* NRM2006560641
Contact mailing address 1111 Travis St., Houston, TX 77002	

Location of Release Source

Latitude 36.61179 Longitude -107.29706
(NAD 83 in decimal degrees to 5 decimal places)

Site Name San Juan 28-4 Unit 18	Site Type Gas Well
Date Release Discovered 1/11/2020	API# *(if applicable)* 30-039-07225

Unit Letter	Section	Township	Range	County
M	31	28N	04W	Rio Arriba

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:*)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 12 bbls	Volume Recovered (bbls) 2 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls) 72 bbls	Volume Recovered 8 bbls
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
The release was the results of a pipe freezing near the production tank, which allowed some of the contents of the tank to run out on to the frozen ground inside the bermed are

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Per 19.15.29.7 (A)(a) an unauthorized release of a volume, excluding gas, of >25 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, by Clayton Hamilton (HEC Area 13 Foreman); to Cory Smith (NMOCD), Vanessa Fields (NMOCD), Whitney Thomas (BLM), Emmanuel Adeloya (BLM) and J.J. Miller (USFS) by email on 1/11/19 at 2:56pm MST. Email is attached.	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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.

Printed Name: Lindsay Dumas Title: Environmental Specialist

Signature: Lindsay Dumas Digitally signed by Lindsay Dumas DN: cn=Lindsay Dumas, ou=Users Date: 2020.05.11 09:37:13 -05'00' Date: 4/23/2020

email: ldumas@hilcorp.com Telephone: 8328394585

OCD Only

Received by: Date:

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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.

Printed Name: _____Lindsay Dumas_____ Title: _____Environmental Specialist_____

Signature: Lindsay Dumas Digitally signed by Lindsay Dumas DN: cn=Lindsay Dumas, ou=Users Date: 2020.05.11 09:37:35 -05'00' Date: __4/23/2020____

email: _____ldumas@hilcorp.com_____ Telephone: ____8328394585_____

OCD Only

Received by: OCD Date: 8/17/2020

Site Characterization accecpted, Operator did not fill out Remediation portion of Form C-141 no Certification from Operator on remediation plan no place for OCD to approve.

REMEDIATION WORK PLAN

SJ 28-4 UNIT #18
NCE2003757811
RIO ARRIBA COUNTY, NEW MEXICO

April 27, 2020

Prepared for:

MS. LINDSAY DUMAS
HILCORP LOWER 48
1111 Travis St.
Houston, Texas 77002

Prepared by:

LT ENVIRONMENTAL, INC.
848 East Second Avenue
Durango, Colorado 81301
970.385.1096

LT Environmental, Inc.
Advancing Opportunity

LT Environmental, Inc.
848 East Second Avenue
Durango, Colorado 81301
970.385.1096

April 27, 2020

Mr. Cory Smith
Environmental Specialist
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Remediation Work Plan
Hilcorp Energy Company
SJ 28-4 Unit #18 – NCE2003757811
Rio Arriba County, New Mexico

Dear Mr. Smith:

LT Environmental, on the behalf of Hilcorp Energy Corporation (Hilcorp), is pleased to present this Remediation Work Plan to address remediation of impacted soil at the SJ 28-4 Unit #18 natural gas production well (Site) located in unit letter M of Section 31, Township 28 North, Range 4 West, in Rio Arriba County, New Mexico (Figure 1). This Work Plan is being submitted to detail a plan for biopiling the recovered impacted soil. Once the closure standards are achieved, Hilcorp will backfill the original excavation with the remediated soil.

SITE CHARACTERIZATION

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 the 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 livestock grazing areas. 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 closest permitted water well to the Site is SP-04028, located approximately 9,373 feet northeast of the Site, but it does not have any recorded water data published. The nearest water well with recorded data is the Harrington Well No. 1 (SJ-00046). (Figure 2). Depth to water is

reported at 260 feet 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 that 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 likely greater than 100 feet bs 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. 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.

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

On January 11, 2020 Hilcorp Energy Company (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 C141 on January 15, 2020. Hilcorp submitted a revised C-141 was submitted on January 31, 2020 and the release was assigned incident number NCE2003757811.

On January 17, 2020 Hilcorp began the excavation of impacted soil. Hilcorp's excavation is approximately 55 feet by 65 feet and ranges in depth from 2 feet below ground surface (bgs) in the shallow portions to 8 feet bgs in the deeper portions (Figure 3). Hilcorp ultimately removed approximately 450 cubic yards (yd^3) of impacted soil and stockpiled the material onsite.

Hilcorp conducted confirmation soil sampling of the excavation on January 27, 2020 and March 9, 2020. A total of seven confirmation soil samples were collected as shown on Figure 3. Both sampling events were witnessed and soil sampling locations were approved by the NMOCD.
Hilcorp collected soil samples from the northern side of the excavation on January 27, 2020, and results indicated the soil was below the NMOCD closure criteria. 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 Attachment 1.

PROPOSED BIOPILING

The excavated soil remains stockpiled at the Site. As an alternative to trucking to a landfarm more than 50 miles away, Hilcorp proposes to remediate the soils on site through biopiling. LTE has detailed the proposed biopiling design, monitoring, and closure methods below and provided a schedule for NMOCD review and approval.

Hilcorp proposes to create a remediation area at the Site. The surface owner is the United States Forest Service (USFS), which has approved surface use for remediation in the area presented on Figure 4 and as proposed in this remediation work plan. Hilcorp proposes placing biopiles in a bermed remediation area that is approximately 19,600 square feet (Figure 4). The soil will be spread into windrows that are approximately 90 feet in length, 3 feet in width, and 2 feet in height spaced approximately 3 feet apart. Hilcorp will attempt to make the windrows as small as possible given the available space. LTE anticipates creating 23 biopiles of this size that will be placed in a bermed area that is approximately 140 feet long by 140 feet wide (Figure 4). Hilcorp will construct a berm surrounding the entire area that will be approximately 3 feet high in order to prevent the unwanted discharge of soil from run-off events. Because treatment will include tilling, which could destroy a liner, no liner is proposed. Due to the lithology at the Site consisting of silty sand and fine-grained material restricting migration and anticipated depth to groundwater of greater than 100 feet bgs, LTE does not believe residual impact in the treated soil poses a threat to subsurface receptors.

Prior to creating the windrows for biopiling, Hilcorp will add 150 pounds (lbs) of 20-10-5 fertilizer to the impacted soil and mix thoroughly. The 20-10-5 fertilizer consists of 20 percent (%) nitrogen, 10% available phosphate, and 5% soluble potash and is used to boost microbial growth in soils. By increasing microbial activity, the microbial consumption of hydrocarbons is increased. Application rates are based on nitrogen being the most important constituent to promote biological activity within the soil, which requires 3 pounds to 4 pounds of nitrogen per 1,000 ft^3 of soil. Optimal concentrations of nitrogen will be monitored and are designed to be between 50 mg/kg and 200 mg/kg. Concentrations above 500 mg/kg inhibit microbial growth and will be avoided. In order to establish a baseline, Hilcorp will sample background concentrations of nitrogen prior to the addition of fertilizer.

Once the biopiles are constructed, Hilcorp will turn, or aerate, the soil weekly to allow for remediation. Each weekly event will include tilling and soil monitoring to ensure remediation is progressing as designed. Soil sampling will be conducted to evaluate degradation of the hydrocarbon constituents and to ensure optimal conditions for bioremediation once a month. Subsequent addition of fertilizer or other amendments is described below and is conditional

based upon soil sample analytical results determined during sample collection to monitor remediation progress.

MONITORING

During each weekly tilling event, Hilcorp will make observations to ensure soil conditions are conducive to volatilization and microbial degradation and inspect the biopiles and berms for potential damage. Observations and inspection results will be recorded on the attached inspection form and available for review at any time. All inspections forms will be included in any reports submitted to NMOCD.

Soil Sampling

Each month, Hilcorp will collect twenty-three 5-point composite samples at equal intervals and various depths from each individual windrow. Hilcorp will avoid collecting sample aliquots from the surface and near surface sections of the piles. The soil headspace from these composite soil samples will be field screened using a photo-ionization detector (PID) to monitor for the presence of volatile organic vapors. The procedure for field screening soil for volatile organic vapors includes:

Calibrate the instrument and record calibration information in the field notes. The following Ambient Temperature Headspace Analysis (ATHA) field screening method will be utilized for the selection of subsurface soil samples; however, state and/or project specific requirements may be used in lieu of the following procedure:

1. When collecting samples where splits may be destined for laboratory analysis, collect laboratory supplied sample jars prior to collecting field screening samples to minimize the potential for loss of volatile organic compounds (VOC's).

2. Place a consistent amount of soil into a sealable plastic bag and seal tightly or place the soil into a pre-cleaned glass jar, covering the top of the jar with aluminum foil. Label the outside of the bag or the jar with the sample name, depth, time, and date.

3. Allow the soil to equilibrate at approximately 70 degrees (º) Fahrenheit for approximately 10 minutes.

4. Place the container on a clean work surface upwind of other volatile organic sources.

5. Insert the tip of a PID probe into the corner of the bag or through the foil jar cover to measure the meter reading of the headspace within the container. Allow the meter to equilibrate and then record the maximum measured concentration on the inspection form.

Monitoring samples will be split and submitted for laboratory analysis monthly. Laboratory analysis will include benzene, toluene, ethylbenzene, and total xylenes (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, pH by Standard Method (SM) 4500 H+B, moisture content by American Standard Test Method (ASTM) D2216-92, Sodium Absorption Ratio (SAR), and nitrogen by SM 4500 NH3. TPH and BTEX results will indicate how much hydrocarbon impact remains in the soil and at what concentration for the different constituents. The nitrogen, pH, and SAR data will indicate if the soil is suitable to allow biologic activity to continue to breakdown hydrocarbons.

When laboratory analytical results indicate that a biopile is below the Closure Criteria for TPH and BTEX, no more aeration or amendment application will occur on that biopile and the result will constitute the closure sample for that biopile.

Moisture Content

In order to maintain optimum microbial hydrocarbon degradation conditions, soil moisture needs to remain between 10% and 20%. Hilcorp will use a soil moisture meter to record moisture content of soil within the stockpiles monthly. Moisture content will be measured from randomly selected places within each stockpile. If moisture content results from an individual biopile indicate values less than 10%, Hilcorp will water the stockpile until moisture contents are above 10% and record the amount of water applied. Hilcorp will take special care not to over-water the soil and prevent the pooling of any liquids within the remediation area.

Temperature

Optimum treatment temperatures for bioremediation range between 65 degrees Fahrenheit (°F) and 85°F. Temperatures should not exceed 135°F. Hilcorp will use an infrared thermometer to measure soil temperatures of each soil piles during the monthly monitoring events. Hilcorp will take the average of 5 temperature readings from the interior of each biopile to evaluate treatment temperatures.

Visual Inspections

Hilcorp will inspect the treatment area for damage to the berm, pooling of liquids, appropriate stabilization of the windrows, evidence of disturbance from stormwater, and the general weather conditions.

Documentation

Inspections must occur prior to mixing or water application. Hilcorp will complete a Weekly Inspection Form that will document field observations and activities including:

- Inspection date;
- Name of inspector;
- Weather;
- Field screening results (PID, temperatures, and moisture content results);
- Calibration records of PID and moisture content %;
- Samples collected for laboratory analysis;
- Time spent mixing soil;
- General site conditions;
- Any breeches of containment documented and repaired;
- Amount of water applied (if any);
- Amendments applied, type, quantity, and locations; and
- Any areas within the remediation areas that have evidence of pooling liquids and actions taken to prevent similar pooling in the future.

All data will be tabulated and monitored for remediation progress. If appropriate progress is not observed, additional actions will be taken as described in the Contingencies section below. The Monthly Inspection Form is included as Attachment 2.

Backfilling

After soil sample results indicate soil has been remediated according to NMOCD Closure Criteria, Hilcorp will submit a report to the NMOCD documenting remediation progress and satisfactory sampling results with a request to backfill the excavation with soil from the biopiles. Once backfilling is approved, Hilcorp will backfill the excavation and conduct vadose zone sampling within the remediation area.

Vadose Zone Sampling

After backfilling the treated soil, Hilcorp will collect 5-point composite soil samples from vadose zone soils beneath the area that biopiles were placed (Figure 5). Hilcorp will also collect additional vadose zone soil samples from areas where water may have collected during rain or watering events. Soil samples be collected from 6 inches below the native soil surface. The locations of the additional vadose zone samples (if any) to be taken beneath areas of where water may have pooled will be determined by the GPS coordinates taken by Hilcorp during the weekly inspections. Vadose zone soil samples will be submitted for laboratory analysis of BTEX by EPA Method 8021, TPH- GRO, TPH- DRO, and TPH- MRO by EPA Method 8015.

If vadose zone samples indicate an exceedance of the Closure Criteria, Hilcorp will remove the top 3 inches of soil beneath where the soil samples were collected. Once the near surface soil is removed, Hilcorp will resample the vadose zone in that area. Hilcorp will continue to remove soil in 3-inch lifts of soil in these areas until the vadose zone sample are compliant with the Closure Criteria. Impacted soil from these areas will all be biopiled as described above.

Reclamation

The total acreage of bare mineral soil expected to result from construction activities is expected to be between 0.1 and 1.0 acre total, and revegetation will follow the Bureau of Land Management – Farmington Field Office BLM-FFO's) *Vegetation Reclamation Procedure A*. Areas of bare mineral soil are expected to be small and localized in nature, and spot seeding will be done by broadcasting by hand in disturbed areas utilizing a BLM-FFO approved seed mix. The seeds will be covered using the most appropriate method as determined by site conditions at the time of seeding, which may include: spreading and crimping straw over the seeded area, raking the area by hand, dragging a chain or chain-linked fence over the seeded area, or applying tackifier/mulch products designed for reclamation purposes. The proposed remediation area will be seeded within 90 days of approval of the closure request, if weather conditions are favorable. If the area is unable to be seeded within this timeframe the BLM-FFO will be consulted to establish an approved time frame for seeding. Hilcorp will provide documentation to the BLM-FFO that the vegetation percent cover standards for the Pinyon-Juniper/sagebrush vegetation community have been attained before the BLM-FFO will issue a final abandonment notice or a relinquishment.

CONTIGENCIES

Hilcorp proposes the following contingencies for lack of remediation progress or unexpected deviations from this Work Plan.

- If moisture content results from an individual biopile indicate values less than 10%, Hilcorp will water the stockpile.
- If temperature or pH values fall out of range of ideal conditions for bioremediation, Hilcorp will propose additional measures to bring improve the conditions based on results and season/weather.
- If soil samples indicate nitrogen concentrations less than 50 mg/kg, more fertilizer will be added to the soil to promote microbial growth and remediation.
- If soil field screening results indicate increasing or stable concentrations of VOCs for three consecutive weeks, MicroBlaze will be applied to individual stockpiles demonstrating this increase. MicroBlaze will be applied at a rate of 0.1 gallons of MicroBlaze and 1 gallon of water (10%) to every cubic yard of soil.
- If concentration of TPH and BTEX do not decrease by at least 25% within the first 30 days of monitoring, an additional dose of MicroBlaze will be added to the biopiles that have not shown a 25% decrease in TPH and BTEX concentrations.
- If TPH and BTEX concentrations do not decrease by 50% within the first 60 days of monitoring, an additional dose of MicroBlaze will be added to the biopiles have not shown a 25% decrease in TPH and BTEX concentrations.

- If remediation requires more 75 days, Hilcorp will submit a revised remediation work plan to address remaining impacts.

Reporting

Hilcorp will submit either quarterly reports or a closure request to the NMOCD (based on the soil analytical results) detailing the following from each quarter:

- Field activities;
- Field screening results;
- Laboratory analytical results;
- Additional amendment application (if necessary);
- Any significant weather events and a general summary of the weather during the reporting period;
- Completed inspection forms; and
- Any recommendations.

Hilcorp will submit the quarterly report or a closure request by the last day of the quarter. The first report will be submitted at the end of the quarter when biopiling commences. If remediation has occurred within a single quarter, no quarterly report will be submitted but a request to backfill and closure request will be submitted to the NMOCD.

Timeline

Hilcorp proposes to begin excavating soil and immediate biopiling within two weeks of approval of this Revised Remediation Work Plan. Hilcorp believes remediation will require 75 days to complete, and all remediation and reclamation activities will conclude no later than November 1, 2020. Once soil is remediated and no exceedances are detected in the vadose zone samples, Hilcorp will backfill the excavation with the remediated soil. Hilcorp will submit a closure request to the NMOCD with 60 days of receiving the final laboratory results.

LTE appreciates the opportunity to provide this report to the NMOCD. If you have any questions or comments regarding this Work Plan, do not hesitate to contact Devin Hencmann at (970)-385-1096 or dhencmann@ltenv.com Lindsay Dumas at (281)-794-9159 or at ldumas@hilcorp.com.

A proud member of WSP

Sincerely,

LT ENVIRONMENTAL, INC.

Josh Adams, G.I.T.
Staff Geologist

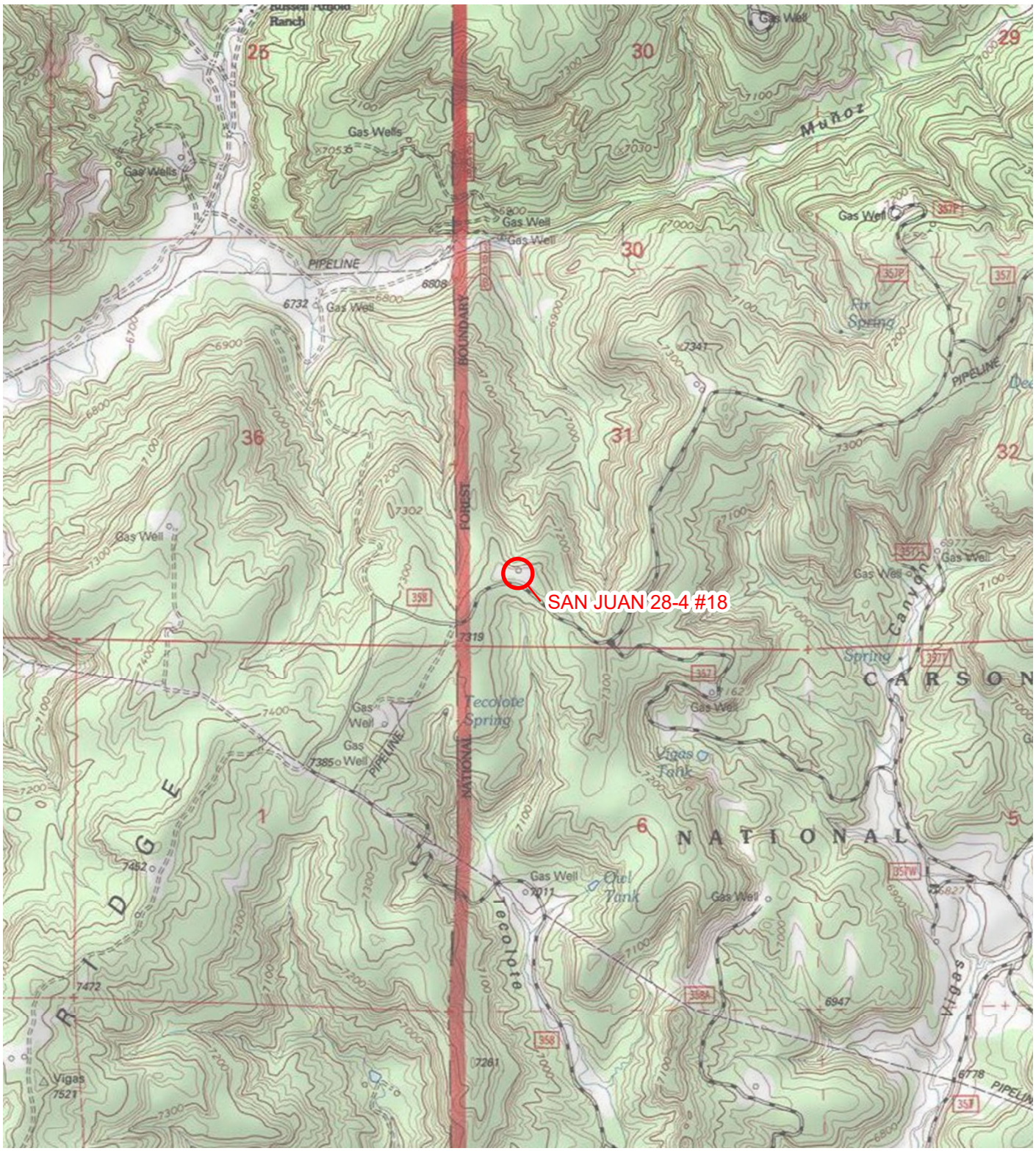
Devin Hencmann
Project Geologist

cc: Lindsay Dumas, Hilcorp Energy

Attachments:

Figure 1: Site Location Map
Figure 2: Receptor Map
Figure 3: Excavation Soil Samples
Figure 4: Biopile Specification Map
Figure 5: Proposed Vadose Zone Sample Locations
Attachment 1: Laboratory Analytical Results
Attachment 2: Weekly Inspection Form
Attachment 3: Photographic log

FIGURES



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

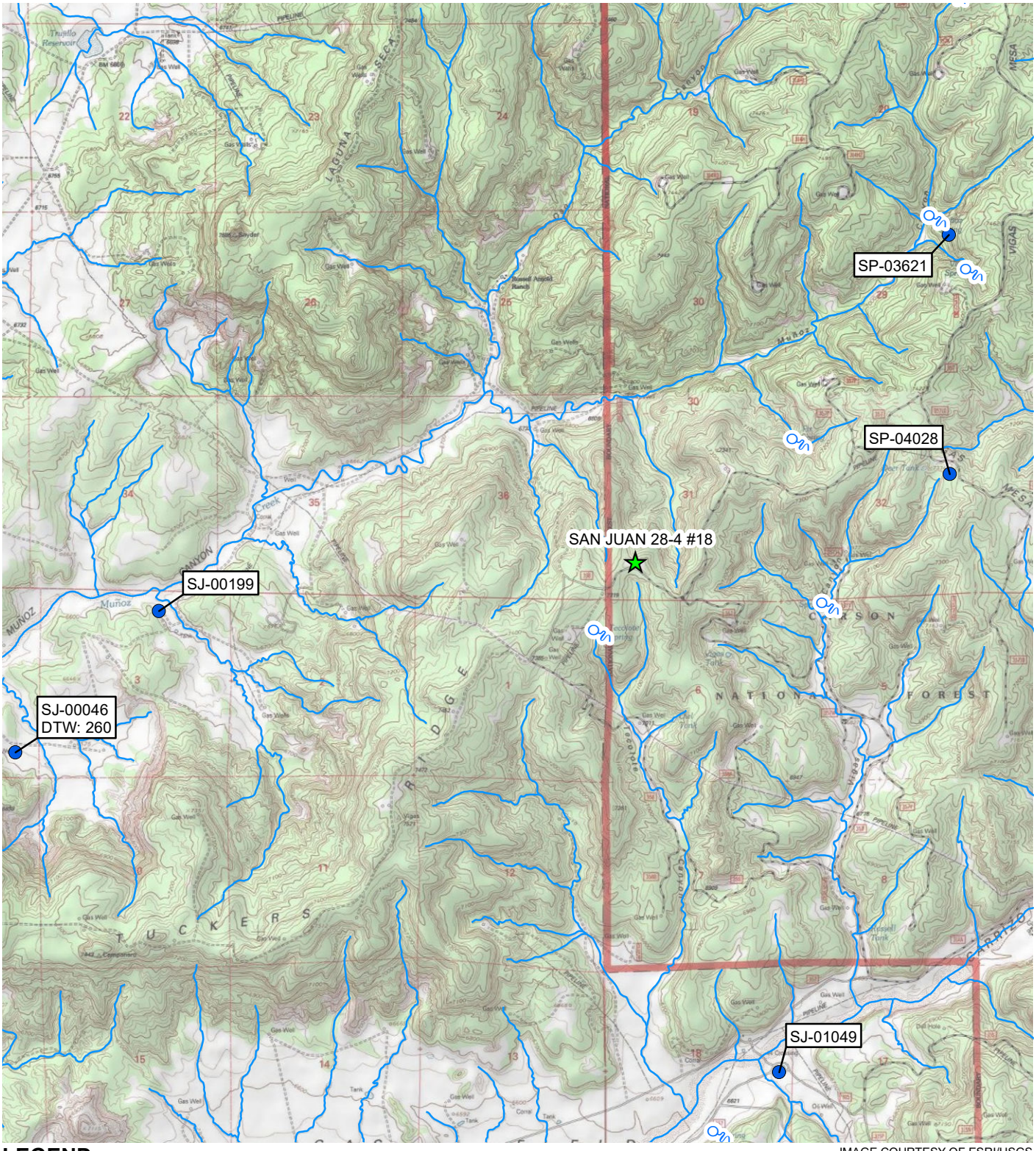
Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
SAN JUAN 28-4 #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_FIG01_SL_2020.mxd



LEGEND

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

IMAGE COURTESY OF ESRI/USGS

0 4,000 8,000
Feet

N

FIGURE 2
RECEPTOR MAP
SAN JUAN 28-4 #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_FIG02_RECEPTOR_MAP.mxd

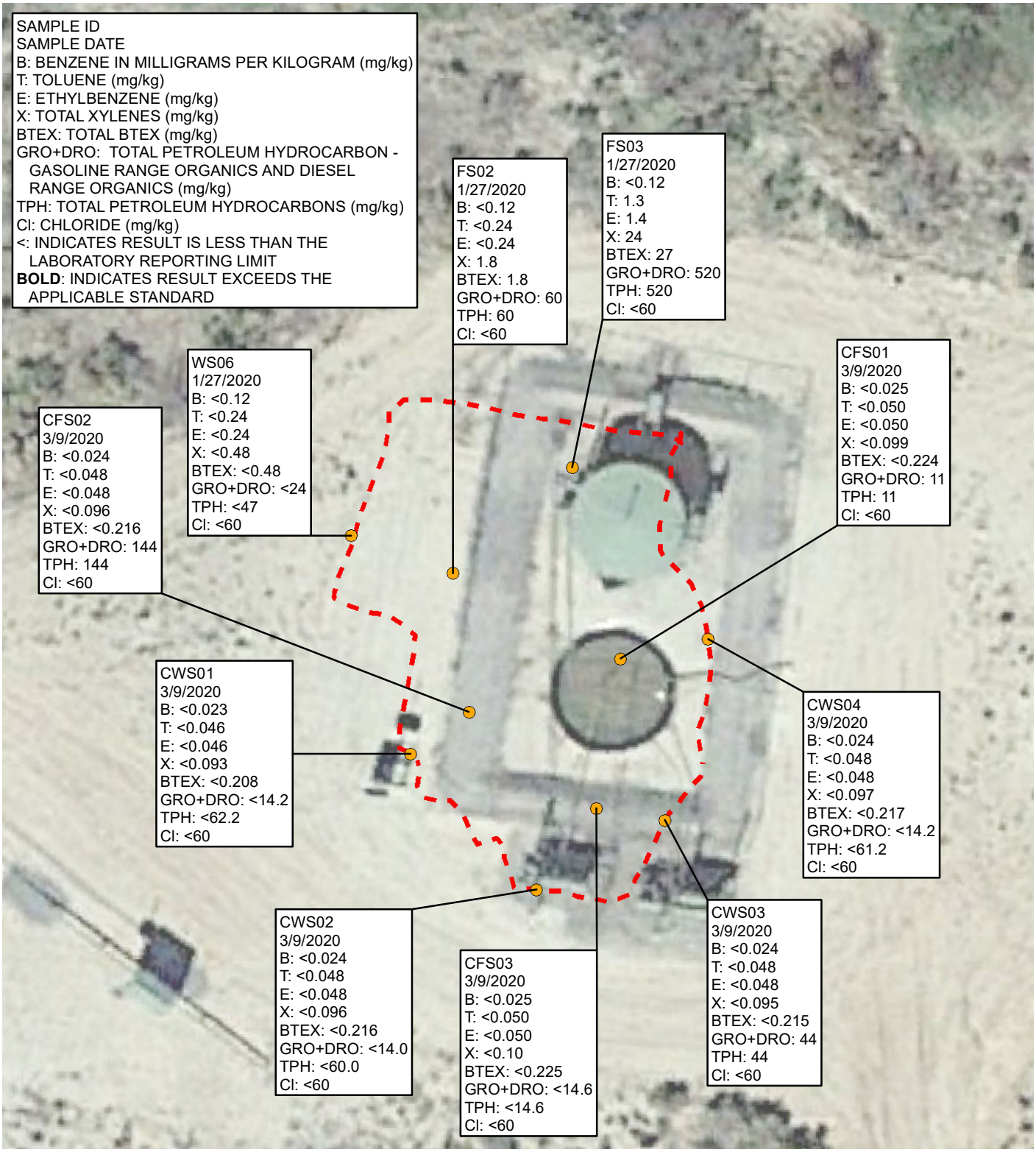


FIGURE 3
EXCAVATION SOIL SAMPLES
SAN JUAN 28-4 #18
LOT 4 SEC 31-T28N-R4W
RIO ARRIBA COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

P:\Hilcorp\GIS\MXD\017820010_SAN JUAN 28-4 #18\017820010_FIG03_EXC_SOIL_SAMPLES_2020_Q2.mxd

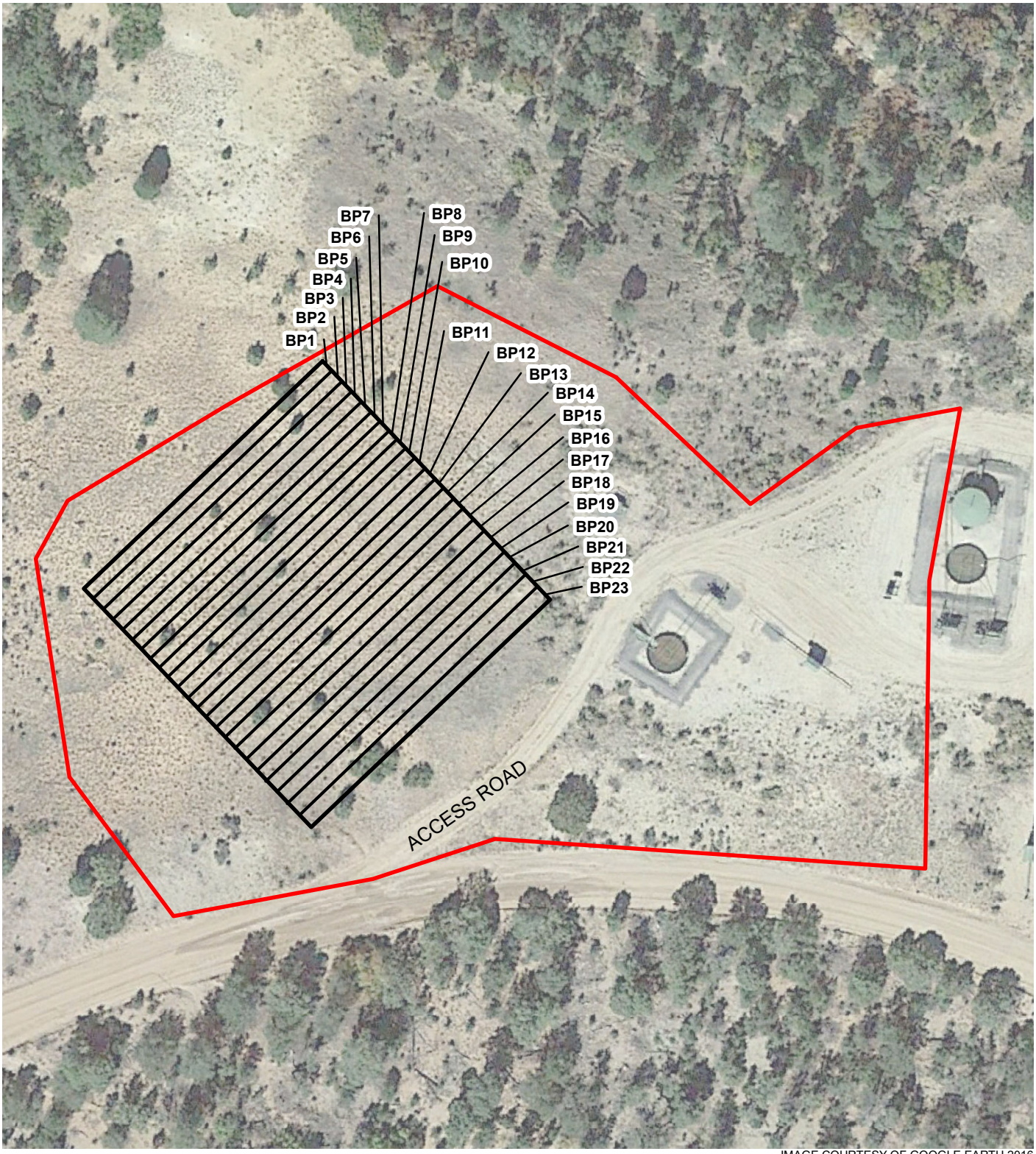


IMAGE COURTESY OF GOOGLE EARTH 2016

LEGEND

BERM (140' X 140')

AUTHORIZED DISTURBANCE AREA (73,387.38 SQ. FT)

BIOPILE DIMENSIONS
140' X 6' X 2'

0 60 120
Feet

N

FIGURE 4
BIOPILE SPECIFICATION MAP
SAN JUAN 28-4 #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_FIG03_BIOPILE SPECIFICATION_2020_ZOOM_0328.mxd

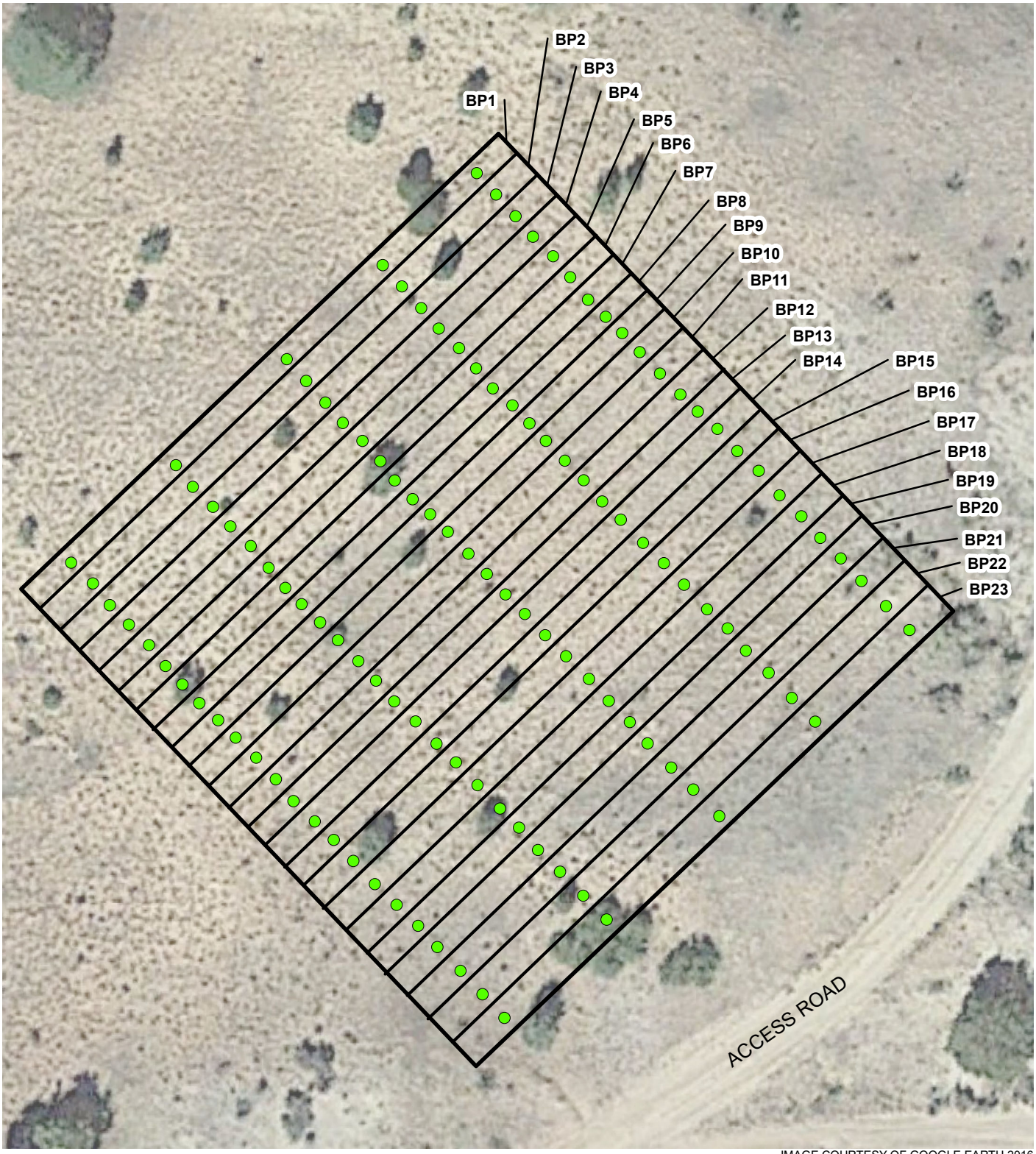


IMAGE COURTESY OF GOOGLE EARTH 2016

LEGEND

PROPOSED ALIQUOT VADOSE ZONE SAMPLE (5-POINT COMPOSITE SAMPLES WILL BE COLLECTED FROM BENEATH EACH BIOPILE)

BERM (140' X 140')

BIOPILE DIMENSIONS
140' X 6' X 2'

0 30 60
Feet

N

FIGURE 5
PROPOSED VADOSE ZONE SAMPLE LOCATIONS
SAN JUAN 28-4 #18
LOT 4 SEC 31-T28N-R4W
RIO ARRIBA COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

SAN JUAN 28-4 #18
RIO ARRIBA COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Sample Name	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
FS01	1/27/2020	0.38	21	8.9	120	**150**	1,200	330	<47	**1,530**	1,530	<60
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	27	350	170	<47	520	520	<60
FS04	2/13/2020	<0.024	<0.048	<0.048	<0.048	<0.048	17	43	<49	60	60	NS
WS01	1/27/2020	0.18	11	5.0	91	**107**	990	320	<48	**1,310**	1,310	<60
WS02	1/27/2020	<0.12	2.6	3.0	52	**58**	590	560	<49	**1,150**	1,150	<60
WS03	1/27/2020	0.90	97	37	510	**645**	4,900	1,000	<460	**5,900**	**5,900**	<60
WS04	1/27/2020	2.7	86	24	350	**463**	3,500	570	<500	**4,070**	**4,070**	220
WS05	1/27/2020	1.4	36	9.4	190	**237**	2,300	290	<46	**2,590**	**2,590**	<60
WS06	1/27/2020	<0.12	<0.24	<0.24	<0.48	<0.48	<24	<9.4	<47	<24	<47	<60
WS07	1/27/2020	<0.12	<0.24	<0.24	<0.47	<0.47	<24	<9.5	<47	<24	<47	<60
WS08	2/4/2020	0.32	9.7	5.3	100	**115**	1,100	220	<49	**1,320**	1,320	NS
WS09	2/4/2020	0.032	0.78	0.68	13	14.5	200	140	<49	340	340	NS
WS10	2/13/2020	<0.024	<0.047	<0.047	<0.095	<0.095	8.2	10	<47	18.2	18.2	NS
WS11	2/13/2020	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	15	<49	15	15	NS
Spoil	2/4/2020	1.0	34	9.2	150	**194.2**	2,000	190	<49	**2,190**	2,190	NS
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**	**10,000**

Notes:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and t
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilogram
ORO - motor oil range organics
NMAC - New Mexico Administrative Code
NMOCD - New Mexico Oil Conservation Division
NE - not established
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018
TPH - total petroleum hydrocarbons
< - indicates result is below laboratory reporting limits
BOLD - indicates results exceed NMOCD Table Closure Criteria

ATTACHMENTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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,

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

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

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

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

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

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

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003411**

24-Mar-20

Client: HILCORP ENERGY

Project: SJ 28-4 #18

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

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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 ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DAD 3/11/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good				
2	2.9	Good				

Chain-of-Custody Record

Client: Hilcorp

Lindsay Dumas

Mailing Address:

Phone #: 281-794-9159

email or Fax#: ldumas@hilcorp.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: SJ 28-4 #18

Project #:

Project Manager: Eric Carroll

Sampler: Eric Carroll

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 1.4 +0.1 = 1.5 (°C) 2.8 +0.1 = 2.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2003411	(BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/9	1025	soil	CWS01	1 4oz	cool	-001	X	X					X			
	1030		CWS02			-002	X	X					X			
	1035		CWS03			-003	X	X					X			
	1040		CWS04			-004	X	X					X			
	1045		CFS01			-005	X	X					X			
	1050		CFS02			-006	X	X					X			
	1055		CFS03			-007	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
3/9/20	1330	Eric Carroll	Christian Walls		3/9/20	1330
3/9/20	1903	Christian Walls		Courier	3/10/20	0815

Remarks:

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

Attachment 1
Weekly Inspection Form

SJ 28-4 Unit #18
Rio Arriba County, New Mexico
Hilcorp Energy Company

Inspector Name: _____
Date: _____

Weather: _____

General Site Conditions:
_____
_____

Are there any breeches in the containment? Y_____ N_____
If so, were they repaired?
_____
_____

Time spent mixing soil: _____

Amount of water applied (if any): _____

Amendments applied (type, quantity, location):
_____
_____

Evidence of pooling liquids? Y _____ N _____
GPS coordinates of pooling liquids:
_____
_____

Weekly Inspection Form

SJ 28-4 Unit #18
Rio Arriba County, New Mexico
Hilcorp Energy Company

Inspector Name:
Date:

SAMPLE ID	PID (PPM)	SOIL MOISTURE (%)	Temp. (°F)	Sample Collected? (Y/N, date/time, analysis requested)
BP01				
BP02				
BP03				
BP04				
BP05				
BP06				
BP07				
BP08				
BP09				
BP10				
BP11				
BP12				
BP13				
BP14				
BP15				
BP16				
BP17				
BP18				
BP19				
BP20				
BP21				
BP22				
BP23				

ATTACHMENT 3: PHOTOGRAPHIC LOG

Photograph 1: South wall of excavation.

Photograph 2: North Wall of excavation.

ATTACHMENT 3: PHOTOGRAPHIC LOG

Photograph 3: East Wall of excavation.

Photograph 4: West Wall of excavation.