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	
District RP	
Facility ID	
Application ID	

Release Notification

Accepted for the record
01/26/2023

NV

Responsible Party

Responsible Party Hilcorp Energy Company	OGRID 372171
Contact Name Jennifer Deal	Contact Telephone 505-801-6517
Contact email jdeal@hilcorp.com	Incident #
Contact mailing address 382 Road 3100, Aztec NM 87410	

Location of Release Source

Latitude 36.7502785 Longitude -107.8779297

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Hare 15	Site Type Well
Date Release Discovered 7/15/2020 @ 3:15pm	API# *3004508646*

Unit Letter	Section	Township	Range	County
M	03	29N	10W	San Juan

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)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls) 115	Volume Recovered (bbls) 0 bbls
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
A release of 115 bbls of condensate was released due to vandalism from someone shooting up the tank. Operations had the remaining liquids in the tank pulled. Release remained on location and inside the berm. 0 bbls was recovered. OCD will be notified 48 hours prior to sampling.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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? Release amount was >25 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? OCD and BLM was provided notification by email on 7/16.2020 at 1pm by Jennifer Deal	

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: __Jennifer Deal_____ Title: _____Environmental Specialist_____

Signature: _____ Jennifer Deal _____ Date: 7/27/2020_____

email: ___jdeal@hilcorp.com_____ Telephone: ____505-801-6517_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NRM2020945060
District RP	
Facility ID	
Application ID	

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?	32 (ft bgs)
Did this release impact groundwater or surface water? groundwater	☒ 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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NRM2020945060
District RP	
Facility ID	
Application ID	

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: Mitch Killough Title: Environmental Specialist

Signature: Date: 10/15/2021

email: mkillough@hilcorp.com Telephone: 713-757-5247

OCD Only

Received by: Date:

October 15, 2021

District III
New Mexico Oil Conservation Division
1000 Rio Brazos
Aztec, New Mexico 87410

Subject: **Site Characterization Report and Remediation Work Plan**
Hare 15
Hilcorp Energy Company
San Juan County, New Mexico
NMOCD Incident Number: NRM2020945060

To Whom It May Concern:

WSP USA Inc. (WSP), on behalf of Hilcorp Energy Company (Hilcorp), has prepared this *Site Characterization Report and Remediation Work Plan* for the Hare 15 natural gas production well (Site). This document details Site investigation activities completed to date and proposed actions moving forward to address impacted soil and groundwater resulting from a release of natural gas condensate. The Site is located in Unit M, Section 3, Township 29 North, Range 10 West, in San Juan County, New Mexico (Figure 1).

On July 15, 2020, vandalism of an aboveground storage tank (AST) caused a failure and release of approximately 115 barrels (bbls) of natural gas condensate. The release occurred on the well pad and remained inside the secondary containment. Hilcorp removed the remaining liquids from inside of the AST. No released liquids were recovered during initial emergency response efforts. Hilcorp reported the release to the New Mexico Oil Conservation Division (NMOCD) by submitting a *Release Notification and Corrective Action Form C-141* (Form C-141) on July 27, 2020. The release was assigned Incident Number NRM2020945060.

SITE CHARACTERIZATION

The Site is located on Bureau of Land Management (BLM) surface approximately 6.4 miles northeast of Bloomfield, New Mexico, north of US Highway 64. As part of the site investigation, local geology/hydrogeology and nearby sensitive receptors were assessed in accordance with Title 19, Chapter 15, Part 29, Sections 11 and 12 (19.15.29.11 and 12) of the New Mexico Administrative Code (NMAC). This information is further discussed below.

GEOLOGY AND HYDROGEOLOGY

Based on United States Geological Survey (USGS) geologic mapping, the Site is located within the Tertiary Nacimiento Formation. In the report titled “Hydrogeology and Water Resources of San Juan Basin, New Mexico” (Stone, et. al., 1983), the Nacimiento Formation is characterized by interbedded black carbonaceous mudstones and white, coarse-grained sandstones. This formation ranges in thickness from 418 to 2,232 feet. The Nacimiento Formation overlies the Ojo Alamo sandstone (Stone et. al., 1983).

SITE RECEPTORS

Assessment of potential nearby receptors was conducted through desktop reviews of topographic maps, Federal Emergency Management Administration (FEMA) Geographic Information System (GIS) maps, USGS GIS maps, New Mexico Office of the State Engineer (NMOSE) database, and aerial photographs, as well as site-specific observations.

WSP USA
848 EAST 2ND AVENUE
DURANGO CO 81301

Tel.: 970-385-1096
wsp.com

As measured from in on-Site monitoring wells, depth to groundwater is approximately 27 to 40 feet below ground surface (bgs). The nearest domestic/stock water well is NMOSE permitted well SJ-00785-S, located approximately 0.59 miles north of the Site. The well has a recorded depth to water of approximately 20 feet bgs and a total depth of approximately 60 feet bgs.

No wellhead protection areas, springs, or domestic/stock wells are located within a ½ mile from the Site (Figure 1). The nearest significant watercourse to the Site is Slane Canyon, located approximately 660 feet to the east. The Site is greater than 200 feet from any lakebed, sinkhole, or playa lake, and greater than 300 feet from any wetland. The Site is not within a 100-year floodplain or overlying a subsurface mine and is not located within an area underlain by unstable geology (low potential karst designation area by the BLM). No occupied permanent residence or structures, including schools, hospitals, institutions, and/or churches, are located within 300 feet of the Site.

SITE CLOSURE CRITERIA

WSP has characterized the Site according to *Table 1, Closure Criteria for Soils Impacted by a Release* in 19.15.29.12 NMAC. Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-motor oil range organics (MRO): 100 mg/kg
- Chloride: 600 mg/kg

SITE INVESTIGATION ACTIVITIES AND RESULTS

To date, there have been four separate events to delineate subsurface impacts: August 17, 2020 to August 25, 2020; February 9, 2021 to February 11, 2021; May 17, 2021 to May 18, 2021 and September 10, 2021 to September 13, 2021. During each Site delineation attempt, WSP personnel advanced boreholes via hollow-stem auger to confirm the presence or absence of petroleum hydrocarbon impacts to soil and/or groundwater.

In total, 29 boreholes have been advanced at the Site (shown on Figure 2). Soil lithology was logged by a WSP geologist and described based on the Unified Soil Classification System (USCS) as specified in American Society for Testing and Materials (ASTM) D2488. Silty sand and sand were generally encountered to depths of 30 feet bgs. The silty sand/sand was generally underlain by silt/clay with some interbedded silty sand to the terminus of each borehole. Groundwater accumulated in several of the monitoring wells and phase-separated hydrocarbons (PSH) accumulated in seven of the monitoring wells.

SOIL ASSESSMENT

During drilling, soil was inspected for visual staining and the presence or absence of odor. The soil was characterized by visually inspecting the soil samples and field screening the soil headspace using a photoionization detector (PID) to monitor for the presence of organic vapors. Bore logs are attached as Enclosure A. In general, soil samples were collected from each borehole for laboratory analysis from the depth interval displaying the highest field PID measurement. One additional sample was collected from the terminus of each borehole for laboratory analysis. Additional soil samples were also collected from several boreholes for laboratory analysis to better define the vertical profile of impacts to soil.

Soil samples were collected directly into precleaned jars and submitted to Hall Environmental Analysis Laboratory (Hall) for analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021, TPH by EPA Method 8015, and chloride by EPA method 300.0. A summary of soil analytical results is presented in Table 1 and Figure 3, with laboratory analytical reports attached as Enclosure B.

Based on the analytical results, the following boreholes contained soil with concentrations of BTEX, benzene, TPH and/or chloride above NMOCD Table 1 Closure Criteria:

- BH01, BH03, BH04, BH07, BH08, BH09, BH10, BH11, BH13, BH14, BH15, BH16, BH20, BH21, BH26, BH28, and BH29

Concentrations of TPH exceeding NMOCD Table 1 Closure Criteria ranged from 119 mg/kg in BH28 to 14,860 mg/kg in BH03. Depth of TPH-impacted soil was generally observed to be between 15 feet bgs and 35 feet bgs, except in BH28, which contained impacted soil from ground surface and 5 feet bgs, but not at depth. The elevated TPH consisted of mostly GRO and DRO constituents.

Concentrations of BTEX above NMOCD Table 1 Closure Criteria were detected in seven different borehole locations (BH01, BH03, BH04, BH07, BH13, BH16, and BH26) ranging from 66.6 mg/kg in BH16 to 1,400 mg/kg in BH03. Depth of BTEX impacted soil generally occurred between 15 feet bgs and 30 feet bgs at the Site. Exceedances for total BTEX were primarily attributed to elevated total xylene concentrations with minor concentrations of benzene, toluene, and ethylbenzene detected.

Concentrations of chloride were low in most samples, ranging from below detection limits to 360 mg/kg. One soil sampled exceeded the NMOCD Table 1 Closure Criteria of 600 mg/kg (BH08 @ 25 feet to 30 feet bgs) with a concentration of 610 mg/kg.

GROUNDWATER ASSESSMENT

During the initial delineation event in August 2020, saturated soils indicative of groundwater were not observed during drilling. Because of this, groundwater monitoring wells were not installed at the Site; however, boreholes with petroleum hydrocarbon impacts were completed as potential soil-vapor extraction (SVE) wells, with the screened intervals placed at depths with the highest observed field screening measurements (using a PID). Additionally, nested SVE wells were installed into borehole BH04 (labeled MW04A and MW04B) to address both shallow and deep soil impacts. During subsequent site visits, groundwater and PSH were observed to have accumulated in several of the SVE wells. As such, groundwater monitoring wells were installed at the Site during the follow-up delineation events conducted in February, May, and September 2021 (Figure 4). Monitoring wells were constructed out of 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing and 2-inch Schedule 40 PVC 0.010-inch slotted screen. Wells were completed with 10-20 silica sand pack to three feet above the screened interval, then two feet of hydrated bentonite seal, and then grouted to ground surface. The wells are completed as unprotected stick-up monitoring wells.

Following well construction, monitoring wells were developed using a disposable bailer. Fluid-level measurements were collected using an oil/water interface probe. During well development, 10 well casing volumes of groundwater were removed from each monitoring well, or the well was purged until dry. Monitoring wells were allowed to recharge for at least 24 hours after development prior to the collection of groundwater samples. To accurately determine groundwater elevations, a self-leveling, rotating laser level surveying tool was used to obtain elevation of the top-of-casing for each well. These elevations, along with depth to groundwater in each well are used to determine groundwater elevations in feet above mean sea level.

To date, 27 monitoring wells have been installed at the Site (well identification numbers correspond to the borehole numbers assigned during drilling). Of these, 19 monitoring wells contained sufficient quantities of groundwater to sample during the September 2021 event, with seven of these wells containing measurable quantities of PSH. Depth-to-water and depth-to-product measurements collected during sampling and groundwater elevations were used to infer flow direction of groundwater at the Site. Eight of the monitoring wells installed at the Site (MW02, MW04B, MW08, MW18, MW21, MW25, MW27, and MW28) were either dry or have accumulated low volumes of water, likely originating from drilling and well completion activities or by the monitoring wells acting as a sump to collect only limited moisture temporarily stored in the surrounding soil pore space. The groundwater elevations to do not appear to correlate to the potentiometric surface exhibited by monitoring wells containing higher water volume and recharge capacity. As such, water-level measurements from these wells were not used to construct groundwater potentiometric maps for the Site. Fluid level elevations are summarized in Table 2. A potentiometric map showing the flow of groundwater at the Site is included as Figure 4.

GROUNDWATER SAMPLING AND RESULTS

Groundwater monitoring wells were sampled by purging a minimum of three casing volumes from each well and collecting parameters of the purged groundwater. Monitoring wells MW01, MW06, MW09, MW11, MW14, MW19, MW20, MW22, MW23, MW24, MW26, and MW29 were sampled during the September 2021 event and analyzed for BTEX by EPA Method 8260B. Total BTEX and/or benzene concentrations were detected in all groundwater samples, except for MW23 and MW24, above New Mexico Water Quality Control Commission (NMWQCC) standards. Additionally, measurable PSH is present in wells MW03, MW04, MW07, MW10, MW13, MW15, and MW16 (these wells were not sampled for laboratory analysis). PSH thickness ranged from 0.07 feet in MW07 to 0.60 feet in MW15 during the September 27, 2021 sampling event.

Groundwater analytical results from the groundwater monitoring events conducted at the Site are summarized in Table 3. Groundwater analytical results from the February and September 2021 sampling event are displayed on Figure 5. Laboratory analytical reports are also included in Enclosure B. The WSP Groundwater Sample Collection Forms from the September 2021 event are included as Enclosure C.

INTERIM PSH RECOVERY EVENTS

Since the discovery of the PSH, WSP has conducted several PSH-recovery events using a disposable bailer. Additionally, absorbent product recovery socks have been placed in all wells containing measurable PSH, and replaced as necessary, since October 2020. During the five monitoring events conducted by WSP between September 2020 and September 2021, a total of 13.9 gallons of PSH have been removed from the groundwater table via manual bailing and disposable product-recovery socks. Product thickness has generally decreased between September 2020 and September 2021.

CONCLUSIONS

Based on field screening and analytical results, petroleum hydrocarbon impacts appear to be limited to shallow soils near the source of the recent vandalism release (former AST location). Deeper soil impacts appear to be located within a perched groundwater and/or smear zone above the groundwater, which may be the result of migration in the direction of groundwater flow, generally to the north. Alternatively, there may be historic sources unrelated to the AST release affecting groundwater and soil on portions of the Site. This could be evidenced by the variation in BTEX constituent concentrations. Where present, groundwater or saturated intervals are perched on top of a dense, low permeability, fine sandy silt that transitions to pure silt and clay at depth. Based on field screening and analytical results, there is limited to no observable impacts in the silt/clay layers located below the impacted sandy silt unit.

Based on field screening and observations from the September 2021 event, it was believed that the Site had been delineated to the north after the September 2021 drilling event. However, based on the soil analytical results, the lateral extent of TPH has not been delineated to the north/northeast in boreholes BH28 and BH29. During drilling, no visual/olfactory observations of petroleum hydrocarbons or elevated PID measurements were noted in the depth intervals where TPH concentrations exceeded NMOCD Table 1 Closure Criteria. Additionally, the TPH exceedances in boreholes BH28 and BH29 are dominated by MRO, and to a lesser extent DRO, with no GRO carbon fractions present in these exceedances (nor concentrations of BTEX).Groundwater collected from MW29 contains low concentrations of BTEX, with only benzene exceeding the NMWQCC standard (5 microgram per liter, or µg/L) at 12 µg/L. Based on the location of BH29/MW29 and concentrations detected in soil and groundwater, contaminants appear to be attenuating and likely do not migrate substantially further to the north/northwest.

TPH was only encountered at depths of 0 to 5 feet bgs in borehole BH28. These results indicate that TPH in shallow soils at BH28 are not related to the recent or historical release characterized at the Site and are possibly caused by cross contamination with lubricating grease from the drill rig or a small surface release in the area (likely a *de minimus* volume of impacted soil). Additionally, the TPH concentration detected in soil was detected at 119 mg/kg, only slightly above the NMOCD Table 1 Closure Criteria of 100 mg/kg.

PROPOSED ACTIONS

Based on the investigations described above, WSP proposes to complete the delineation of soil and groundwater at the Site. Additional boreholes will be advanced using a hollow-stem auger drill rig to complete delineation of soil and/or groundwater impacts in several areas of the Site indicated on Figure 6. Delineation near BH28 will be confined to shallow soils and completed using a hand auger. Delineation results will be summarized in a forthcoming Updated Site Characterization Report and Remediation Work Plan that will include a comprehensive evaluation of soil and groundwater impacts, controls on those impacts, and proposed remedial technologies to address impacted soil and groundwater at the Site. Additionally, quarterly groundwater monitoring and PSH recovery events will be conducted beginning in the fourth quarter of 2021.

Because the proposed additional boreholes/wells are located on BLM surface, Hilcorp will submit this report and request permission from the BLM for access within 14 days of submittal of this report to the NMOCD. Based on previous drilling events, a cultural survey is likely required prior to advancing additional boreholes. Once access is granted from the BLM, the additional delineation and reporting will be conducted within 60 days (dependent on driller availability).

REFERENCES

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

WSP appreciates the opportunity to provide this report to you. If you have any questions or comments regarding this report, do not hesitate to contact Mr. Stuart Hyde at (970) 903-1607 or at stuart.hyde@wsp.com, or Mitch Killough at (713) 757-5274 or at mkillough@hilcorp.com..

Kind regards,

Ashley L. Ager

Stuart Hyde, L.G.
Senior Geologist

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

cc: Mitch Killough, Hilcorp Energy Company

Enclosures:

Figure 1	Receptor Map
Figure 2	Soil Boring Locations
Figure 3	Soil Analytical Results
Figure 4	Groundwater Elevation Map
Figure 5	Groundwater Analytical Results
Figure 6	Proposed Delineation Locations
Table 1	Soil Analytical Results
Table 2	Groundwater Elevation Summary
Table 3	Groundwater Analytical Results
Enclosure A	WSP Bore Logs
Enclosure B	Laboratory Analytical Reports
Enclosure C	Groundwater Sample Collection Forms

FIGURES

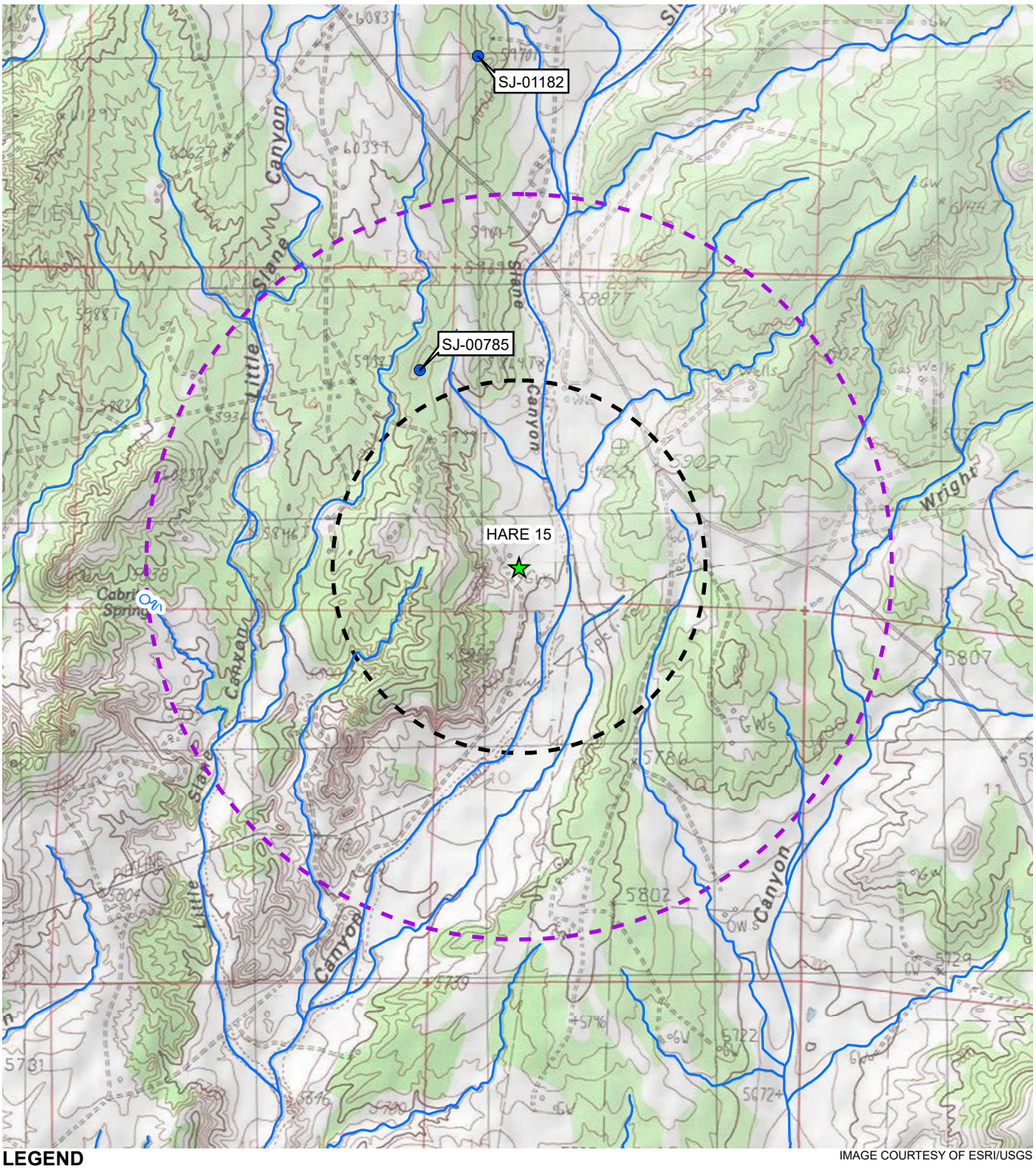

IMAGE COURTESY OF ESRI/USGS

LEGEND

- WATER WELL LOCATION
- SPRING/SEEP
- NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE
- HALF-MILE RADIUS
- 1-MILE RADIUS

NEW MEXICO

0 2,000 4,000
Feet

N

FIGURE 1
RECEPTOR MAP
HARE 15
LOT 17 SEC 3-T29N-R10W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

wsp

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LEGEND

- MONITORING WELL
- SOIL BORING
- WELLHEAD
- FLOWLINE
- GAS LINE
- AC LINE
- COMM LINE

0 60 120

Feet

N

FIGURE 2
SOIL BORING LOCATIONS
HARE 15
LOT 17 SEC 3-T29N-R10W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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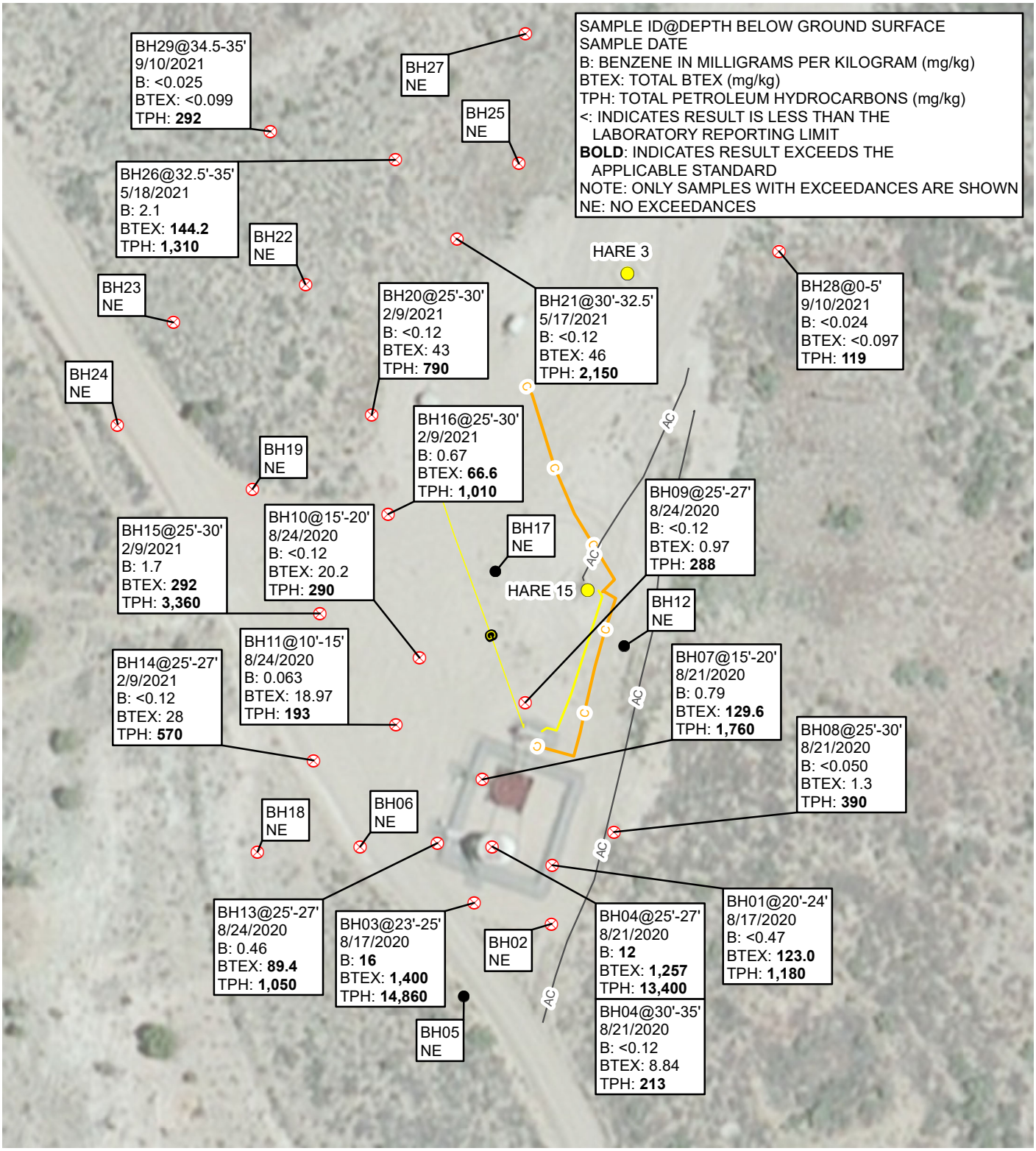

LEGEND

- MONITORING WELL
- SOIL BORING
- WELLHEAD
- FLOWLINE
- GAS LINE
- AC LINE
- COMM LINE

0 60 120
Feet

N

FIGURE 3
SOIL ANALYTICAL RESULTS
HARE 15
LOT 17 SEC 3-T29N-R10W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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*WATER IN WELL NOT INDICATIVE OF GROUNDWATER POTENTIOMETRIC SURFACE
NM: NOT MEASURED

FIGURE 4
GROUNDWATER ELEVATION MAP
HARE 15
LOT 17 SEC 3-T29N-R10W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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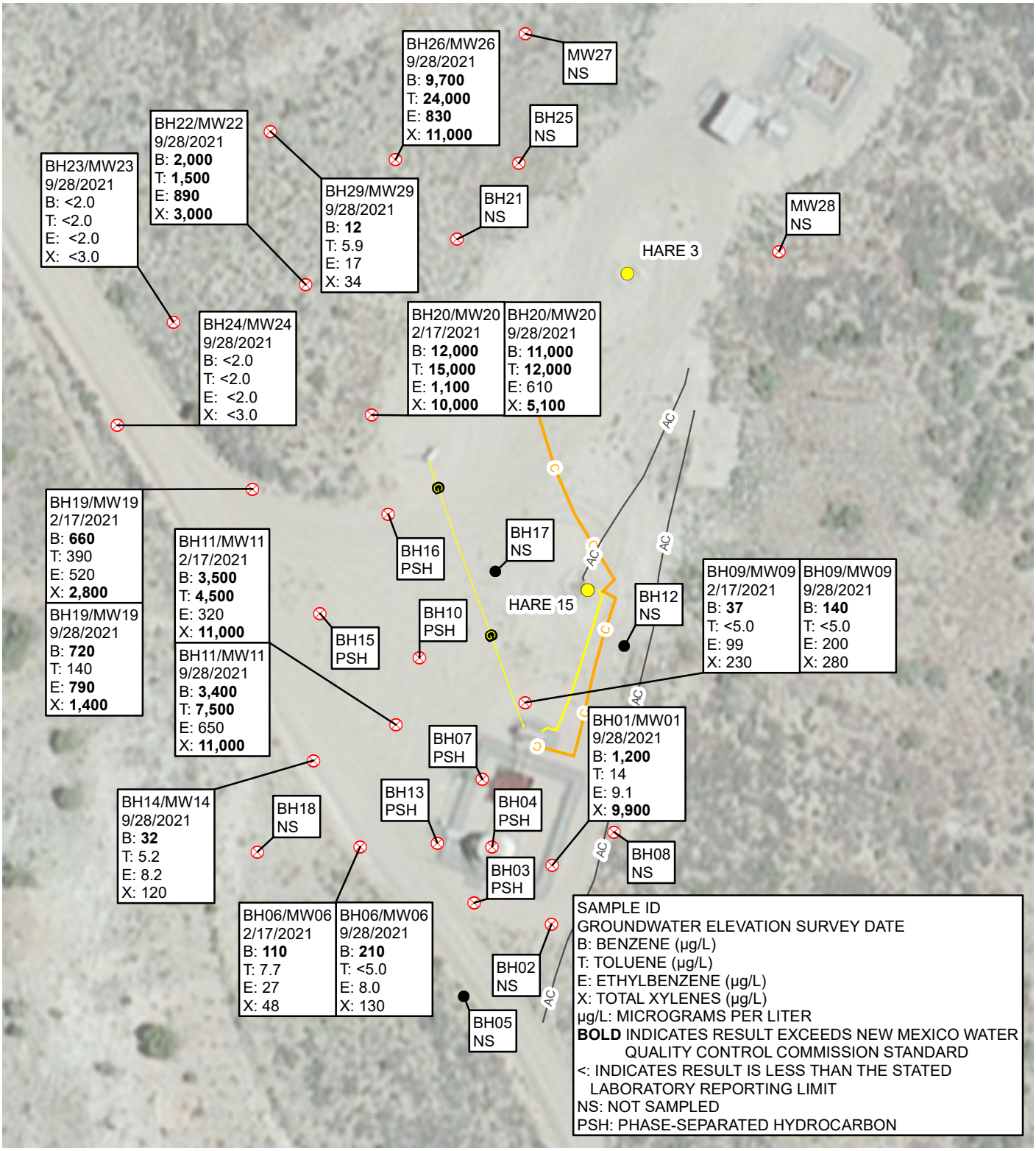

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
- SOIL BORING
- WELLHEAD
- FLOWLINE
- GAS LINE
- AC LINE
- COMM LINE

0 60 120
Feet

N

FIGURE 5
GROUNDWATER ANALYTICAL RESULTS
HARE 15
LOT 17 SEC 3-T29N-R10W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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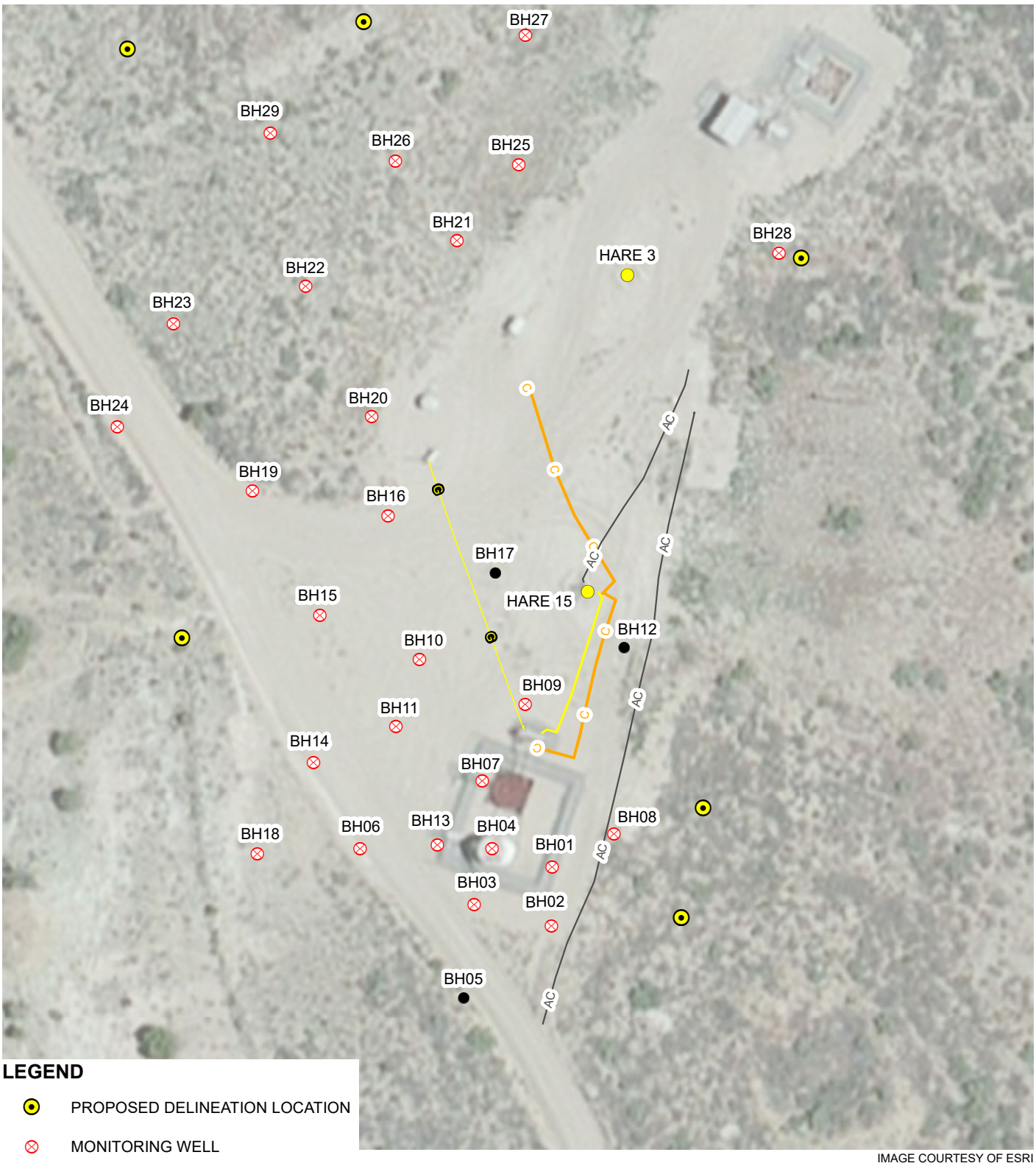

LEGEND

- PROPOSED DELINEATION LOCATION
- MONITORING WELL
- SOIL BORING
- WELLHEAD
- FLOWLINE
- GAS LINE
- AC LINE
- COMM LINE

FIGURE 6
PROPOSED DELINEATION LOCATIONS
HARE 15
LOT 17 SEC 3-T29N-R10W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

HARE 15
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Soil Sample Identification	Sample Date	PID Reading (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
NMOCD Closure Criteria		NE	**10**	NE	NE	NE	**50**	**600**	NE	NE	NE	**100**
BH01@20'-24'	8/17/2020	3,118	<0.47	<0.94	3.0	120	**123.0**	<60	1,000	180	<47	**1,180**
BH01@27'-30'	8/17/2020	41.2	<0.019	<0.039	<0.039	0.10	0.10	<60	<3.9	<9.8	<49	<49
BH02@25'-30'	8/17/2020	1,454	0.053	0.43	0.2	3.9	5	<60	48	17	<50	65
BH02@35'-38'	8/17/2020	515	<0.020	<0.039	<0.039	0.15	0.15	<60	<3.9	<9.9	<50	<50
BH03@10'-15'	8/17/2020	22.0	<0.024	<0.048	<0.048	<0.095	<0.095	<60	<4.8	<9.1	<45	<45
BH03@15'-18'	8/17/2020	246	<0.025	<0.050	<0.050	<0.10	<0.10	<60	<5.0	<9.8	<49	<49
BH03@23'-25'	8/20/2020	1,238	**16**	360	64.0	960	**1,400**	<60	14,000	860	<480	**14,860**
BH03@29'-30'	8/20/2020	2,246	<0.024	0.70	0.28	4.90	5.88	<60	76	16	<46	92
BH03@35'-38'	8/20/2020	173	<0.025	<0.050	<0.050	<0.099	<0.099	<59	<5.0	<9.0	<45	<45
BH04@23'-25'	8/17/2020	1,448	<0.023	0.11	0.14	2.5	2.75	<60	43	35	<45	78
BH04@25'-27'	8/21/2020	1,499	**12**	300	55	890	**1,257**	<60	12,000	1,400	<450	**13,400**
BH04@28'-30'	8/21/2020	102	<0.025	<0.049	<0.049	<0.098	<0.098	<60	<4.9	<9.4	<47	<47
BH04@30'-35'	8/21/2020	403	<0.12	0.68	0.56	7.6	8.84	<60	130	83	<44	**213**
BH04@35'-38'	8/21/2020	46.0	<0.025	0.073	<0.049	0.2	0.273	<60	<4.9	10	<49	<49
BH05@20'-25'	8/21/2020	62.6	<0.024	<0.048	<0.048	<0.097	<0.097	<59	<4.8	<9.9	<49	<49
BH05@25'-30'	8/21/2020	24.1	<0.024	<0.049	<0.049	<0.097	<0.097	<60	<4.9	<9.0	<45	<45
BH06@15'-20'	8/21/2020	22.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH06@20'-25'	8/21/2020	41.0	<0.12	<0.25	<0.25	<0.49	<0.49	<60	<25	<9.5	<48	<48
BH06@25'-30'	8/21/2020	17.1	<0.024	<0.049	<0.049	0.45	0.45	<60	<4.9	<8.5	<43	<43
BH06@30'-35'	8/21/2020	8.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH07@15'-20'	8/21/2020	2,402	0.79	12	6.8	110	**129.6**	76	1600	160	<48	**1,760**
BH07@28'-30'	8/21/2020	174	<0.023	<0.046	<0.046	<0.092	<0.092	<60	<4.6	<8.7	<43	<43
BH07@30'-35'	8/21/2020	41.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH08@25'-30'	8/21/2020	649	<0.050	<0.10	0.23	1.1	1.3	**610**	120	270	<45	**390**
BH08@30'-35'	8/21/2020	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH08@35'-40'	8/21/2020	233	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 1
SOIL ANALYTICAL RESULTS

HARE 15
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Soil Sample Identification	Sample Date	PID Reading (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
NMOCD Closure Criteria		NE	**10**	NE	NE	NE	**50**	**600**	NE	NE	NE	**100**
BH09@25'-27'	8/24/2020	3,359	<0.12	<0.25	<0.25	0.97	0.97	120	98	190	<43	**288**
BH09@28'-30'	8/24/2020	30.1	<0.025	<0.049	<0.049	<0.099	<0.099	73	<4.9	11	<47	11
BH09@30'-35'	8/24/2020	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH10@15'-20'	8/24/2020	3,317	<0.12	<0.24	1.2	19	20.2	<60	180	110	<49	**290**
BH10@28'-30'	8/24/2020	193	0.044	0.11	<0.048	0.53	0.684	<60	<4.8	<8.6	<43	<43
BH11@10'-15'	8/24/2020	1,841	0.063	0.33	0.58	18	18.97	200	120	73	<50	**193**
BH11@25'-30'	8/24/2020	686	0.039	0.14	0.079	1.0	1.3	<60	20	19	<47	39
BH12@10'-15'	8/24/2020	6.1	<0.024	<0.049	<0.049	<0.097	<0.097	98	<4.9	<8.9	<45	<45
BH12@25'-30'	8/24/2020	0.8	<0.024	<0.049	<0.049	<0.098	<0.098	<60	<4.9	<9.7	<49	<49
BH13@25'-27'	8/24/2020	1,912	0.46	11	4.9	73	**89.4**	<60	800	250	<45	**1,050**
BH13@28'-30'	8/24/2020	39.4	<0.024	<0.048	<0.048	<0.096	<0.096	<60	<4.8	<9.4	<47	<47
BH13@30'-35'	8/24/2020	174	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH14 @ 25'-27'	2/9/2021	3,204	<0.12	<0.25	2.1	26	28	<60	400	170	<46	**570**
BH14 @ 30'-35'	2/9/2021	20.0	<0.023	<0.046	<0.046	<0.092	<0.092	<60	<4.6	<9.8	<49	<49
BH15 @ 25'-30'	2/9/2021	3,055	1.7	23	17	250	**292**	<60	3,000	360	<47	**3,360**
BH15 @ 30'-35'	2/9/2021	82.0	<0.024	<0.048	<0.048	<0.096	<0.096	<60	<4.8	<9.9	<49	<49
BH16 @ 25'-30'	2/9/2021	2,332	0.67	9.6	3.3	53	**66.6**	<60	800	210	<50	**1,010**
BH16 @ 33'-35'	2/9/2021	212	0.074	0.19	<0.047	0.42	0.684	<60	<4.7	<9.8	<49	<49
BH17 @ 20'-25'	2/10/2021	1.8	<0.024	<0.048	<0.048	<0.095	<0.095	<60	<4.8	<9.4	<47	<47
BH17 @ 25'-30'	2/10/2021	0.3	<0.023	<0.047	<0.047	<0.094	<0.094	<60	<4.7	<10	<51	<51
BH18 @ 20'-25'	2/10/2021	0.3	<0.024	<0.048	<0.048	<0.095	<0.095	<60	<4.8	<9.7	<48	<48
BH18 @ 25'-30'	2/10/2021	0.0	<0.025	<0.050	<0.050	<0.099	<0.099	<60	<5.0	<8.4	<42	<42
BH19 @ 30'-35'	2/10/2021	119	<0.024	<0.049	<0.049	0.43	0.430	<60	9.4	<9.0	<45	9.4
BH19 @ 35'-40'	2/10/2021	4.8	0.050	0.12	0.14	2.1	2.41	<60	13	<10	<50	13
BH20 @ 25'-30'	2/11/2021	2,023	<0.12	2.8	2.2	38	43	<60	600	190	<49	**790**
BH20 @ 33'-35'	2/11/2021	80.0	0.056	0.72	0.091	1.5	2.37	<60	9.9	<9.2	<46	9.9
BH21 @ 30'-32.5'	5/17/2021	3,005	<0.12	<0.24	<0.24	46	46	120	1,400	750	<45	**2,150**
BH21 @ 32.5'-35'	5/17/2021	485	<0.025	<0.049	<0.049	<0.099	<0.099	<60	11	20	<45	31

TABLE 1
SOIL ANALYTICAL RESULTS

HARE 15
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Soil Sample Identification	Sample Date	PID Reading (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
NMOCD Closure Criteria		NE	**10**	NE	NE	NE	**50**	**600**	NE	NE	NE	**100**
BH22 @ 27.5'-30'	5/17/2021	28.1	<0.024	<0.049	<0.049	<0.098	<0.098	<60	<4.9	<9.9	<49	<49
BH22 @ 37.5'-40'	5/17/2021	9.8	<0.023	<0.046	<0.046	<0.093	<0.093	<60	<4.6	<9.4	<47	<47
BH23 @ 35'-37.5'	5/17/2021	11.4	<0.024	<0.049	<0.049	<0.097	<0.097	<60	<4.9	<8.4	<42	<42
BH23 @ 40'-42'	5/17/2021	8.6	<0.025	<0.049	<0.049	<0.098	<0.098	<60	<4.9	<9.0	<45	<45
BH24 @ 25'-27.5'	5/18/2021	17.6	<0.025	<0.049	<0.049	<0.099	<0.099	<60	<4.9	<8.5	<43	<43
BH24 @ 43.5'-45'	5/18/2021	2.4	<0.024	<0.047	<0.047	<0.094	<0.094	<61	<4.7	<8.4	<42	<42
BH25 @ 25'-27.5'	5/18/2021	21.8	<0.024	<0.049	<0.049	<0.098	<0.098	130	<4.9	<10	<50	<50
BH25 @ 35'-38'	5/18/2021	2.4	<0.024	<0.047	<0.047	<0.094	<0.094	85	<4.7	<9.1	<45	<45
BH26 @ 32.5'-35'	5/18/2021	2,407	2.1	42	6.1	94	**144.2**	86	1,200	110	<44	**1,310**
BH26 @ 37.5'-40'	5/18/2021	1.8	0.4	1.7	<0.24	2.0	4.1	120	29	<9.7	<48	29
BH27 @ 0'-5'	9/10/2021	3.6	<0.025	<0.050	<0.050	<0.099	<0.099	<60	<5.0	<9.9	<49	<49
BH27 @ 5'-10'	9/10/2021	3.2	<0.025	<0.050	<0.050	<0.099	<0.099	360	<5.0	<10	<51	<51
BH27 @ 10'-15'	9/10/2021	9.0	<.0.24	<0.048	<0.048	<0.096	<0.096	210	<4.8	<9.3	<47	<47
BH27 @ 15'-20'	9/10/2021	4.2	<0.024	<0.048	<0.048	<0.096	<0.096	65	<4.8	<10	<50	<50
BH27 @ 20'-25'	9/10/2021	1.4	<0.025	<0.049	<0.049	<0.099	<0.099	77	<4.9	<9.6	<48	<48
BH27 @ 25'-30'	9/10/2021	0.9	<0.024	<0.048	<0.048	<0.096	<0.096	75	<4.8	<9.8	<49	<49
BH27 @ 30'-35'	9/10/2021	0.7	<0.024	<0.049	<0.049	<0.098	<0.098	70	<4.9	<10	<50	<50
BH27 @ 35'-40'	9/10/2021	0.5	<0.024	<0.048	<0.048	<0.096	<0.096	<60	<4.8	<9.9	<49	<49
BH28 @ 0'-5'	9/10/2021	1.3	<0.024	<0.049	<0.049	<0.097	<0.097	<59	<4.9	42	77	**119**
BH28 @ 5'-10'	9/10/2021	3.5	<0.024	<0.049	<0.049	<0.098	<0.098	100	<4.9	<9.1	<45	<45
BH28 @ 10'-15'	9/10/2021	1.2	<0.024	<0.048	<0.048	<0.096	<0.096	<60	<4.8	<9.2	<46	<46
BH28 @ 15'-20'	9/10/2021	0.7	<0.024	<0.048	<0.048	<0.097	<0.097	<60	<4.8	<9.6	<48	<48
BH28 @ 20'-25'	9/10/2021	0.5	<0.024	<0.048	<0.048	<0.097	<0.097	110	<4.8	<10	<50	<50
BH28 @ 25'-30'	9/10/2021	1.0	<0.025	<0.049	<0.049	<0.098	<0.098	<60	<4.9	<9.4	<47	<47
BH28 @ 30'-35'	9/10/2021	0.5	<0.024	<0.048	<0.048	<0.097	<0.097	<60	<4.8	<9.5	<47	<47
BH28 @ 35'-40'	9/10/2021	0.7	<0.025	<0.049	<0.049	<0.099	<0.099	<60	<4.9	<9.7	<49	<49

TABLE 1
SOIL ANALYTICAL RESULTS

HARE 15
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Soil Sample Identification	Sample Date	PID Reading (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
NMOCD Closure Criteria		NE	**10**	NE	NE	NE	**50**	**600**	NE	NE	NE	**100**
BH29 @ 0'-5'	9/13/2021	1.2	<0.025	<0.050	<0.050	<0.099	<0.099	<60	<5.0	<10	<50	<50
BH29 @ 5'-10'	9/13/2021	0.3	<0.024	<0.048	<0.048	<0.097	<0.097	<59	<4.8	<10	<50	<50
BH29 @ 10'-14'	9/13/2021	0.6	<0.025	<0.050	<0.050	<0.099	<0.099	<60	<5.0	<8.6	<43	<43
BH29 @ 19.5'-20'	9/13/2021	0.4	<0.025	<0.050	<0.050	<0.10	<0.10	<60	<5.0	30	54	84
BH29 @ 24.5'-25'	9/13/2021	1.4	<0.025	<0.050	<0.050	<0.099	<0.099	<60	<5.0	33	60	93
BH29 @ 29.5'-30'	9/13/2021	2.2	<0.025	<0.050	<0.050	<0.099	<0.099	<60	<5.0	15	<48	15
BH29 @ 34.5'-35'	9/13/2021	1.6	<0.025	<0.049	<0.049	<0.099	<0.099	<60	<4.9	92	200	**292**
BH29 @ 39.5'-40'	9/13/2021	0.6	<0.025	<0.049	<0.049	<0.098	<0.098	<60	<4.9	<9.5	<48	<48
BH29 @ 44.5'-45'	9/13/2021	0.1	<0.024	<0.049	<0.049	<0.098	<0.098	<60	<4.9	<9.2	<46	<46

Notes:

BTEX - benzene, toluene, ethylbenzene, and total xylenes analyzed by US EPA Method 8021B
DRO - diesel range organics analyzed by US EPA Method 8015D
GRO - gasoline range organics analyzed by US EPA Method 8015D
mg/kg - milligrams per kilogram
MRO - motor oil range organics analyzed by US EPA method 8015D
NA - not analyzed
NE - not established
NMOCD - New Mexico Oil Conservation Division
PID - photoionization detector
ppm - parts per million
TPH - total petroleum hydrocarbon (sum of GRO, DRO, and MRO)
Bold - indicates value exceeds stated NMOCD Closure Criteria
< - indicates result is less than the stated laboratory reporting limit

TABLE 2
GROUNDWATER ELEVATION SUMMARY

HARE 15
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Well Number	Top of Casing Elevation (feet amsl)	Total Depth (feet)	Date	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet amsl)
MW01	5,817.82	27.60	9/22/2020	26.48	--	--	5,791.34
			10/2/2020	26.48	--	--	5,791.34
			10/7/2020	26.46	--	--	5,791.36
			2/17/2021	26.42	--	--	5,791.40
			9/27/2021	26.45	--	--	5,791.37
MW02	5,817.36	37.10	9/22/2020	DRY	--	--	--
			10/2/2020	37.02 (1)	--	--	--
			10/7/2020	DRY	--	--	--
			2/17/2021	37.09 (1)	--	--	--
			9/27/2021	DRY	--	--	--
MW03	5,817.81	37.55	9/22/2020	27.85	27.14	0.71	5,790.53
			10/2/2020	30.62	27.16	3.46	5,789.96
			10/7/2020	29.90	27.14	2.76	5,790.12
			2/17/2021	28.01	27.42	0.59	5,790.27
			9/27/2021	27.45	27.31	0.14	5,790.47
MW04A	5,818.23	36.58	9/22/2020	27.58	27.56	0.02	5,790.67
			10/2/2020	29.39	27.56	1.83	5,790.30
			10/7/2020	28.08	27.57	0.51	5,790.56
			2/17/2021	27.96	27.66	0.30	5,790.51
			9/27/2021	28.15	27.90	0.25	5,790.28
MW04B	5,818.22	17.30	9/22/2020	DRY	--	--	--
			10/7/2020	DRY	--	--	--
			2/17/2021	DRY	--	--	--
			9/27/2021	DRY	--	--	--
MW06	5,818.28	32.30	9/22/2020	27.71	--	--	5,790.57
			10/2/2020	27.70	--	--	5,790.58
			10/7/2020	27.67	--	--	5,790.61
			2/17/2021	27.75	--	--	5,790.53
			9/27/2021	27.75	--	--	5,790.53
MW07	5,818.64	30.45	9/22/2020	28.77	28.01	0.76	5,790.48
			10/2/2020	28.52	28.03	0.49	5,790.51
			10/7/2020	28.69	28.16	0.53	5,790.37
			2/17/2021	28.33	Sheen	--	5,790.31
			9/27/2021	28.29	28.22	0.07	5,790.41

TABLE 2
GROUNDWATER ELEVATION SUMMARY

HARE 15
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Well Number	Top of Casing Elevation (feet amsl)	Total Depth (feet)	Date	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet amsl)
MW08	5,817.40	37.30	9/22/2020	DRY	--	--	--
			10/2/2020	DRY	--	--	--
			10/7/2020	DRY	--	--	--
			2/17/2021	36.72 (1)	--	--	--
			9/27/2021	36.89 (1)	--	--	--
MW09	5,818.61	32.30	9/22/2020	28.10	--	--	5,790.51
			10/2/2020	30.71	--	--	5,787.90
			10/7/2020	29.72	--	--	5,788.89
			2/17/2021	28.15	--	--	5,790.46
			9/27/2021	28.17	--	--	5,790.44
MW10	5,819.73	32.60	9/22/2020	30.23	29.22	1.01	5,790.31
			10/2/2020	29.74	29.29	0.45	5,790.35
			10/7/2020	29.80	29.21	0.59	5,790.40
			2/17/2021	30.23	29.49	0.74	5,790.09
			9/27/2021	29.65	29.37	0.28	5,790.30
MW11	5,819.37	32.57	9/22/2020	29.01	--	--	5,790.36
			10/2/2020	29.02	--	--	5,790.35
			10/7/2020	28.91	--	--	5,790.46
			2/17/2021	29.00	--	--	5,790.37
			9/27/2021	28.97	--	--	5,790.40
MW13	5,818.06	32.60	9/22/2020	27.81	27.43	0.38	5,790.55
			10/2/2020	27.80	27.44	0.36	5,790.55
			10/7/2020	27.81	27.42	0.39	5,790.56
			2/17/2021	27.79	27.64	0.15	5,790.39
			9/27/2021	27.68	27.57	0.11	5,790.47
MW14	5,821.30	33.83	2/17/2021	33.78	--	--	5,787.52
			9/27/2021	30.94	--	--	5,790.36
MW15	5,823.34	35.62	2/17/2021	33.27	33.11	0.16	5,790.20
			9/27/2021	33.65	33.05	0.60	5,790.17
MW16	5,821.55	37.05	2/17/2021	32.20	31.67	0.53	5,789.77
			9/27/2021	31.71	31.18	0.53	5,790.26
MW18	5,821.35	32.54	2/17/2021	DRY	--	--	--
			9/27/2021	DRY	--	--	--
MW19	5,825.06	43.50	2/17/2021	34.93	--	--	5,790.13
			9/27/2021	34.93	--	--	5,790.13

TABLE 2
GROUNDWATER ELEVATION SUMMARY

HARE 15
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Well Number	Top of Casing Elevation (feet amsl)	Total Depth (feet)	Date	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet amsl)
MW20	5,820.60	40.13	2/17/2021	30.36	--	--	5,790.24
			9/27/2021	30.38	--	--	5,790.22
MW21	5,820.72	36.25	5/21/2021	35.88 (1)	--	--	--
			9/27/2021	36.19 (1)	--	--	--
MW22	5,826.83	42.95	5/21/2021	36.78	--	--	5,790.05
			9/27/2021	36.81	--	--	5,790.02
MW23	5,829.60	44.78	5/21/2021	40.38	--	--	5,789.22
			9/27/2021	39.48	--	--	5,790.12
MW24	5,826.76	41.39	5/21/2021	36.35	--	--	5,790.41
			9/27/2021	36.40	--	--	5,790.36
MW25	5,819.84	40.40	5/21/2021	40.02 (1)	--	--	--
			9/27/2021	DRY	--	--	--
MW26	5,822.35	40.52	5/21/2021	32.58	--	--	5,789.77
			9/27/2021	32.57	--	--	5,789.78
MW27	5,818.56	40.60	9/24/2021	40.40 (1)	--	--	--
			9/27/2021	40.46 (1)	--	--	--
MW28	5,815.12	40.61	9/24/2021	DRY	--	--	--
			9/27/2021	DRY	--	--	--
MW29	5,829.68	48.10	9/24/2021	39.75	--	--	5,789.93
			9/27/2021	39.75	--	--	5,789.93

Notes:

(1) - water measured in well is not indicative of the perched groundwater aquifer at the Site
amsl - above mean sea level
BTOC - below top of casing
--: indicates no GWEL or PSH measured
When product is present, the groundwater elevation is corrected using an estimated density correction factor of 0.8

TABLE 3
GROUNDWATER ANALYTICAL RESULTS

HARE 15
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Groundwater Sample Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Groundwater Standard		**5**	**1,000**	**700**	**620**
MW01	9/28/2021	**1,200**	14	9.1	**9,900**
MW06	2/17/2021	**110**	7.7	27	48
MW06	9/28/2021	**210**	<5.0	8.0	130
MW09	2/17/2021	**37**	<5.0	99	230
MW09	9/28/2021	**140**	<5.0	200	280
MW11	2/17/2021	**3,500**	**4,500**	320	**11,000**
MW11	9/28/2021	**3,400**	**7,500**	650	**11,000**
MW14	9/28/2021	**32**	5.2	8.2	120
MW19	2/17/2021	**660**	390	520	**2,800**
MW19	9/28/2021	**720**	140	**790**	**1,400**
MW20	2/17/2021	**12,000**	**15,000**	**1,100**	**10,000**
MW20	9/28/2021	**11,000**	**12,000**	610	**5,100**
MW22	9/28/2021	**2,000**	**1,500**	**890**	**3,000**
MW23	9/28/2021	<2.0	<2.0	<2.0	<3.0
MW24	9/28/2021	<2.0	<2.0	<2.0	<3.0
MW26	9/28/2021	**9,700**	**24,000**	**830**	**11,000**
MW29	9/28/2021	**12**	5.9	17	34

Notes:

µg/L - micrograms per liter

NMWQCC - New Mexico Water Quality Control Commision

Bold - indicates value exceeds the NMWQCC Standard

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

ENCLOSURE A – WSP BORE LOGS

Advancing Opportunity

848 E. 2nd Ave
Durango, Colorado 81301

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring Well Number: BH01/SVE01		Project: Hare 15	
Date: 8-17-20		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 25'-14'		Seal: Bentonite 14'-12'	Grout: Bentonite 12'-0'
Casing Type: Schedule 40 PVC 15'-Stick Up (S.U.)		Diameter: 2" Length: 15'+	Hole Diameter: 7" Depth to Liquid:
Screen Type: Schedule 40 PVC 25'-15' Slot: 0.010"		Diameter: 2" Length: 10'	Total Depth: 32' Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Moist	0.0	No		0 1 2 3 4 5			SW-SM	Tan, lt. Brown med-coarse sand w/ fines. Well graded sand w/ silt. No stain/odor (s/o)	
	Moist	0.1	No		6 7 8 9 10			SW-SM	Lt. Brown med sand w/ fines well graded. No s/o	
	Moist	0.2	No		11 12 13 14 15			SW-SM	Lt. Brown med-coarse sand w/ fines. well graded. No s/o	

Advancing Opportunity

Boring/Well #	BH01
Project:	Hare 15
Project #	017820018
Date	8-17-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Moist	10.8	No		15–16			SW-SM	Lt. Brown / tan med-coarse sand w/ fines. Well graded. No stain/odor	
					17				Thin 4-6" layer of brown clayey sand no s/o.	
	Sl. Moist to Dry	2,540	No. Mod. odor.		18–20			SP	Lt. grayish tan. medium poorly graded, semi-dense sand. No stain, mod. HC odor.	
				BH01 @ 20'-24' 09:15	21–22			SP	SAA, tan. med. ~~sand~~ sand. No stain mod to strong HC odor.	
	Dry	3,118	No		23					
	V. Moist	2,745	Yes, Heavy		24–25			SP	Black, strong stain/odor, med. sand.	
	Dry	53.7	~~53.7~~ No		26–27			ML	Lt. Brownish gray silt w/ fn. sand, w/ oxidation No stain/odor.	backfill slough
				BH01 @ 27'-30' 09:45	28				Lt-gray & gray silt, trace fn. sand. Dense, compact. No stain/odor.	
	Dry	41.2	No ~~41.2~~		29–30			ML		
	Dry		No		31			ML	SAA. No s/o Limited to no recovery less than 3" split spoon sample 30-32' refusal @ 32'	
					32–37					

LTE Advancing Opportunity

848 E. 2nd Ave
Durango, Colorado 81301

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring Well Number: BH02	Project: Hare 15
Date: 8-17-20	Project Number: 017820018
Logged By: Danny Burns	Drilled By: MO-TE Drilling
Elevation: 5,830	Detector: PID
Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 38'-22'	Seal: Bentonite 22'-20'
Grout: Bentonite 20-0'	
Casing Type: Schedule 40 PVC 23'-0 (+5.4)	Diameter: 2" Length: 25'
Hole Diameter: 7.25'	Depth to Liquid:
Screen Type: Schedule 40 PVC 38-23' Slot: 0.010"	Diameter: 2" Length: 15'
Total Depth: 38'	Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0				brown, med. sand w/ fines.	
					1					
					2			SW-SM	No stain/odor.	
					3				well graded	
	Moist	0.6	No		4					
					5					
					6					
					7					
	Moist	0.8	No		8			SW-SM	SAA. No S/O.	
					9					
					10					
					11					
					12					
					13			SP	Brown fn-med sand	
	SL Moist.	0.3	No		14			SM	w/ some silt	
					15				No stain/odor	

LT Advancing Opportunity

Boring/Well #	BH02
Project:	Hare 15
Project #	017820018
Date	8-17-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	0.3	No		15–20			SW-SM	Tan, lt. Brown well graded med.-coarse sand. Tr.-fines. No stain/odor.	
	Dry	0.1	No		21–25			SW / ML	Well graded, med-coarse sand. some gravel, slightly dense, compact. No stain/odor. Dense, oxidized gray + brown silt. No s/o.	
	Dry	1,454	No	BH02 @25'-30' 12:00	26–30			ML	Lt. grayish brown silt w/ fn. sand. Compact. No stain slight-med HC odor.	
	Dry	641	No		31–35			ML	Gray fn. semicemented sandy siltstone. No stain, slight musty odor. Gray + maroon shale w/ fn. sand. No s/o	
	Dry	515	No	BH 02 @35'-38' 12:30	36–38			ML	Refusal @38'	

Advancing Opportunity

848 E. 2nd Ave
Durango, Colorado 81301

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring Well Number: BH03	Project: Hare 15
Date: 8-17-20	Project Number: 017820018
Logged By: Danny Burns	Drilled By: MO-TE Drilling
Elevation: 5,830	Detector: PID
Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 35'-19'	Seal: Bentonite 19'-17'
Grout: Bentonite 17'-0'	
Casing Type: Schedule 40 PVC 20'-S.U.	Diameter: 2" Length:
Hole Diameter: 7"	Depth to Liquid:
Screen Type: Schedule 40 PVC 35'-20' Slot: 0.010"	Diameter: 2" Length: 15'
Total Depth: 38'	Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0					
					1					
					2				Brown med. sand w/ fines, silt. Well graded. No stain/odor.	
	Moist	3.7	No		3			SW-SM		
					4					
					5					
					6					
					7			SW-SM	SAA. Med sand, w/ silt. No stain, v. slt. odor.	
	moist	15.4	No		8					
					9					
					10					
					11					
				BH 03 @ 10-15'	12				Brown & tan well graded med. - coarse sand.	
					13			SW		
	Dry	22.0	No		14				No stain./odor.	
					15				some oxidation	

LTE Advancing Opportunity

Boring/Well #	BH03
Project:	Hare 15
Project #	017820018
Date	8-17-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				Lt gray/tan med-coarse well graded sand. No s/o	
				BH03 @ 15'-18'	16			SW		
					17					
	Dry	5.8	No		18				~~Refusal @18' w/ HSA~~, new Resume on 8-20-20 w/ set up.	
					19			SW	Lt. gray tan, coarse well gr.	
	Dry	246.	No		20				sand. No stain. V. slt. odor.	
					21					
					22				SAA. No stain. Mod. odor.	
	Dry	985	No		23				Lt. gray to	
		~~985~~	Yes Strong	BH03 @ 23'-25' 1515	24			SW	Black coarse sand. Heavy stain/odor.	
	Dry				25					
LIQ COND.	SL moist wet.	1,238	Yes Strong		26			SW	SAA, Heavy s/o. saturated w/ condensate.	
					27					
	Dry	702	No		28			SM/ML	Dark brown v. fn. silty sand and sandy silt. Mod odor. No stain	
	Dry	2,246	No	BH03 29'-30' 1545	29			ML	Gray. v. dense v. fn sandy silt. No stain, strong gassy odor.	
					30					
					31					
					32				Gray v. fn. sandy silt + siltstone. Some cement.	
	Dry	1,204	No		33			ML	fissile No stain.	
					34				mod. gas odor.	
					35				gray + maroon shale w/ sand. No stain. V. slt. odor	
				BH03 @35'-38' 1620	36			ML	Gray v. fn. sandy siltstn.	
	Dry	173	No		37				No stain V slt. odor.	

Refusal @ 38'

LTE Advancing Opportunity

848 E. 2nd Ave
Durango, Colorado 81301

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring Well Number: BH04	Project: Hare 15
Date: 8-17-20	Project Number: 017820018
Logged By: Danny Burns	Drilled By: MO-TE Drilling
Elevation: 5,830	Detector: PID
Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite
Grout: Bentonite	
Casing Type: Schedule 40 PVC 25'-SU + 5-SU	Diameter: 2" Length: 25'+,5'+
Hole Diameter: 7"	Depth to Liquid:
Screen Type: Schedule 40 PVC 35'-25' + 15'-5' Slot: 0.010"	Diameter: 2" Length: 10' +10'
Total Depth: 38'	Depth to Water: —

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks
	Dry		No		0–5			SW-SM	Brown, med. sand w/ silt. No stain. well graded strong HC odor.
		1,207	HC strong odor						
			No		6–10			SW-SM	Brown med. sand w/ silt. well graded. No stain. strong HC odor
	Moist	969	Strong HC odor						
			No		11–15			SW	Brown, tan, lt. gray med. -coarse sand. well graded. No stain, strong HC odor
	Dry	1,101	strong odor						

Well Completion: DEEP / SHALLOW

LTE Advancing Opportunity

Boring/Well #	BH04
Project:	Hare 15
Project #	017820018
Date	8-17-20 & 8-20-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
					16				Lt. gray & tan med-coarse dense sand. Well graded.	
					17			SW.		
	Dry	1,401	No		18				No stain, strong sweet gassy HC odor.	
					19					
					20					
					21					
				BH04 @	22			SW	SAA	
	Dry	1,448	No	23-25	23					
					24				Lt. gray to dark gray med-coarse sand. Well graded. mod. stain/odor. Resume 8-20-20	
				15:15	25					
Sat COND.	Sl Moist		yes	BH04 @25-27	26			SW	Black coarse sand. Well gr. Strong s/o. Liq. cond	
	Wet	1,499	Strong	0845	27					
					28			SM ML	Dark brown & gray fn sand w/ silt & silty sand. No stain. Mod odor.	
	Dry		No	BH04 @ 28-30	29					
	Dry	102	No	0850	30			ML	Gray v. fn. sandy silt. Dense, compact fissile. No stain slt. odor	
					31					
				BH04 @ 30-35	32			SM/ML	Lt. & DK. gray interbed sandy siltstn & silts w/ silty sand. some cement but mostly fissile. No stain, slt. odor.	
	Dry	403	No		33					
					34					
				0900	35					
				BH04 @35-38	36			SM/ML	Gray & maroon fn. sandy silt. -gray siltstone.	
	Dry	46	No	0910	37					

Refusal @ 38'

LTE Advancing Opportunity

848 E. 2nd Ave
Durango, Colorado 81301

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

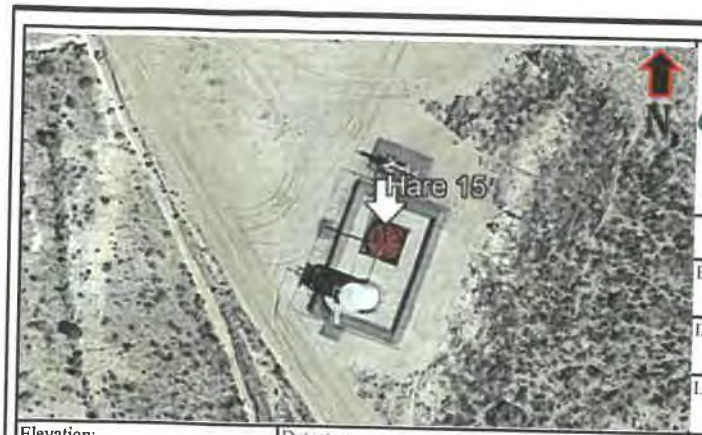
Boring Well Number: BH05	Project: Hare 15
Date: 8-24-20	Project Number: 017820018
Logged By: Danny Burns	Drilled By: MO-TE Drilling
Elevation: 5,830	Detector: PID
Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite
Grout: Bentonite	
Casing Type: Schedule 40 PVC	Diameter: 2" Length: —
Hole Diameter: 7"	Depth to Liquid: —
Screen Type: Schedule 40 PVC	Slot: 0.010" Diameter: 2" Length: —
Total Depth: 30'	Depth to Water: —

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	22.0	No		0–5			SW-SM	Lt. Brown fn-med sand w/ silt. well gr. No s/o.	Backfill w/ cuttings
	Dry	12.1	No		5–10			SW-SM	Lt. Brown med. sand w/ silt. No s/o	
	Dry	9.3	No		10–15			SW.	Lt. brown / tan med-med coarse sand. Some dense lenses, hard but still fissile. No stain/odor	

Advancing Opportunity

Boring/Well #	BH05
Project:	Hare 15
Project #	017820018
Date	8-21-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
					16					
					17				Brown med-coarse sand. Well gr. No s/o	Back-fill w/ cuttings
	SL. Moist	42.4	NO		18			SW		
					19					
				1025	20					
	SL moist				21			SW	SAA. No s/o	
				BH05	22				Brown fn. silty sand/ sandy silt. No s/o	
	Dry	62.6	NO	@20 -25	23			SW-SM		
					24			SM-ML	Gray v. fn. sandy silt. Dense. No s/o	
	Dry									
				1030	25					
					26					
					27				SAA.	
				BH05 @25 -30'	28					
	Dry	24.1	NO		29			ML	Gray + maroon v. fn. sandy silt.	
				1040	30				No well installed. Backfill w/ cuttings	
					31					
					32					
					33					
					34					
					35					
					36					
					37					



Advancing Opportunity

848 E. 2nd Ave
Durango, Colorado 81301

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH06		Project: Hare 15	
Date: 8-21-20		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 30'-19'		Seal: Bentonite 19'-17'	Grout: Bentonite 17'-0'
Casing Type: Schedule 40 PVC 20'-SU		Diameter: 2" Length: 25'	Hole Diameter: 7" Depth to Liquid: —
Screen Type: Schedule 40 PVC 30'-20' Slot: 0.010"		Diameter: 2" Length: 10'	Total Depth: 35' Depth to Water: —

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0					
					1					
					2			SW	Lt. Brown / tan fn-med sand w/ silt. Well Gr. No stain/odor.	
					3			SM		
	Dry	8.3	No		4					
					5					
					6					
					7				Tan med-coarse sand. Well gr. No s/o	
	Dry	5.4	No		8			SW		
					9					
					10					
					11					
					12				SAA. some oxidation.	
					13					
	SL Moist	2.6	No		14			SW	silty dense. but fissile.	
					15					

Advancing Opportunity

Boring/Well #	BH06
Project:	Hare 15
Project #	017820018
Date	8-21-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	SL. Moist				15					
					16					
			yes		17				Gray to dark gray coarse sand well gr.	
			SL. to		18			SW		
		22.4	Mod.		19				Mod stain, Slt. sweet odor.	
				1130	20				DB Degraded HC odor or swampy organic material	
					21					
	Dry			BH 06 @ 20-25'	22				Dark brown to gray, dark gray	
		41.0	SL to mod		23			SW	med - coarse sand.	
					24			SP	some dense. Organic odor, degraded HC odor	
				1140	25				SL-mod stain.	
	SL Moist		SL to MOD		26			SW	SAA. SL-mod stain/organic Degraded odor coarse sand.	
				BH 06 @ 25'-30'	27					
	Dry	17.1	No		28			SW SM	Brown fn. silty sand	
					29			SM	No s/o. Gray fn. sandy silt Dense.	
	Dry		NO	1150	30			ML	No s/o.	
					31					
		8.0			32			ML	SAA No s/o	
					33					
	Dry		NO		34			ML	Gray & Maroon v. fn. sandy	
				1200	35				silt. No s/o	
					36					
					37					

LTE Advancing Opportunity

848 E. 2nd Ave
Durango, Colorado 81301

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH07		Project: Hare 15	
Date: 8-21-20		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 28'-12'		Seal: Bentonite 12'-10'	Grout: Bentonite 10'-0'
Casing Type: Schedule 40 PVC 13'-SU.		Diameter: 2" Length: 15'	Hole Diameter: 7" Depth to Liquid: —
Screen Type: Schedule 40 PVC 28'-13'	Slot: 0.010"	Diameter: 2" Length: 15'	Total Depth: 35' Depth to Water: —

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks
					0				
					1				
					2				
					3				
	SL Moist	9.2	No		4			SW	Brown med sand w/ silt
					5			SM	well gr. No s/o
					6				
					7				
	Dry	1.4	No		8			SW	SAA. No s/o
					9			SM	
					10				
					11				
	Dry				12			SW	SAA, Lt. brown to Lt. gray coarse sand well gr. No s/o.
					13				
					14				Lt. gray, med. sand. Med stain/odor
	Dry	2,314	Yes Slight		15				

Well Completion

Advancing Opportunity

Boring/Well #	BH07
Project:	Hare 15
Project #	017820018
Date	8-21-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
					16				SAA. Lt. gray med-coarse sand. Mod stain/odor. Slt. degraded/organic	
			Yes		17			SW		
	Dry	2,402	Slt to Mod		18					
					19					
				1235	20					
					21					
					22				SAA.	
			yes		23			SW	Lt. gray/tan med-coarse/ coarse sand.	
	Dry	1,665	silty.		24				slt. s/o. V. swampy/degraded odor.	
	slt. moist				25					
Liq cond	moist				26			SW	SAA, dark gray coarse sand,	
	wet.	1,866	yes	1245	27			SW-SM	wet w/ condensate strong stain/odor.	
	Dry		No		28				gray silty sand	
				BH07 28-30	29			SM-ML	Lt. gray fn. sandy silt.	
	Dry	174	No	1250	30				No stain/odor. Dense.	
					31					
					32			SM/ML	Gray fn. sandy silt.	
	Dry	41.2	No		33				& siltstn. Dense. Interbedded silty fn. sand.	
					34				No s/o. Fissile	
				1300	35					
					36					
					37					

Advancing Opportunity

848 E. 2nd Ave
Durango, Colorado 81301

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH08		Project: Hare 15	
Date: 8-21-20		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 35'-24'		Seal: Bentonite 24'-22'	Grout: Bentonite 22'-0'
Casing Type: Schedule 40 PVC 25'-S.U.		Diameter: 2" Length: 30'	Hole Diameter: 7" Depth to Liquid:
Screen Type: Schedule 40 PVC 35'-25' Slot: 0.010"		Diameter: 2" Length: 10'	Total Depth: 40' Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	7.3	No		0 1 2 3 4 5			SW SM	Lt. Brown med. sand w/ silt. No s/o	
	Dry	3.3	No		6 7 8 9 10			SW -SM	SAA. No s/o	
	Dry	4.0	No		11 12 13 14 15			SP -SM	SAA. No s/o Lt. Brown med sand med fn -med sand w/ silt. No s/o	

Advancing Opportunity

Boring/Well #	BH08
Project:	Hare 15
Project #	017820018
Date	8-21-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	0.9	No		15–20			SP	SAA. Brown med sand w/ silt - No s/o	
	Dry	2.1	No		20–25			SW	Brown to tan med. to coarse sand. Well Gr. Dense. No s/o	
	Dry	649	No	BH 08 @ 25'-30' 1515	25–30			SW ML	Brown to H_ gray sandy silt. Dense, fissile. No stain, slt. musty degraded HC odor	
	Dry	1,200	No	BH 08 @ 30'-35' 1540	30–35			SM ML	Gray, interbedded silty fn sand, & sand stn. fn sandy silt. & silt. stn. No stain. Slight, sweet HC odor.	
					35–37			SM ML	SAA.	

Advancing Opportunity

Boring/Well #	BH08
Project:	Hare 15
Project #	017820018
Date	8-21-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	233	No	BH 08 @ 35'-40'	37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59	BH		ML ML	Gray + maroon slt. No s/o. Dense Bluish gray fn. silt. No s/o	

Advancing Opportunity

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring Well Number: BH09	Project: Hare 15
Date: 8-24-20	Project Number: 017820018
Logged By: Danny Burns	Drilled By: MO-TE Drilling
Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Seal: Bentonite 24'-22'	Grout: Bentonite 22'-0'
Diameter: 2" Length: 30'	Hole Diameter: 7" Depth to Liquid:
Diameter: 2" Length: 5'	Total Depth: ~~40~~ 35' Depth to Water:

Elevation: 5,830
Detector: PID
Gravel Pack: 10-20 Silica Sand 30'-24'
Casing Type: Schedule 40 PVC 25'-S.U.
Screen Type: Schedule 40 PVC 30'-25' Slot: 0.010"

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0					
					1					
					2			SW	Brown med. sand w/ silt.	
	~~Dry~~ SL Moist	~~0.0~~ 0.9	No		3			~~uniform~~ SM	well graded	
					4				No steam/odor	
					5					
					6					
					7					
	SL Moist ~~4.6~~	4.0	No		8			SW	SAA. No s/o	
					9			SM		
					10					
					11					
					12					
	Dry	1.6	No		13			SW	SAA. No s/o	
					14			SM		
					15					

Advancing Opportunity

Boring/Well #	BH09
Project:	Hare 15
Project #	017820018
Date	8-24-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	0.0	No		15–20			SW-SM	Lt Brown med to coarse sand. Tr silt. No s/o	
								SW	Lt. gray coarse sand No s/o	
	Dry	0.0	No		21–25			SW	Lt brown & tan, some Lt. gray coase sand. No s/o	
	Moist	3,359	yes	BH09 @ 25-27	26–27			SW	Lt gray coarse sand. ~~St~~ slight St./odor	backfill/ slough
	Dry	30.1	No	BH 09 @ 28-30	28–30			SM/ML ML	Lt. gray + brown sandy fn silt. + Fn silty sand Dense. No stain. slt. odor. Gray, dense, fn. sandy silt.	
	Dry	6.2	No	BH 09 @ 30'-35'	31–35			SM/ML	Gray interbedded silty fn. sand No s/o + gray fn sandy silt some silt stn. No s/o	
					36–37					

Advancing Opportunity

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH10	Project: Hare 15
Date: 8-24-20	Project Number: 017820018
Logged By: Danny Burns	Drilled By: MO-TE Drilling
Elevation: 5,830	Detector: PID
Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 30'-19'	Seal: Bentonite 19'-17'
Grout: Bentonite 17'-0'	
Casing Type: Schedule 40 PVC 20'-SU	Diameter: 2" Length: 25'
Hole Diameter: 7"	Depth to Liquid:
Screen Type: Schedule 40 PVC 30'-20' Slot: 0.010"	Diameter: 2" Length: 10'
Total Depth: 35'	Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0					
					1					
					2					
					3			SW	Lt. Brown med sand.	
	Dry	0.1	No		4				No s/o	
					5					
					6					
					7			SW	SAA - No s/o	
	Dry	0.8	No		8					
					9					
					10					
			No		11					
					12			SW-SM	Lt. Brown w/ oxidation to slight gray med sand. w/ some silt. Slightly dense some slt. stain/ faint degraded HC odor.	
	Dry	946			13					
			Slight Yes.		14					
			No	1015	15					

Advancing Opportunity

Boring/Well #	BH10
Project:	Hare 15
Project #	017820018
Date	8-24-10

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	3,317	yes, Mod.	BH 10 @ 15'-20' 1030	15–20			SP	Gray, coarse sand. Mod. stain/odor. Degraded HC gassy odor.	
	SL. Moist	2,369	yes Mod.		21–25			SP	Gray, grayish tan coarse sand. Mod s/o. Degraded HC gassy odor,	
	Moist	878	yes		26–27			SW-SM	SAA, Gray med-coase sand w/ silt. slt-mod. s/o.	
	Dry		No	BH 10 @ 28-30' 1045	28–30			SM/ML ML	- Gray fn-sandy silt Dense slt. s/o. - Lt. Gray v. fn. sandy silt. Dense No s/o.	
	Dry	113	No		31–35			SM/ML	Lt. gray interbedded silty fn. sand ↓ sand stn. ↓ gray fn. sandy silt. ↓ silt stn. Some cement. Fissile. No s/o	
				1050	36–37					

Advancing Opportunity

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH11		Project: Hare 15	
Date: 8-24-20		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 30'-19'		Seal: Bentonite 19'-17'	Grout: Bentonite 17'-0'
Casing Type: Schedule 40 PVC 20'-SU.		Diameter: 2" Length: 25'	Hole Diameter: 7" Depth to Liquid: —
Screen Type: Schedule 40 PVC 30'-20' Slot: 0.010"		Diameter: 2" Length: 10'	Total Depth: 38.5' Depth to Water: —

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	SL Moist	0.5	No		0 1 2 3 4 5			SW	Lt. Brown med sand. Well gr. No s/o	
	Dry	31.3	No		6 7 8 9 10			SW	SAA. med-coarse sand. No s/o	
	Dry	1,841	yes MOD		11 12			SW-SM	Dark gray to black med. sand w/ silt. Mod to strong stain. Swampy, deg. HC odor	
	Dry		No SL- No	BH 11 @10-15' 1150	13 14 15			SW SM SW SM	Brown, w/ oxid. med silty sand. No stain, slt. odor Tan, lt Brown med sand w/ silt. No stain, slt. degraded gassy HC odor	

Advancing Opportunity

Boring/Well #	BH 11
Project:	Hare 15
Project #	017820018
Date	8-24-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
					16				Tan & Lt. gray med-coarse sand	
					17			SW		
					18				No stain. Slt. sweet degraded HC odor, swampy	
	Dry	175	No		19					
					20					
					21				Lt. Brown - Lt. gray	
					22			SW	coarse sand.	
	Dry	517	No		23				~~No~~ Slt-stain in spots, Semi-sweet gassy degraded	
					24				HC odor.	
					25					
	SL Moist	~~LL~~	Yes		26			SW	SAA ~~10~~	
				BH 11 @ 25-30'	27			SM ML	~~SAA~~ Interbedded fn sandy silt + silt stn + silty sand + sand stn. No s/o	
			No		28					
	Dry	686			29			ML	Gray fn sandy silt. No s/o	
				1220	30					
					31				Gray interbedded fn. sandy silt + silt stn.	
					32				w/ silty sand, fn. + v. fn	
	Dry	13.6	No		33			ML	+ silty sand stn.	
					34				No s/o	
				1250	35					
					36			ML	SAA. No s/o	
	Dry	1.9	No		37					

Refusal @ 38.5'

1240

BH12

Advancing Opportunity

848 E. 2nd Ave
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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH 12	Project: Hare 15
Date: 8-24-20	Project Number: 017820018
Logged By: Danny Burns	Drilled By: MO-TE Drilling
Elevation: 5,830 / Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite	Grout: Bentonite
Casing Type: Schedule 40 PVC	Diameter: 2" / Length: —	Hole Diameter: 7" / Depth to Liquid: —
Screen Type: Schedule 40 PVC / Slot: 0.010"	Diameter: 2" / Length: —	Total Depth: 35' / Depth to Water: —

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	0.0	No		0 1 2 3 4 5			SW SM	Lt. Brown med-fn - med sand. W/ silt. No s/o	No well.
	Dry	0.7	No		6 7 8 9 10			SW -SM	SAA. No s/o	
	Dry	6.1	No	BH 12 @ 10-15' 1345	11 12 13 14 15			SW -SM	SAA. No s/o	

Advancing Opportunity

Boring/Well #	BH12
Project:	Hare 15
Project #	017820018
Date	8-24-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
					16					
					17				Lt. Brown fn-med fn	
	Dry	1.4	No		18			SW	sand w/ silt.	
					19			-SM	No stain/odor.	
					20					
					21					
					22			SW	SAA, less silt. No s/o	
	Dry	0.8	No		23					
					24			SW	SAA No s/o	
					25			SM		
					26					
				BH 12 @ 25'-30'	27					
	Dry	0.8	No		28			SW	Brown med-coarse	
					29			-SM	sand w/ silt.	
				1400	30				No s/o	
					31					
					32			SW	SAA. Brown coarse sand	
								SM	No s/o	
	Dry	0.0	No		33					
					34				Gray, olive, dense fn. sandy silt.	
					35			ML	gray + maroon silt. w/	
					36				fn. sand No s/o	
					37					

Advancing Opportunity

848 E. 2nd Ave
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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring Well Number: BH13		Project: Hare 15	
Date: 8-24-20		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 30'-19'		Seal: Bentonite 19'-17'	Grout: Bentonite 17'-0'
Casing Type: Schedule 40 PVC 20'-SU.		Diameter: 2" Length: 25'	Hole Diameter: 7" Depth to Liquid:
Screen Type: Schedule 40 PVC 30'-20'	Slot: 0.010"	Diameter: 2" Length: 10'	Total Depth: 35' Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	SL Moist	2.9	No		0 1 2 3 4 5			SW SM	Brown fn-med - med. sand w/ silt. Poss. fill. No s/o	
	Dry	3.9	No		6 7 8 9 10			SW	Lt. Brown / tan med. to med-coarse sand. Tr. silt. No s/o	
	Dry	49.3	No		11 12 13 14 15			SW	SAA. Slthly dense @ 14-15' V. slt gassy odor. No stain	

LTE Advancing Opportunity

Boring/Well #	BH13
Project:	Hare 15
Project #	017820018
Date	8-24-20

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	24.9	No		15–20			SW	Lt brown / tan. med-coarse sand. well gr. No stain.	
					20–21				Brown w/ oxidation	
	Dry	532	yes		22–25			SW	Lt. gray/dark gray to black Dense. Lt. gray. med- coarse sand. silty dense. No stain, mod. deg. HC odor	
Liq COND.	Wet.	1,912	Yes	BH13 @25-27 1445	26–27			SW	Gray to black coarse sand. Strong s/o. Gas.	
	Dry		No		28			SM/ML	Grayish brown fn. sandy silt. & silty fn. sand. slt. odor	
	Dry	39.4	No	BH13 @28-30 1450	29–30			ML	Gray fn sandy silt. No s/o	
	Dry	174	No	BH13 @ 30-35	31–35			ML	Gray sandy silt., silt stn. Cemented, fissile. No s/o	
					34				Gray & maroon silt. No s/o	
					36–37					

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH14		Project: Hare 15	
Date: 2-9-21		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand		Seal: Bentonite	Grout: Bentonite
Casing Type: Schedule 40 PVC		Diameter: 2" Length:	Hole Diameter: 7" Depth to Liquid:
Screen Type: Schedule 40 PVC	Slot: 0.010" 30'-20'	Diameter: 2" Length: 10'	Total Depth: 35' Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	0.6	No		0–5			SW-SM	Lt. brown med sand. Some silt. No stain/odor.	
	Dry	318	No		6–9			SW-SM	Tan, SAA, med, fn-med sand w/ silt. Lt. gray med. sand, slight stain/odor.	
		2,162	Slight		10					
	Dry	745	Slt		11–15			SW	Tan, med sand Dense. Two small lenses (<2in.) of lt. gray slight stain/odor.	

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Boring/Well #	BH 14
Project:	Hare 15
Project #	017820018
Date	2-9-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
					16					
					17			SW	SAA	
	Dry	45	No		18			~~SM~~	Tan, lt. Brown med sand	
					19				Dense.	
					20				No stain/odor	
					21					
					22				Tan, Dense med. sand.	
	Dry	2,962	No		23			SW	No stain, but mod.	
					24				sweet gassy odor.	
					25					
	Moist			BH 14 @ 25-27'	26				Gray to dark gray &	
		3204	Yes		27			SW	black sand, med.	
	Wet				28				Strong stain/odor. wet/sat.	
				BH 14 @ 28'-30'	29			SM	Lt. gray to gray dense	
	Dry	22	Yes slight		30			ML	Fn. sandy silt. No. s/o	
					31					
				BH 14 @ 30'-35'	32					
			No		33			SM	Gray Fn. sandy silt.	
	Dry	20			34			ML	Dense, fissile.	
					35				No s/o	
					36					
					37					

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH15	Project: Hare 15
Date: 2-9-21	Project Number: 017820018
Logged By: Danny Burns	Drilled By: MO-TE Drilling
Elevation: 5,830	Detector: PID
Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite
Grout: Bentonite	
Casing Type: Schedule 40 PVC	Diameter: 2" Length:
Hole Diameter: 7"	Depth to Liquid:
Screen Type: Schedule 40 PVC	Slot: 0.010" 32'-17' Diameter: 2" Length: 15'
Total Depth: 35'	Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Sl. Moist	2.6	No		0–5			SW-SM	Brown, tan med sand w/ silt. No stain or odor	
	Dry				5–10			SW	Brown sand, med-coarse w/ oxidation Some gray dense silt. No s/o.	
	Dry	2.3	No		10–15				✱ continuous sampler refusal, had to put in center plug to get to 20'	
	Dry	2,247	Yes		15			SW	10-15' Brown + gray med Dense sand. Slight stain + odor	

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Boring/Well #	BH15
Project:	Hare 15
Project #	017820018
Date	2-9-21

Depth (ft. bgs.)	Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
15										
16									* No continuous sampler Used center plug to get to 20'.	
17										
18							NA			
19		Dry	18	No					Cuttings: Brown med coarse sand. No s/o	
20										
21										
22				Slt.				SW	Lt. gray + tan coarse sand.	
23			1,490							
24		Dry		No					Slt. stain, gassy degraded HC odor.	
25										
26					BH 15 @ 25'-30' 1245					
27									SAA. Dense. med-coarse sand.	
28		Dry	3055	Yes				SW		
29									Slt - mod stain/odor	
30		Moist							- moist @ 30'	
31				No	BH 15 @ 30'-35' 1300			SM-ML	- gray, dense sandy silt ~~Fissile~~, No s/o.	
32		Dry	82							
33									gray silt, some fn. sand No s/o. Dense Fissile	
34		Dry		No						
35										
36										
37										

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH16	Project: Hare 15
Date: 2-9-21	Project Number: 017820018
Logged By: Danny Burns	Drilled By: MO-TE Drilling
Elevation: 5,830	Detector: PID
Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite
Grout: Bentonite	
Casing Type: Schedule 40 PVC	Diameter: 2" Length:
Hole Diameter: 7"	Depth to Liquid:
Screen Type: Schedule 40 PVC	Slot: 0.010"
Diameter: 2" Length: 10'	Total Depth: 35'
Depth to Water:	

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	SL Moist	4.1	No		0 1 2 3 4 5			SW -SM	Brown med sand w/ silt. No s/o	
	Dry	0.0	No		6 7 8 9 10			SW	Lt. Brown, tan sand, med. loose. No s/o	
	Dry	0.0	No		11 12 13 14 15			SW	tan med-coarse sand. slt. dense. No s/o	

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Boring/Well #	BH16
Project:	Hare 15
Project #	017820018
Date	2-9-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	0.0	No		15–20				SAA. Tan coarse, med. sand. Dense. No s/o.	
					20				Using center plug, continuous sampler refusal. Logging cuttings.	
	Dry	13	No		21–25				Brown, coarse & med sand. No s/o.	
					25				Resume continuous sampler.	
	Dry		No		26–27				- tan to lt. gray dense med. coarse sand.	
	sl. moist	2,332	sl. Yes	BH 14 @ 25-30' 1600	28–30				slt. stain/odor.	
	wet		yes		30–31				coarse gray sand, wet, s/t. sheen.	
					32				Gr. gray, sandy silt. No s/o	
	Dry	212	No	BH 16 @ 33-35' 16:15	33–34				Lt. gray silt. No s/o	
					35				TD. 33.5' after pullingout	
					36–37					

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH17		Project: Hare 15	
Date: 2-10-21		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand		Seal: Bentonite	Grout: Bentonite
Casing Type: Schedule 40 PVC	Diameter: 2" Length: 0	Hole Diameter: 7"	Depth to Liquid: —
Screen Type: Schedule 40 PVC	Slot: 0.010" Diameter: 2" Length: 0	Total Depth: 30	Depth to Water: —

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	1.7	No		0–5			SW-SM	Brown, lt brown/tan fn-med sand w/ silt. Loose. No stain or odor.	No Well set
	Dry	1.0	No		6–10			SW-SM	SAA. Tan fn. to med. coarse sand w/ silt. well gr. No s/o	
	Dry	1.2	No		11–15			SW-SM	SAA. No s/o	

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Boring/Well #	BH17
Project:	Hare 15
Project #	017820018
Date	2-10-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	0.7	No		15–20			SW–SM	SAA. Tan med sand w/ silt. No s/o	
								SW	Lt brown/Lt. tan med-coarse sand. Tr. silt. No stain/odor.	
	Dry	1.8			20–25			SP	Tan, coarse sand. Some oxidation. No s/o	
	Dry	0.3			25–30			SM	Lt grayish tan V. fn sand + silt to	
								ML	sandy silt. Dense. No s/o.	
					31–37					

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH18		Project: Hare 15	
Date: 2-10-21		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand		Seal: Bentonite	Grout: Bentonite
Casing Type: Schedule 40 PVC		Diameter: 2" Length:	Hole Diameter: 7" Depth to Liquid: —
Screen Type: Schedule 40 PVC	Slot: 0.010"	Diameter: 2" Length: 5'	Total Depth: 30 Depth to Water: —

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	0.0	No		0 1 2 3 4 5			SW -SM	Lt Brown med sand w/ silt. No s/o Dense.	
								SM	coarse silty sand. No s/o	
	Dry	0.0	No		6 7 8 9 10			SW SM	Lt. brown + tan fn-med silty sand. Dense. No s/o	
	SL moist	0.0	No		11 12 13 14 15			SW- SM	- center plug cuttings: SAA. No s/o	

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Boring/Well #	BH18
Project:	Hare 15
Project #	017820018
Date	

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
					16			SW-SM	Core: Tan. med sand w/ silt. No s/o	
					17				Plug. - cuttings.	
	Dry	0.0	No		18				Coarse tan sand.	
					19			SP	Dense. No s/o.	
					20					
					21					
					22					
	Dry	0.3	No	BH 18 @ 20-25	23			SP	Tan coarse sand well gr. No s/o Dense.	
					24					
				12:00	25					
					26					
	St. Moist				27			SP	SAA. No s/o.	
	Dry	0.0	No	BH 18 @ 25-30	28					
					29			SM-ML	Gray, dense fn. sandy silt. Fissile. No s/o.	
				12:15	30					
					31					
					32					
					33					
					34					
					35					
					36					
					37					

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Boring/Well #	BH19
Project:	Hare 15
Project #	017820018
Date	2-10-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
					38				BH19 7" diam TD:	
					39					
					40					
					41			SW -SM	Lt. Brown fn med sand w/ silt. loose	
	Dry	0.0	N		42				No S/O	
					43					
					44					
					45					
					46					
					47				Lt. gray & tan med sand w/ silt	
	Dry	0.0	N		48			SW -SM	No S/O	
					49					
					50					
					51			SAA		
					52				No S/O	
	Dry	0.0	N		53					
					54			SP	Tan med-med coarse dense sand. No S/O	
					55					
					56				Center plug used. cuttings.	
					57					
	Dry	1.3	N		58			SP	SAA. No S/O	
					59					

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Boring/Well #	BH19
Project:	Hare 15
Project #	017820018
Date	2-10-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37				BH 19	
					38					
					39					
					40				Center plug - cuttings:	
					41					
					42			SP	Tan med coarse	
					43				sand. Dense	
	Dry	0.0	No		44				Well gr.	
					45				No s/o	
					46					
					47					
				SS	48			SP	SAA	
	Dry	7.8	No		49				No s/o	
	SL M				50					
				BH 19	51			SP	Gray, coarse sand,	
	Moist	119	SL	30 -35	52				moist. slight odor.	
					53					
					54			SM ML	gray silty fn sand	
	Dry		No	1515	55				+ sandy silt	
				BH 19	56				No	
	Dry	4.8	No	35 -40'	57			ML	Dense SAA	S/O
				1530	58					
					59					

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Boring/Well #	BH20
Project:	Hare 15
Project #	017820018
Date	2-11-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37				BH20 - using smaller HSA. 6" diam	
					38					
					39					
					40					
					41			SW	Brown fn med sand	
					42			SM	w/ silt. Organics	
	Dry	0.0	No		43				House. No s/o	
					44					
					45					
					46					
					47			SW	SAA No s/o	
	Dry	0.0	No		48			SM		
					49					
					50					
					51					
					52					
					53				Tan well grad	
	Dry	0.0	No		54			SP	med fn- med coarse	
					55				sand. No s/o	
					56					
					57				Tan med coarse	
					58			SP	sand. Dense	
	Dry	68	No		59				81. grassy sweet HC odor	
									No stain	

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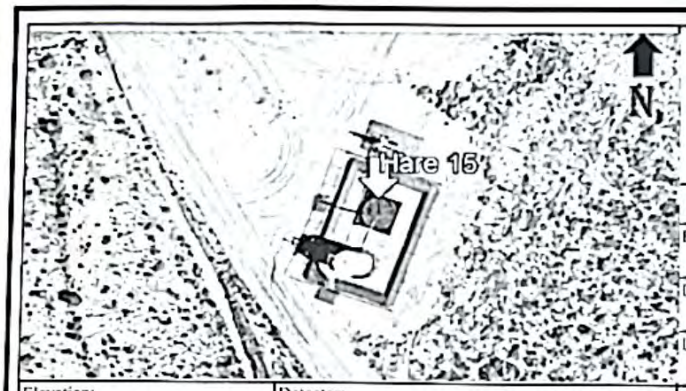
Boring/Well #	
Project:	Hare 15
Project #	017820018
Date	

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37				BH20 2-11-23	
					38					
					39					
					40					
					41				SAA Tan med coarse sand.	
	Dry	27	No		42			SP	SL odor No stain	
					43					
					44					
					45					
					46				Tan to light gray	
	Dry	2023		BH20 @ 25-30	47			SP	med - med coarse sand. SL odor.	
	Moist		yes		48			SW	Lt gray med-sand w/silt.	
				0945	49			SM	Slt. s/o.	
					50					
					51			SW	SAA Med sand - coarse	
			Yes		52				sand s/o.	
	wet				53			SM ML		
				BH20 @ 33-35'	54			ML	Lt. gray sandy silt. Dense	
	Dry	80	No	1000	55				No s/o.	
					56					
					57				10' screen	
					58				TD: 40	
					59					

backfill to 35'



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH21		Project: Hare 15	
Date: 5/17/21		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand		Seal: Bentonite	Grout: Bentonite
Casing Type: Schedule 40 PVC		Diameter: 2" Length: 30'	Hole Diameter: 10" Depth to Liquid: ~~29~~ N/A
Screen Type: Schedule 40 PVC	Slot: 0.010"	Diameter: 2" Length: 10'	Total Depth: 35' Depth to Water: 29.5

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	DRY	6.2	N		0–4			SP-SM	Loose, dry, lt brown, Sand, little fines, non cohesive, no S/O	
	DRY	6.7	N		5–6			SP/SM	SAA no S/O	
	DRY	8.4	N		7–8			SP/SM	SAA no S/O	
	DRY	4.1	N		11–13			SM	Loose, dry, lt brown, coarse Sand, few fines, no Stain/odor	
	DRY	2.2	N		14–15			SM	SAA no S/O	

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Boring/Well #	BH 21
Project:	Hare 15
Project #	017820018
Date	5/17/21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	DRY	2.8	N		15			SP	Loose, dry, coarse Sand, trace fines non-cohesive no S/O	
					16					
	DRY	3.6	N		17			SP	SAA	
					18					
					19					
	DRY	1.4	N		20			SP	SAA	
					21					
					22					
	moist	5.3	N		23			SP	meddense, moist, dark brown, coarse Sand, trace fines, white mottling no S/O	
					24					
					25					
	moist	1.4	N		26			SP	SAA	
					27					
					28					
	moist	14.8	N		29			GP	med dense, coarse sand. & gravel GW @ 29.5'	
					30					
					31					
	~~moist~~ wet	3005	Y		32			SP	wet, black, HC Staining, coarse Sand, Strong odor	
					33					
					34					
	moist	485	N		35					
					36			CL	moist, very Stiff, Yellow brown gray, Clay	TD=35
					37					

LTE Advancing Opportunity

848 E. 2nd Ave

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH22	Project: Howell 15 ~~Howell M#1~~
Date: 5/17/21	Project Number: 017820016
Logged By: Eric Carroll	Drilled By: MO-TE Drilling
Elevation: 5,760 / Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite	Grout: Bentonite
Casing Type: Schedule 40 PVC	Diameter: 2" Length: 30	Hole Diameter:	Depth to Liquid: NA
Screen Type: Schedule 40 PVC Slot: 0.010"	Diameter: 2" Length: 15	Total Depth: 40'	Depth to Water: ~~38~~

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	8.0	N		0			SM	Loose, dry, lt. brown, coarse sand, little fines no S/O	
					1					
					2					
	Dry	8.1	N		3			SM	SAA no S/O	
					4					
					5					
	DRY	6.3	N		6			SM	SAA no S/O	
					7					
					8					
	Dry	5.1	N		9			SM	SAA no S/O	
					10					
					11					
	Dry	4.9	N		12			SP	Loose, dry, lt brown, coarse sand trace fines, no S/O	
					13					
	DRY	4.9	N		14			SP	SAA no S/O	
					15					

LTE Advancing Opportunity

Boring/Well #	BH 22
Project:	Howell M#1
Project #	017820016
Date	5/17/21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	DRY	2.4	N		15–18			SP	med. dense, dry, lt brown, coarse sand, little gravel no S/O	
	DRY	2.0	N		19–21			SP	SAA no S/O	
	DRY	5.4	N		22–23			SP	Dense, brown, coarse sand, ~~few~~ few gravel no stain/odor	
	DRY	8.8	N		24–25			SP	SAA no S/O	
	DRY	14.9	N		26–27			SP	SAA no S/O	
	DRY	28.1	N		28–30			SP	SAA no S/O	
	moist	7.5	N		31–33			SP	Dense, moist, coarse sand, few gravel	
					34				NO Recovery 32.5-35	
	wet	17.5	N		35–37			SP	coarse, wet, Sand, Swampy Organic Odor	

LTE Advancing Opportunity

Boring/Well #	BH27
Project:	Howell M#1
Project #	017820016
Date	5/17/21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
					38			CL	Dark gray, clay, stiff	
					39					
					40					
					41					
					42				TD = 40'	
					43					
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

LTE Advancing Opportunity

848 E. 2nd Ave

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH23	Project: Hare 15 ~~Howell M#1~~
Date: 5/17/21	Project Number: 017820016
Logged By: Eric Carroll	Drilled By: MO-TE Drilling
Elevation: 5,760 / Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite	Grout: Bentonite
Casing Type: Schedule 40 PVC	Diameter: 2" Length: 40'	Hole Diameter:	Depth to Liquid: NA
Screen Type: Schedule 40 PVC / Slot: 0.010"	Diameter: 2" Length: 10'	Total Depth: 47'	Depth to Water: 38

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	DRY	6.4	N		0			SM	Loose, dry, lt brown, sand few fines no S/C	
					1					
					2					
					3					
	DRY	5.9	N		4			SM	SAA no S/C	
					5					
					6					
	DRY	4.6	N		7			SM	SAA	
					8					
	DRY	3.4	N		9			SM	SAA	
					10					
					11					
	DRY	3.7	N		12			SP	Dense, dry, lt yellow brown, coarse sand no S/C	
					13					
	DRY	3.5	N		14			SP	SAA w/ oxidation mottling	
					15					

Advancing Opportunity

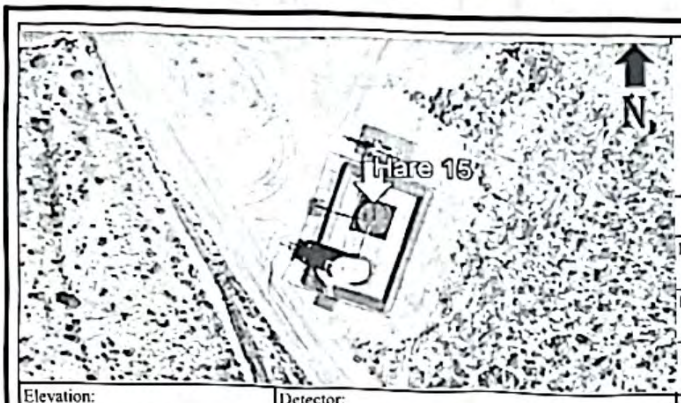
Boring/Well #	BH 23
Project:	Howell M#1
Project #	017820016
Date	5/17/21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	moist	6.8	N		15			SP	Dense, yellow brown, coarse Sand, little fines no s/o	
					16					
					17					
	moist	3.2	N		18			SP	SAA no s/o	
					19					
					20					
	moist	2.3	N		21					
					22			SP	SAA no s/o	
					23					
	moist	3.4	N		24			SP	med. dense, gray, coarse Sand no s/o	
					25					
	moist	5.4	N		26			SP	SAA no s/o	
					27					
					28					
	moist	5.9	N		29			SP	Dense, lt brown, coarse Sand little fines	
					30					
					31			SP	SAA	
	moist	10.3	N		32					
					33					
	moist	10.6	N		34			SP	SAA	
					35					
					36			SP	SAA	
	moist	11.4	N		37					

Advancing Opportunity

Boring/Well #	BH 23
Project:	Howell M#1
Project #	017820016
Date	5/17/21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	moist	10.8	N		37			SP	moist, dense, lt brown coarse sand, little fines	
					38				no S/P	
					39					
	wet				40				wet @ 38.5'	
	moist	8.6	N		41			CL	moist, gray, clay, trace sand	
					42				TD: 42'	
					43					
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH 24		Project: Hare 15	
Date: 5/19		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand		Seal: Bentonite	Grout: Bentonite
Casing Type: Schedule 40 PVC		Diameter: 2" Length: 40'	Hole Diameter: Depth to Liquid: NA
Screen Type: Schedule 40 PVC	Slot: 0.010"	Diameter: 2" Length: 10'	Total Depth: 45 Depth to Water: 39'

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	DRY	0.6	N		0				Loose, DRY, coarse sand, little fines no s/o	
					1					
					2					
	DRY	0.8	N		3				SAA no s/o	
					4					
					5					
	DRY	1.1	N		6				SAA no s/o	
					7					
					8					
	DRY	1.6	N		9				Loose, Dry, Coarse sand trace fines	
					10					
					11					
	DRY	1.6	N		12				SAA	
					13					
					14					
	DRY	13.5	N		15				SAA	

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Boring/Well #	BH 24
Project:	Hare 15
Project #	017820018
Date	5/15/21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	DRy	7.1	N		15				~~dense~~, brown coarse sand trace fines	
					16					
					17					
	DRy	6.6	N		18				SAA	
					19					
					20					
	moist	6.8	N		21				Dense, moist, brown, coarse Sand, few gravel	
					22					
					23					
	moist	9.4	N		24				Dense, moist, black, coarse Sand, organic swampy odor Some gravel	
					25					
					26					
	moist	17.6	N		27				Very dense, moist, brown coarse sand, some gravel no S/O	
					28					
	moist	14.1	N		29				SAA no S/O	
					30					
	moist	11.7	N		31				SAA no S/O	
					32					
					33					
	moist	10.8	N		34				SAA no S/O	
					35					
					36					
	Moist	8.0	N		37				SAA no S/O	

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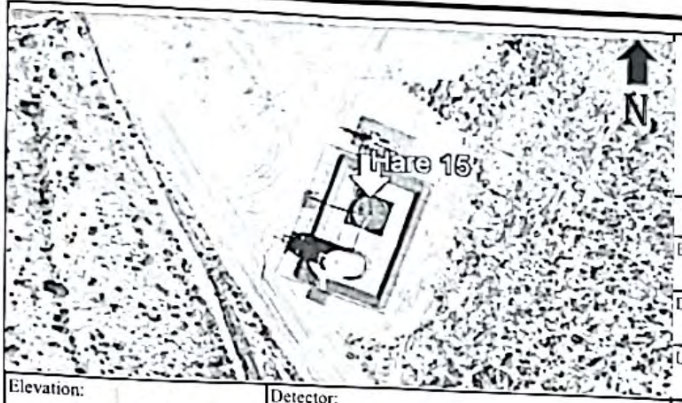
Boring/Well #	B1721
Project:	Hare 15
Project #	017820018
Date	5/19/21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	moist	7.2	N		37				SAA	
					38					
					39					
					40					
	moist	6.7	N		41				Firm, Gray, Clay, trace Sand	
					42					
					43					
	moist	2.4	N		44				SAA	
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH25	Project: Hare 15
Date: 5/18	Project Number: 017820018
Logged By: Danny Burns	Drilled By: MO-TE Drilling
Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Seal: Bentonite	Grout: Bentonite
Elevation: 5,830	Detector: PID
Gravel Pack: 10-20 Silica Sand	
Casing Type: Schedule 40 PVC	Diameter: 2" Length: 30'
Screen Type: Schedule 40 PVC Slot: 0.010"	Diameter: 2" Length: 15'
Hole Diameter:	Depth to Liquid: NA
Total Depth: 40'	Depth to Water: 36'

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	DRY	11.7	N		0			SP	Loose, dry, sand, few fines no stain/odor	
					1					
					2					
	DRY	16.0	N		3			SP	SAA no S/O	
					4					
					5					
	DRY	4.5	N		6			SP	SAA no S/O	
					7					
					8					
	DRY	19.1	N		9			SP	SAA no S/O	
					10					
					11					
	DRY	3.8	N		12			SP	SAA no S/O	
					13					
					14					
	DRY	1.7	N		15			SP	SAA no S/O	

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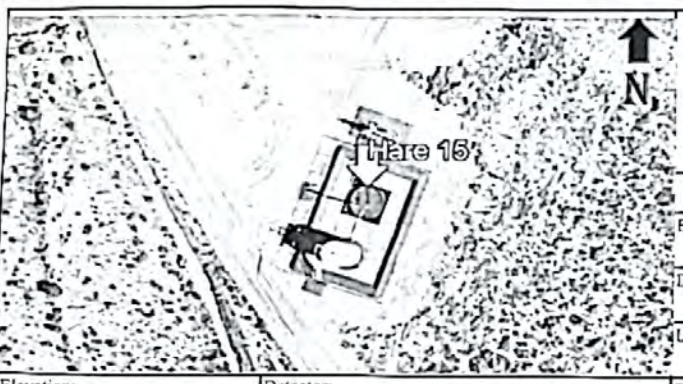
Boring/Well #	BH 25
Project:	Hare 15
Project #	017820018
Date	5/18

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	DRY	1.6	N		15			SP	med dense, dry, lt. brown, coarse sand, some gravel no s/o	
					16					
					17					
					18					
	DRY	2.0	N		19			SP	SAA no s/o	
					20					
	moist	10.8	N		21			SP	med dense, moist, brown coarse sand some gravel	
					22					
					23					
	moist	12.6	N		24			SP	SAA no s/o	
					25					
					26					
	moist	21.8	N		27			SP	SAA no s/o	
					28					
	moist	10.7	N		29			SP	SAA no s/o	
					30					
	moist	7.9	N		31			SP	SAA no s/o	
					32					
					33					
	moist	4.2	N		34			SP	SAA no s/o GW @ t ~35'	
					35					
	moist	2.4	N		36			CL	Firm, moist, gray brown, clay little sand TD=40'	
					37					

2



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH26	Project: Hare 15
Date: 5/18/21	Project Number: 017820018
Logged By: Danny Burns	Drilled By: MO-TE Drilling
Elevation: 5,830 / Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite	Grout: Bentonite
Casing Type: Schedule 40 PVC	Diameter: 2" Length: 30	Hole Diameter:	Depth to Liquid: NA
Screen Type: Schedule 40 PVC Slot: 0.010"	Diameter: 2" Length: 15	Total Depth: 40	Depth to Water: 35'

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	DRY	4.0	N		0–1			SM	Loose, dry, lt. brown, coarse Sand, little fines no S/O	
	DRY	4.2	N		3–4			SM	SAA no S/O	
	DRY	3.0	N		6–7			SP	Loose, dry, brown, coarse Sand few gravel no S/O	
	DRY	3.8			8–9			SP	SAA no S/O	
	DRY	3.8	N		11–12			SP	SAA no S/O	
	DRY	9.6	N		14–15			SP	Dense, dry, coarse, lt brown Sand w/ white & Rust mottles	

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Boring/Well #	BH 26
Project:	Hare 15
Project #	017820018
Date	

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	moist	~~12.0~~ 6.9	N		15			SP	Loose, moist, Vry lt brown coarse sand no s/c	
					16					
					17					
					18					
	moist	13.0	N		19			SP	SAA no s/o	
					20					
	moist	9.3	N		21			SP	Dense, moist, vry lt brown coarse sand, few gravel	
					22					
					23					
	moist	11.0	N		24			SP	SAA no s/o	
					25					
	moist	18.5	N		26			SP	Dense, dark brown, coarse sand, some gravel	
					27					
	moist	16.3	N		28			SP	SAA no s/o	
					29					
					30					
	moist	10.7	N		31			SP	SAA no s/o	
					32					
					33					
	wet	2407	Y		34			SP	Loose, wet, Black, coarse sand, HC odor	
					35					
					36					
	wet	200#	Y		37			SP	Firm, moist, gray, clay few sand	

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Boring/Well #	BH26
Project:	Hare 15
Project #	017820018
Date	

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	moist	1.8	N		37			SP	moist, gray, Firm clay	
					38					
					39					
					40					
					41					
					42					
					43					
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH27		Project: Hare 15	
Date: 9-10-21		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 40'-28'		Seal: Bentonite 28'-26'	Grout: cement Bentonite slurry 26-0'
Casing Type: Schedule 40 PVC 29'-0+		Diameter: 2" Length: 30'	Hole Diameter: 6" Depth to Liquid:
Screen Type: Schedule 40 PVC	Slot: 0.010" 39'-29'	Diameter: 2" Length: 10'	Total Depth: 40' Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	3.6	No	BH27 @ 0-5 1055	0–5			SW -SM	Tan, lt. brown med sand w/ fines No stain/odor	1' S.U.
	Dry	3.2	No	BH27 @ 5-10 1100	5–10			SW -SM	Tan - lt. Brown fine-med sands w/ fines no stain/odor	
	Dry	9.0	No	BH27 @ 10-15 1105	10–15			SW -SM	tan - lt Brown med-course sand w/ some fines no stain/odor	

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Boring/Well #	BH27
Project:	Hare 15
Project #	017820018
Date	9-10-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	4.2	No	BH27 @ 15-20 1110	15 16 17 18 19 20			SW-SM SM	Tan, med-coarse sand w/ fines. No s/o Lt. brown coarse silty sand No s/o	
	Slgt moist	1.4	No	BH27 @ 20-25 1115	21 22 23 24 25			SW-SM	tan-light brown - fine to medium sand w/ fines no s/o	
	SL Moist	0.9	No	BH27 @ 25-30 1120	26 27 28 29 30			SW SM SM	dark tan - mlm brown fine sand w/ silt ~ 50/50 Bottom 1' has carbonaceous white lenses No s/o	
	SL moist	0.7	No	BH27 @ 30-35 1125	31 32 33 34 35			SW SW-SM	tan fine to medium sand well sorted quartz grains not cohesive No s/o tan-brown fine to medium sand w/ fines SL cohesive	
					36 37					

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Boring/Well #	BH 27
Project:	Hare 15
Project #	017820018
Date	9-10-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	SL Moist	0.5	N ~~0.05~~	BH27 @ 35-40 1130	37 38 39 40			SW-SM SM	tan-lt brown fine-med sand w/ silt unconsolidated N 5/0 Bottom 1' grey-greenish to tan silt ~~brown~~ dense, consolidated N 5/0 TD-40, sloughed to 38-39.	

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH 28		Project: Hare 15	
Date: 9-10-21		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 40'-28'		Seal: Bentonite 28-26	Grout: Cement Slurry Bentonite 26-0
Casing Type: Schedule 40 PVC 29-0+		Diameter: 2" Length: 30'	Hole Diameter: 6" Depth to Liquid:
Screen Type: Schedule 40 PVC	Slot: 0.010" 39-29'	Diameter: 2" Length: 10'	Total Depth: 40' Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	1.3	N		0–5			SW-SM	tan silty-fine sand unconsolidated top 6" fine to medium slightly consolidated No S/O	S.U.
	Dry	3.5	N		5–10			SW-SM	tan unconsolidated silty w/ fine-medium sand & rare gravel pieces. No S/O	
	Dry	1.2	N		10–15			SW-SM	tan unconsolidated fine to coarse, moderately sorted sand grains in silty matrix	

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Boring/Well #	BH 28
Project:	Hare 15
Project #	017820018
Date	9-10-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				tan - lt. brown medium-coarse grained w/ some gravel moderately sorted some oxidation N S/O	
					16					
					17					
	Slt moist	0.7	N		18					
					19	SP		SP		
					20					
					21					
					22					
					23			SW-SM	tan to lt Brown fine-medium grained w occasional coarse gravel silty matrix N S/O	
	Slt moist	0.5	N		24					
					25					
					26					
					27					
					28			SW-SM	tan - lt brown unconsolidated fine-medium grained w/ some coarse silty matrix N S/O	
	Dry	1.0	N		29				Bottom 1' has white calcareous lenses, slightly more consolidated	
					30					
					31			SW-SM	tan - lt. Brown Moderately Cohesive, fine-medium grains in silt, well sorted rare calcareous mineralization	
	Slt moist		N		32					
					33					
					34					
					35					
					36					
					37					

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Boring/Well #	BH 28
Project:	Hare 15
Project #	017820018
Date	9-10-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	SLT moist	0.7	N		37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59			Sw-Sm	tan fine-medium grained slightly consolidated moderately sorted silty matrix TD = 40' slough to 39.3'	

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH 29		Project: Hare 15	
Date: 9-13-21		Project Number: 017820018	
Logged By: Reece Hansen ~~Danny Burns~~		Drilled By: MO-TE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 45-33'		Seal: Bentonite 33-30'	Grout: Bentonite
Casing Type: Schedule 40 PVC 35-0+		Diameter: 2" Length: ~38'	Hole Diameter: 6.5" / Depth to Liquid:
Screen Type: Schedule 40 PVC	Slot: 0.010" 45-35'	Diameter: 2" Length: 10'	Total Depth: 45' / Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	1.2	N	BH 29 @ 0-5'	0–5			SP-SM	light-med tan fine to coarse grained w/ fines & occasional gravel. No S/O	5' S.O
	Dry	0.3	N	BH 29 @ 5-10'	6–10			SW-SM	tan - light Brown, fine - medium grained, ~25% silt/fines rare gravel. no S/O	
	Dry	0.6	N	BH 29 @ 10-14'	11–15			SW-SM	tan - lt. Brown fine to med. grained w/ ~25% fines NO S/O	
									off-white - light tan, well-sorted medium grained sand, 10% fines	

☆ refusal @ ~14', switched to center plug drilling w/ split spoon sampling @ the bottom of each 5' stand

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Boring/Well #	BH 29
Project:	Hare 15
Project #	017820018
Date	9-13-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
					16					
					17					
					18				moderately consolidated	
	Slt Moist	0.4	N	BH29 @ 19.5-20'	19			SW-SM	~8" of recovery in split spoon off-white/light tan, well sorted medium grained [redacted] silty	
					20				(10%>)	
	Slt Moist		N		21			SM	Attempted hollow stem on 20-25' stad, recovered ~6", switch back to center plug + split spoon sampling (20.5-21') fine to medium grained with increasing fines (25% <) moderately consolidated	
					22					
					23					
					24					
	Slt Moist	1.4	N	BH29 @ 24.5-25'	25			SW	~3" of recovery, fine medium-coarse grained sands, unconsolidated to moderately cons. 10% > Fines. mod.-well sorted	
					26					
					27					
					28					
					29				~5" recovery. light grey to tan medium-coarse grained, moderately to well sorted. 10% > silt No STO	
	Slt moist	2.2	N	BH29 @ 29.5-30'	30					
					31					
					32					
					33				~4oz of sample recovered.	
	Slt Moist	1.6	N		34					
					35					
					36					
					37					

WSP USA INC
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Boring/Well #	BH 29
Project:	Hare 15
Project #	017820018
Date	9-13-21

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37				>pat sampled @ bottom of 35-40' Stand. lithology changed watching cuttings from auger to medium gray balls of silt to hole w/ clays	
					38					
				BH29 @ 39.5-40'	39				~6" recovered, light-med. gray laminated siltstone or shale. some clay at top of sample (39.5') N S/O	
	Silt Moist	0.6	N		40					
					41					
					42					
					43					
					44				~7" recovered. lt-md. gray to gray-green laminated silt/stone	
	Silt Moist	0.1	N	BH29 @ 44.5-45	45					
					46				TD @ 45' 1350	
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

ENCLOSURE B – LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

February 23, 2021

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

RE: Hare 15 OrderNo.: 2102809

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/18/2021 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 **2102809**
Date Reported: **2/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** BH06
Project: Hare 15 **Collection Date:** 2/17/2021 1:55:00 PM
Lab ID: 2102809-001 **Matrix:** AQUEOUS **Received Date:** 2/18/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	110	5.0		µg/L	5	2/19/2021 5:05:00 PM
Toluene	7.7	5.0		µg/L	5	2/19/2021 5:05:00 PM
Ethylbenzene	27	5.0		µg/L	5	2/19/2021 5:05:00 PM
Xylenes, Total	48	10		µg/L	5	2/19/2021 5:05:00 PM
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	5	2/19/2021 5:05:00 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 **2102809**
Date Reported: **2/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** BH09
Project: Hare 15 **Collection Date:** 2/17/2021 1:23:00 PM
Lab ID: 2102809-002 **Matrix:** AQUEOUS **Received Date:** 2/18/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	37	5.0	P	µg/L	5	2/19/2021 6:16:00 PM
Toluene	ND	5.0	P	µg/L	5	2/19/2021 6:16:00 PM
Ethylbenzene	99	5.0	P	µg/L	5	2/19/2021 6:16:00 PM
Xylenes, Total	230	10	P	µg/L	5	2/19/2021 6:16:00 PM
Surr: 4-Bromofluorobenzene	91.0	80-120	P	%Rec	5	2/19/2021 6:16:00 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 **2102809**
Date Reported: **2/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** BH11
Project: Hare 15 **Collection Date:** 2/17/2021 2:17:00 PM
Lab ID: 2102809-003 **Matrix:** AQUEOUS **Received Date:** 2/18/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	3500	50	P	µg/L	50	2/20/2021 12:25:00 PM
Toluene	4500	100		µg/L	100	2/23/2021 11:43:00 AM
Ethylbenzene	320	50	P	µg/L	50	2/20/2021 12:25:00 PM
Xylenes, Total	11000	100	P	µg/L	50	2/20/2021 12:25:00 PM
Surr: 4-Bromofluorobenzene	92.4	80-120	P	%Rec	50	2/20/2021 12:25:00 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 **2102809**
Date Reported: **2/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH19
Project: Hare 15
Collection Date: 2/17/2021 12:25:00 PM
Lab ID: 2102809-004 **Matrix:** AQUEOUS **Received Date:** 2/18/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	660	10	P	µg/L	10	2/20/2021 1:13:00 PM
Toluene	390	10	P	µg/L	10	2/20/2021 1:13:00 PM
Ethylbenzene	520	10	P	µg/L	10	2/20/2021 1:13:00 PM
Xylenes, Total	2800	200	P	µg/L	100	2/20/2021 12:49:00 PM
Surr: 4-Bromofluorobenzene	109	80-120	P	%Rec	10	2/20/2021 1:13:00 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 **2102809**
Date Reported: **2/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** BH20
Project: Hare 15 **Collection Date:** 2/17/2021 1:00:00 PM
Lab ID: 2102809-005 **Matrix:** AQUEOUS **Received Date:** 2/18/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	12000	200	P	µg/L	200	2/20/2021 2:00:00 PM
Toluene	15000	200	P	µg/L	200	2/20/2021 2:00:00 PM
Ethylbenzene	1100	200	P	µg/L	200	2/20/2021 2:00:00 PM
Xylenes, Total	10000	400	P	µg/L	200	2/20/2021 2:00:00 PM
Surr: 4-Bromofluorobenzene	91.7	80-120	P	%Rec	200	2/20/2021 2:00:00 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		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102809**
23-Feb-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **100ng BTEX lcs** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW** Batch ID: **R75423** RunNo: **75423**
Prep Date: Analysis Date: **2/19/2021** SeqNo: **2665200** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.4	80	120			
Toluene	18	1.0	20.00	0	89.6	80	120			
Ethylbenzene	18	1.0	20.00	0	89.1	80	120			
Xylenes, Total	54	2.0	60.00	0	89.6	80	120			
Surr: 4-Bromofluorobenzene	18		20.00		92.1	80	120			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW** Batch ID: **R75423** RunNo: **75423**
Prep Date: Analysis Date: **2/19/2021** SeqNo: **2665201** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	18		20.00		90.9	80	120			

Sample ID: **2102809-001ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH06** Batch ID: **R75423** RunNo: **75423**
Prep Date: Analysis Date: **2/19/2021** SeqNo: **2665204** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	210	5.0	100.0	113.7	93.7	80	120			
Toluene	100	5.0	100.0	7.695	96.6	80	120			
Ethylbenzene	120	5.0	100.0	26.64	93.9	80	120			
Xylenes, Total	330	10	300.0	47.60	94.9	80	120			
Surr: 4-Bromofluorobenzene	90		100.0		90.2	80	120			

Sample ID: **2102809-001amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH06** Batch ID: **R75423** RunNo: **75423**
Prep Date: Analysis Date: **2/19/2021** SeqNo: **2665205** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	220	5.0	100.0	113.7	105	80	120	5.37	20	
Toluene	120	5.0	100.0	7.695	117	80	120	18.0	20	
Ethylbenzene	140	5.0	100.0	26.64	114	80	120	15.7	20	
Xylenes, Total	400	10	300.0	47.60	117	80	120	18.1	20	
Surr: 4-Bromofluorobenzene	85		100.0		85.5	80	120	0	0	

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#: **2102809**

23-Feb-21

Client: HILCORP ENERGY

Project: Hare 15

Sample ID: **100ng BTEX lcs** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSW** Batch ID: **R75442** RunNo: **75442**

Prep Date: Analysis Date: **2/20/2021** SeqNo: **2665923** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	92.4	80	120			
Toluene	18	1.0	20.00	0	91.3	80	120			
Ethylbenzene	18	1.0	20.00	0	90.6	80	120			
Xylenes, Total	55	2.0	60.00	0	91.2	80	120			
Surr: 4-Bromofluorobenzene	18		20.00		90.3	80	120			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBW** Batch ID: **R75442** RunNo: **75442**

Prep Date: Analysis Date: **2/20/2021** SeqNo: **2665924** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	18		20.00		90.9	80	120			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBW** Batch ID: **R75471** RunNo: **75471**

Prep Date: Analysis Date: **2/23/2021** SeqNo: **2667158** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	ND	1.0								
Surr: 4-Bromofluorobenzene	18		20.00		87.8	80	120			

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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **HILCORP ENERGY** Work Order Number: **2102809** RcptNo: **1**

Received By: **Cheyenne Cason** **2/18/2021 7:50:00 AM**

Completed By: **Cheyenne Cason** **2/18/2021 8:12:10 AM**

Reviewed By: ENM 2/18/21

Chain of Custody

1. Is Chain of Custody 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: SPA 2.18.21

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	2.1	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp

Jennifer Deal

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Have 15

Project #:

Project Manager: Danny Burns

Sampler: EC / DB

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.0 +0.1 = 2.1 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2102809	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)
2/17/21	1355	Aqueous	BH06	3 VOA	HCl	001	X									
"	1323	"	BH09	"	"	002	X									
"	1417	"	BH11	"	"	003	X									
"	1225	"	BH19	"	"	004	X									
"	1300	"	BH20	"	"	005	X									

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2/17	1575	Eric Carroll	Chris Walker		2/17/21	1525
Date: 2/17/21	Time: 1811	Relinquished by: Chris Walker	Received by: Eric Carroll	Via:	Date: 2/18/21	Time: 0750

Remarks:

Please cc: Danny_Burns@wsp.com

Eric.Carroll@wsp.com

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 25, 2020

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

RE: Hare 15 OrderNo.: 2008906

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/18/2020 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 **2008906**
Date Reported: **8/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH01@ 20'-24'
Project: Hare 15
Collection Date: 8/17/2020 9:15:00 AM
Lab ID: 2008906-001 **Matrix:** SOIL **Received Date:** 8/18/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	ND	60		mg/Kg	20	8/24/2020 6:09:05 PM	54629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	180	9.5		mg/Kg	1	8/20/2020 1:07:25 AM	54513
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/20/2020 1:07:25 AM	54513
Surr: DNOP	100	30.4-154		%Rec	1	8/20/2020 1:07:25 AM	54513
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	1000	94		mg/Kg	20	8/19/2020 1:31:49 PM	54505
Surr: BFB	298	75.3-105	S	%Rec	20	8/19/2020 1:31:49 PM	54505
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.47		mg/Kg	20	8/19/2020 1:31:49 PM	54505
Toluene	ND	0.94		mg/Kg	20	8/19/2020 1:31:49 PM	54505
Ethylbenzene	3.0	0.94		mg/Kg	20	8/19/2020 1:31:49 PM	54505
Xylenes, Total	120	1.9		mg/Kg	20	8/19/2020 1:31:49 PM	54505
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	20	8/19/2020 1:31:49 PM	54505

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 **2008906**
Date Reported: **8/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH01@ 27'-30'
Project: Hare 15
Collection Date: 8/17/2020 9:45:00 AM
Lab ID: 2008906-002
Matrix: MEOH (SOIL)
Received Date: 8/18/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	8/18/2020 11:56:09 AM	54499
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/18/2020 11:13:13 AM	54497
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/18/2020 11:13:13 AM	54497
Surr: DNOP	90.3	30.4-154		%Rec	1	8/18/2020 11:13:13 AM	54497
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	8/18/2020 10:00:33 AM	54485
Surr: BFB	95.5	75.3-105		%Rec	1	8/18/2020 10:00:33 AM	54485
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	8/18/2020 10:00:33 AM	54485
Toluene	ND	0.039		mg/Kg	1	8/18/2020 10:00:33 AM	54485
Ethylbenzene	ND	0.039		mg/Kg	1	8/18/2020 10:00:33 AM	54485
Xylenes, Total	0.10	0.077		mg/Kg	1	8/18/2020 10:00:33 AM	54485
Surr: 4-Bromofluorobenzene	98.6	80-120		%Rec	1	8/18/2020 10:00:33 AM	54485

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 **2008906**
Date Reported: **8/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH02@ 25'-30'
Project: Hare 15
Collection Date: 8/17/2020 12:00:00 PM
Lab ID: 2008906-003 **Matrix:** SOIL **Received Date:** 8/18/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	ND	60		mg/Kg	20	8/24/2020 6:46:18 PM	54629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	17	10		mg/Kg	1	8/20/2020 1:17:34 AM	54513
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/20/2020 1:17:34 AM	54513
Surr: DNOP	87.7	30.4-154		%Rec	1	8/20/2020 1:17:34 AM	54513
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	48	4.8		mg/Kg	1	8/20/2020 1:40:55 AM	54505
Surr: BFB	204	75.3-105	S	%Rec	1	8/20/2020 1:40:55 AM	54505
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	0.053	0.024		mg/Kg	1	8/20/2020 1:40:55 AM	54505
Toluene	0.43	0.048		mg/Kg	1	8/20/2020 1:40:55 AM	54505
Ethylbenzene	0.20	0.048		mg/Kg	1	8/20/2020 1:40:55 AM	54505
Xylenes, Total	3.9	0.097		mg/Kg	1	8/20/2020 1:40:55 AM	54505
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	8/20/2020 1:40:55 AM	54505

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 **2008906**
Date Reported: **8/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** BH02@ 35'-38'
Project: Hare 15 **Collection Date:** 8/17/2020 12:30:00 PM
Lab ID: 2008906-004 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	8/18/2020 12:08:34 PM	54499
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/18/2020 11:37:24 AM	54497
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/18/2020 11:37:24 AM	54497
Surr: DNOP	92.0	30.4-154		%Rec	1	8/18/2020 11:37:24 AM	54497
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	8/18/2020 10:24:02 AM	54485
Surr: BFB	101	75.3-105		%Rec	1	8/18/2020 10:24:02 AM	54485
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.020		mg/Kg	1	8/18/2020 10:24:02 AM	54485
Toluene	ND	0.039		mg/Kg	1	8/18/2020 10:24:02 AM	54485
Ethylbenzene	ND	0.039		mg/Kg	1	8/18/2020 10:24:02 AM	54485
Xylenes, Total	0.15	0.079		mg/Kg	1	8/18/2020 10:24:02 AM	54485
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	8/18/2020 10:24:02 AM	54485

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 **2008906**
Date Reported: **8/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Project: Hare 15
Lab ID: 2008906-005 **Matrix:** SOIL

Client Sample ID: BH03@ 10'-15'
Collection Date: 8/17/2020 2:20:00 PM
Received Date: 8/18/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	ND	60		mg/Kg	20	8/24/2020 6:58:43 PM	54629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/20/2020 1:27:44 AM	54513
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/20/2020 1:27:44 AM	54513
Surr: DNOP	95.7	30.4-154		%Rec	1	8/20/2020 1:27:44 AM	54513
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/20/2020 2:04:18 AM	54505
Surr: BFB	96.0	75.3-105		%Rec	1	8/20/2020 2:04:18 AM	54505
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	8/20/2020 2:04:18 AM	54505
Toluene	ND	0.048		mg/Kg	1	8/20/2020 2:04:18 AM	54505
Ethylbenzene	ND	0.048		mg/Kg	1	8/20/2020 2:04:18 AM	54505
Xylenes, Total	ND	0.095		mg/Kg	1	8/20/2020 2:04:18 AM	54505
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/20/2020 2:04:18 AM	54505

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 **2008906**
Date Reported: **8/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH03@ 15'-18'
Project: Hare 15
Collection Date: 8/17/2020 2:30:00 PM
Lab ID: 2008906-006 **Matrix:** SOIL **Received Date:** 8/18/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	ND	60		mg/Kg	20	8/24/2020 7:11:07 PM	54629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/20/2020 4:28:28 PM	54549
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/20/2020 4:28:28 PM	54549
Surr: DNOP	94.8	30.4-154		%Rec	1	8/20/2020 4:28:28 PM	54549
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/20/2020 10:15:11 AM	54526
Surr: BFB	94.9	75.3-105		%Rec	1	8/20/2020 10:15:11 AM	54526
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	8/20/2020 10:15:11 AM	54526
Toluene	ND	0.050		mg/Kg	1	8/20/2020 10:15:11 AM	54526
Ethylbenzene	ND	0.050		mg/Kg	1	8/20/2020 10:15:11 AM	54526
Xylenes, Total	ND	0.10		mg/Kg	1	8/20/2020 10:15:11 AM	54526
Surr: 4-Bromofluorobenzene	99.4	80-120		%Rec	1	8/20/2020 10:15:11 AM	54526

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 **2008906**
Date Reported: **8/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH04@ 23'-25'
Project: Hare 15
Collection Date: 8/17/2020 3:15:00 PM
Lab ID: 2008906-007 **Matrix:** SOIL **Received Date:** 8/18/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	8/24/2020 7:23:32 PM	54629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	35	9.0		mg/Kg	1	8/20/2020 4:58:03 PM	54549
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/20/2020 4:58:03 PM	54549
Surr: DNOP	101	30.4-154		%Rec	1	8/20/2020 4:58:03 PM	54549
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	43	4.7		mg/Kg	1	8/20/2020 11:25:34 AM	54526
Surr: BFB	296	75.3-105	S	%Rec	1	8/20/2020 11:25:34 AM	54526
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.023		mg/Kg	1	8/20/2020 11:25:34 AM	54526
Toluene	0.11	0.047		mg/Kg	1	8/20/2020 11:25:34 AM	54526
Ethylbenzene	0.14	0.047		mg/Kg	1	8/20/2020 11:25:34 AM	54526
Xylenes, Total	2.5	0.094		mg/Kg	1	8/20/2020 11:25:34 AM	54526
Surr: 4-Bromofluorobenzene	117	80-120		%Rec	1	8/20/2020 11:25:34 AM	54526

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		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2008906**

25-Aug-20

Client: HILCORP ENERGY

Project: Hare 15

Sample ID: **MB-54499** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **54499** RunNo: **71154**

Prep Date: **8/18/2020** Analysis Date: **8/18/2020** SeqNo: **2481784** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-54499** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **54499** RunNo: **71154**

Prep Date: **8/18/2020** Analysis Date: **8/18/2020** SeqNo: **2481785** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Sample ID: **MB-54629** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **54629** RunNo: **71303**

Prep Date: **8/24/2020** Analysis Date: **8/24/2020** SeqNo: **2488391** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-54629** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **54629** RunNo: **71303**

Prep Date: **8/24/2020** Analysis Date: **8/24/2020** SeqNo: **2488392** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	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#: **2008906**

25-Aug-20

Client: HILCORP ENERGY

Project: Hare 15

Sample ID: **MB-54497**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **54497**	RunNo: **71146**
Prep Date: **8/18/2020**	Analysis Date: **8/18/2020**	SeqNo: **2480616** 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	9.7		10.00		97.2	30.4	154			

Sample ID: **LCS-54497**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **54497**	RunNo: **71146**
Prep Date: **8/18/2020**	Analysis Date: **8/18/2020**	SeqNo: **2480639** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	70	130			
Surr: DNOP	4.8		5.000		96.1	30.4	154			

Sample ID: **LCS-54468**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **54468**	RunNo: **71149**
Prep Date: **8/17/2020**	Analysis Date: **8/19/2020**	SeqNo: **2482200** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		97.1	30.4	154			

Sample ID: **MB-54468**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **54468**	RunNo: **71149**
Prep Date: **8/17/2020**	Analysis Date: **8/19/2020**	SeqNo: **2482202** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		103	30.4	154			

Sample ID: **LCS-54512**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **54512**	RunNo: **71197**
Prep Date: **8/18/2020**	Analysis Date: **8/19/2020**	SeqNo: **2483610** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		93.2	30.4	154			

Sample ID: **LCS-54513**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **54513**	RunNo: **71197**
Prep Date: **8/18/2020**	Analysis Date: **8/19/2020**	SeqNo: **2483611** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	70	130			
Surr: DNOP	4.7		5.000		93.8	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 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#: **2008906**
25-Aug-20

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **MB-54512**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **54512**	RunNo: **71197**							
Prep Date: **8/18/2020**	Analysis Date: **8/19/2020**	SeqNo: **2483614**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		102	30.4	154			

Sample ID: **MB-54513**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **54513**	RunNo: **71197**							
Prep Date: **8/18/2020**	Analysis Date: **8/19/2020**	SeqNo: **2483615**	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	11		10.00		115	30.4	154			

Sample ID: **2008906-006AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **BH03@ 15'-18'**	Batch ID: **54549**	RunNo: **71237**							
Prep Date: **8/19/2020**	Analysis Date: **8/20/2020**	SeqNo: **2485416**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.1	45.41	5.403	93.0	47.4	136			
Surr: DNOP	4.8		4.541		105	30.4	154			

Sample ID: **2008906-006AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **BH03@ 15'-18'**	Batch ID: **54549**	RunNo: **71237**							
Prep Date: **8/19/2020**	Analysis Date: **8/20/2020**	SeqNo: **2485417**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.5	47.53	5.403	86.8	47.4	136	2.11	43.4	
Surr: DNOP	4.5		4.753		93.8	30.4	154	0	0	

Sample ID: **LCS-54549**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **54549**	RunNo: **71237**							
Prep Date: **8/19/2020**	Analysis Date: **8/20/2020**	SeqNo: **2485497**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	119	70	130			
Surr: DNOP	5.6		5.000		113	30.4	154			

Sample ID: **MB-54549**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **54549**	RunNo: **71237**							
Prep Date: **8/19/2020**	Analysis Date: **8/20/2020**	SeqNo: **2485499**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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#: **2008906**
25-Aug-20

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **MB-54549** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **54549** RunNo: **71237**
Prep Date: **8/19/2020** Analysis Date: **8/20/2020** SeqNo: **2485499** 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	11		10.00		111	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 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#: **2008906**
25-Aug-20

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **mb-54485**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **54485**	RunNo: **71140**
Prep Date: **8/17/2020**	Analysis Date: **8/18/2020**	SeqNo: **2481489** 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	1000		1000		99.6	75.3	105			

Sample ID: **lcs-54485**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **54485**	RunNo: **71140**
Prep Date: **8/17/2020**	Analysis Date: **8/18/2020**	SeqNo: **2481490** 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	88.6	72.5	106			
Surr: BFB	1100		1000		110	75.3	105			S

Sample ID: **mb-54505**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **54505**	RunNo: **71173**
Prep Date: **8/18/2020**	Analysis Date: **8/19/2020**	SeqNo: **2483097** 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	1000		1000		102	75.3	105			

Sample ID: **lcs-54505**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **54505**	RunNo: **71173**
Prep Date: **8/18/2020**	Analysis Date: **8/19/2020**	SeqNo: **2483098** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.9	72.5	106			
Surr: BFB	1100		1000		105	75.3	105			S

Sample ID: **2008906-007ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH04@ 23'-25'**	Batch ID: **54526**	RunNo: **71246**
Prep Date: **8/18/2020**	Analysis Date: **8/20/2020**	SeqNo: **2485750** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	59	4.8	24.15	42.60	65.9	61.3	114			
Surr: BFB	2600		966.2		273	75.3	105			S

Sample ID: **2008906-007amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH04@ 23'-25'**	Batch ID: **54526**	RunNo: **71246**
Prep Date: **8/18/2020**	Analysis Date: **8/20/2020**	SeqNo: **2485751** Units: **mg/Kg**

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

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#: **2008906**
25-Aug-20

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **2008906-007amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH04@ 23'-25'** Batch ID: **54526** RunNo: **71246**
Prep Date: **8/18/2020** Analysis Date: **8/20/2020** SeqNo: **2485751** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	52	4.9	24.63	42.60	39.9	61.3	114	11.0	20	S
Surr: BFB	2400		985.2		242	75.3	105	0	0	S

Sample ID: **lcs-54526** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **54526** RunNo: **71246**
Prep Date: **8/18/2020** Analysis Date: **8/20/2020** SeqNo: **2485797** 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	88.4	72.5	106			
Surr: BFB	1100		1000		108	75.3	105			S

Sample ID: **mb-54526** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **54526** RunNo: **71246**
Prep Date: **8/18/2020** Analysis Date: **8/20/2020** SeqNo: **2485801** 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	1000		1000		101	75.3	105			

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#: **2008906**

25-Aug-20

Client: HILCORP ENERGY

Project: Hare 15

Sample ID: **mb-54485**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **54485**	RunNo: **71140**
Prep Date: **8/17/2020**	Analysis Date: **8/18/2020**	SeqNo: **2481537** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: **LCS-54485**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **54485**	RunNo: **71140**
Prep Date: **8/17/2020**	Analysis Date: **8/18/2020**	SeqNo: **2481538** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.0	80	120			
Toluene	0.93	0.050	1.000	0	93.3	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.5	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.9	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: **mb-54505**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **54505**	RunNo: **71173**
Prep Date: **8/18/2020**	Analysis Date: **8/19/2020**	SeqNo: **2483124** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID: **LCS-54505**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **54505**	RunNo: **71173**
Prep Date: **8/18/2020**	Analysis Date: **8/19/2020**	SeqNo: **2483125** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.0	80	120			
Toluene	0.95	0.050	1.000	0	95.0	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.0	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.4	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

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#: **2008906**

25-Aug-20

Client: HILCORP ENERGY

Project: Hare 15

Sample ID: **2008906-006ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH03@ 15'-18'**	Batch ID: **54526**	RunNo: **71246**
Prep Date: **8/18/2020**	Analysis Date: **8/20/2020**	SeqNo: **2485953** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.024	0.9579	0	92.8	76.3	120			
Toluene	0.90	0.048	0.9579	0	93.7	78.5	120			
Ethylbenzene	0.91	0.048	0.9579	0	95.5	78.1	124			
Xylenes, Total	2.7	0.096	2.874	0	95.5	79.3	125			
Surr: 4-Bromofluorobenzene	1.0		0.9579		105	80	120			

Sample ID: **2008906-006amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH03@ 15'-18'**	Batch ID: **54526**	RunNo: **71246**
Prep Date: **8/18/2020**	Analysis Date: **8/20/2020**	SeqNo: **2485954** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.024	0.9542	0	90.7	76.3	120	2.67	20	
Toluene	0.88	0.048	0.9542	0	92.1	78.5	120	2.11	20	
Ethylbenzene	0.89	0.048	0.9542	0	93.5	78.1	124	2.57	20	
Xylenes, Total	2.7	0.095	2.863	0	92.8	79.3	125	3.23	20	
Surr: 4-Bromofluorobenzene	0.98		0.9542		103	80	120	0	0	

Sample ID: **LCS-54526**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **54526**	RunNo: **71246**
Prep Date: **8/18/2020**	Analysis Date: **8/20/2020**	SeqNo: **2485989** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.4	80	120			
Toluene	0.91	0.050	1.000	0	90.6	80	120			
Ethylbenzene	0.91	0.050	1.000	0	90.5	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.6	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: **mb-54526**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **54526**	RunNo: **71246**
Prep Date: **8/18/2020**	Analysis Date: **8/20/2020**	SeqNo: **2485991** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **HILCORP ENERGY** Work Order Number: **2008906** RcptNo: **1**

Received By: **Cheyenne Cason** **8/18/2020 7:55:00 AM**

Completed By: **Isaiah Ortiz** **8/18/2020 8:26:26 AM** I.O.

Reviewed By: JO 8/18/20

Chain of Custody

1. Is Chain of Custody 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: CMC 8/18/20

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	Not Present			

Chain-of-Custody Record

Client: Hilcorp Energy Company
Attn: Jennifer Deal
Mailing Address:
Phone #:
email or Fax#: jdeal@hilcorp.com
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☒ EDD (Type) PDF

Turn-Around Time: 48 hr TAT on BH02 @ 35-38' + BH01 @ 27'-30'
☒ Standard ☒ Rush
Project Name: Hare 15
Project #:
Project Manager: LTE- Danny Burns 701-570-4727
Sampler: D. Burns
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp (including CF): 1.6 -0.1 = 1.5

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. 2008906	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)
8-17-20	0915	soil	BH01 @ 20'-24'	1-4oz	cool	001	X	X					X			
	0945		BH01@27'-30'			002										
	1200		BH02@25'-30'			003										
	1230		BH02@35'-38'			004										
	1420		BH03@10'-15'			005										
	1430		BH03@15'-18'			006										
	1515		BH04@23'-25'			007										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8-17-20	1611		Mont Walt		8/17/2020	1611
8/17/2020	1803	Mont Walt		courier	8/18/20	0755

Remarks: cc: dhencmann@ltenv.com
dburns@ltenv.com

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 01, 2020

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

RE: Hare 15 OrderNo.: 2008C46

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 19 sample(s) on 8/22/2020 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 **2008C46**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH03@23'-25'
Project: Hare 15
Collection Date: 8/20/2020 3:15:00 PM
Lab ID: 2008C46-001 **Matrix:** SOIL **Received Date:** 8/22/2020 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	860	95		mg/Kg	10	8/27/2020 2:28:25 PM
Motor Oil Range Organics (MRO)	ND	480	D	mg/Kg	10	8/27/2020 2:28:25 PM
Surr: DNOP	0	30.4-154	S	%Rec	10	8/27/2020 2:28:25 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/29/2020 9:08:55 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	16	0.49		mg/Kg	20	8/26/2020 5:14:52 AM
Toluene	360	9.8		mg/Kg	200	8/27/2020 5:51:33 AM
Ethylbenzene	64	0.98		mg/Kg	20	8/26/2020 5:14:52 AM
Xylenes, Total	960	20		mg/Kg	200	8/27/2020 5:51:33 AM
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	20	8/26/2020 5:14:52 AM
Surr: 4-Bromofluorobenzene	86.2	70-130		%Rec	20	8/26/2020 5:14:52 AM
Surr: Dibromofluoromethane	109	70-130		%Rec	20	8/26/2020 5:14:52 AM
Surr: Toluene-d8	103	70-130		%Rec	20	8/26/2020 5:14:52 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	14000	980		mg/Kg	200	8/27/2020 5:51:33 AM
Surr: BFB	106	70-130		%Rec	200	8/27/2020 5:51:33 AM

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 **2008C46**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH03@29-30'
Project: Hare 15
Collection Date: 8/20/2020 3:45:00 PM
Lab ID: 2008C46-002 **Matrix:** SOIL **Received Date:** 8/22/2020 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	16	9.2		mg/Kg	1	8/26/2020 8:31:45 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/26/2020 8:31:45 PM
Surr: DNOP	74.4	30.4-154		%Rec	1	8/26/2020 8:31:45 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/29/2020 9:45:56 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	8/26/2020 5:43:40 AM
Toluene	0.70	0.049		mg/Kg	1	8/26/2020 5:43:40 AM
Ethylbenzene	0.28	0.049		mg/Kg	1	8/26/2020 5:43:40 AM
Xylenes, Total	4.9	0.097		mg/Kg	1	8/26/2020 5:43:40 AM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	8/26/2020 5:43:40 AM
Surr: 4-Bromofluorobenzene	95.1	70-130		%Rec	1	8/26/2020 5:43:40 AM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	8/26/2020 5:43:40 AM
Surr: Toluene-d8	101	70-130		%Rec	1	8/26/2020 5:43:40 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	76	4.9		mg/Kg	1	8/26/2020 5:43:40 AM
Surr: BFB	114	70-130		%Rec	1	8/26/2020 5:43:40 AM

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 **2008C46**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH04@25'-27'
Project: Hare 15
Collection Date: 8/21/2020 8:45:00 AM
Lab ID: 2008C46-004 **Matrix:** SOIL **Received Date:** 8/22/2020 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	1400	90		mg/Kg	10	8/27/2020 2:52:26 PM
Motor Oil Range Organics (MRO)	ND	450	D	mg/Kg	10	8/27/2020 2:52:26 PM
Surr: DNOP	0	30.4-154	S	%Rec	10	8/27/2020 2:52:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/29/2020 9:58:17 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	12	0.49		mg/Kg	20	8/26/2020 6:12:14 AM
Toluene	300	9.9		mg/Kg	200	8/27/2020 6:20:01 AM
Ethylbenzene	55	0.99		mg/Kg	20	8/26/2020 6:12:14 AM
Xylenes, Total	890	20		mg/Kg	200	8/27/2020 6:20:01 AM
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	20	8/26/2020 6:12:14 AM
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	20	8/26/2020 6:12:14 AM
Surr: Dibromofluoromethane	112	70-130		%Rec	20	8/26/2020 6:12:14 AM
Surr: Toluene-d8	98.7	70-130		%Rec	20	8/26/2020 6:12:14 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	12000	990		mg/Kg	200	8/27/2020 6:20:01 AM
Surr: BFB	107	70-130		%Rec	200	8/27/2020 6:20:01 AM

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 **2008C46**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH04@28-30'
Project: Hare 15
Collection Date: 8/21/2020 8:50:00 AM
Lab ID: 2008C46-005 **Matrix:** SOIL **Received Date:** 8/22/2020 9:23:00 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	8/26/2020 8:52:09 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/26/2020 8:52:09 PM
Surr: DNOP	90.4	30.4-154		%Rec	1	8/26/2020 8:52:09 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/29/2020 10:10:36 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	8/26/2020 6:40:42 AM
Toluene	ND	0.049		mg/Kg	1	8/26/2020 6:40:42 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/26/2020 6:40:42 AM
Xylenes, Total	ND	0.098		mg/Kg	1	8/26/2020 6:40:42 AM
Surr: 1,2-Dichloroethane-d4	96.8	70-130		%Rec	1	8/26/2020 6:40:42 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/26/2020 6:40:42 AM
Surr: Dibromofluoromethane	110	70-130		%Rec	1	8/26/2020 6:40:42 AM
Surr: Toluene-d8	96.8	70-130		%Rec	1	8/26/2020 6:40:42 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/26/2020 6:40:42 AM
Surr: BFB	101	70-130		%Rec	1	8/26/2020 6:40:42 AM

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 **2008C46**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH05@20-25'
Project: Hare 15
Collection Date: 8/21/2020 10:30:00 AM
Lab ID: 2008C46-008 **Matrix:** SOIL **Received Date:** 8/22/2020 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/26/2020 9:02:15 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/26/2020 9:02:15 PM
Surr: DNOP	75.6	30.4-154		%Rec	1	8/26/2020 9:02:15 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	59		mg/Kg	20	8/29/2020 10:22:57 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	8/26/2020 7:09:13 AM
Toluene	ND	0.048		mg/Kg	1	8/26/2020 7:09:13 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/26/2020 7:09:13 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/26/2020 7:09:13 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	8/26/2020 7:09:13 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/26/2020 7:09:13 AM
Surr: Dibromofluoromethane	114	70-130		%Rec	1	8/26/2020 7:09:13 AM
Surr: Toluene-d8	96.7	70-130		%Rec	1	8/26/2020 7:09:13 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/26/2020 7:09:13 AM
Surr: BFB	102	70-130		%Rec	1	8/26/2020 7:09:13 AM

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 **2008C46**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH05@25-30'
Project: Hare 15
Collection Date: 8/21/2020 10:40:00 AM
Lab ID: 2008C46-009 **Matrix:** SOIL **Received Date:** 8/22/2020 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/26/2020 9:12:24 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/26/2020 9:12:24 PM
Surr: DNOP	97.5	30.4-154		%Rec	1	8/26/2020 9:12:24 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/29/2020 10:35:18 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	8/26/2020 7:37:51 AM
Toluene	ND	0.049		mg/Kg	1	8/26/2020 7:37:51 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/26/2020 7:37:51 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/26/2020 7:37:51 AM
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%Rec	1	8/26/2020 7:37:51 AM
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	8/26/2020 7:37:51 AM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/26/2020 7:37:51 AM
Surr: Toluene-d8	102	70-130		%Rec	1	8/26/2020 7:37:51 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/26/2020 7:37:51 AM
Surr: BFB	100	70-130		%Rec	1	8/26/2020 7:37:51 AM

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 **2008C46**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH06@20'-25'
Project: Hare 15
Collection Date: 8/21/2020 11:40:00 AM
Lab ID: 2008C46-011 **Matrix:** SOIL **Received Date:** 8/22/2020 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/26/2020 9:22:34 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/26/2020 9:22:34 PM
Surr: DNOP	75.2	30.4-154		%Rec	1	8/26/2020 9:22:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/29/2020 10:47:38 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.12		mg/Kg	5	8/26/2020 8:06:35 AM
Toluene	ND	0.25		mg/Kg	5	8/26/2020 8:06:35 AM
Ethylbenzene	ND	0.25		mg/Kg	5	8/26/2020 8:06:35 AM
Xylenes, Total	ND	0.49		mg/Kg	5	8/26/2020 8:06:35 AM
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	5	8/26/2020 8:06:35 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	5	8/26/2020 8:06:35 AM
Surr: Dibromofluoromethane	110	70-130		%Rec	5	8/26/2020 8:06:35 AM
Surr: Toluene-d8	104	70-130		%Rec	5	8/26/2020 8:06:35 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	25		mg/Kg	5	8/26/2020 8:06:35 AM
Surr: BFB	106	70-130		%Rec	5	8/26/2020 8:06:35 AM

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 **2008C46**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH06@25-30'
Project: Hare 15
Collection Date: 8/21/2020 11:50:00 AM
Lab ID: 2008C46-012 **Matrix:** SOIL **Received Date:** 8/22/2020 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	8/26/2020 9:32:46 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/26/2020 9:32:46 PM
Surr: DNOP	75.8	30.4-154		%Rec	1	8/26/2020 9:32:46 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/29/2020 10:59:59 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	8/26/2020 8:35:12 AM
Toluene	ND	0.049		mg/Kg	1	8/26/2020 8:35:12 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/26/2020 8:35:12 AM
Xylenes, Total	0.45	0.098		mg/Kg	1	8/26/2020 8:35:12 AM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	8/26/2020 8:35:12 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/26/2020 8:35:12 AM
Surr: Dibromofluoromethane	110	70-130		%Rec	1	8/26/2020 8:35:12 AM
Surr: Toluene-d8	100	70-130		%Rec	1	8/26/2020 8:35:12 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/26/2020 8:35:12 AM
Surr: BFB	104	70-130		%Rec	1	8/26/2020 8:35:12 AM

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 **2008C46**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH07@15'-20'
Project: Hare 15
Collection Date: 8/21/2020 12:35:00 PM
Lab ID: 2008C46-014 **Matrix:** SOIL **Received Date:** 8/22/2020 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	160	9.5		mg/Kg	1	8/26/2020 9:42:50 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/26/2020 9:42:50 PM
Surr: DNOP	81.2	30.4-154		%Rec	1	8/26/2020 9:42:50 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	76	60		mg/Kg	20	8/29/2020 11:12:19 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	0.79	0.25		mg/Kg	10	8/26/2020 9:03:41 AM
Toluene	12	0.49		mg/Kg	10	8/26/2020 9:03:41 AM
Ethylbenzene	6.8	0.49		mg/Kg	10	8/26/2020 9:03:41 AM
Xylenes, Total	110	0.98		mg/Kg	10	8/26/2020 9:03:41 AM
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	10	8/26/2020 9:03:41 AM
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	10	8/26/2020 9:03:41 AM
Surr: Dibromofluoromethane	109	70-130		%Rec	10	8/26/2020 9:03:41 AM
Surr: Toluene-d8	96.5	70-130		%Rec	10	8/26/2020 9:03:41 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	1600	49		mg/Kg	10	8/26/2020 9:03:41 AM
Surr: BFB	108	70-130		%Rec	10	8/26/2020 9:03:41 AM

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 **2008C46**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH07@28'-30'
Project: Hare 15
Collection Date: 8/21/2020 12:50:00 PM
Lab ID: 2008C46-015 **Matrix:** SOIL **Received Date:** 8/22/2020 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/26/2020 9:52:55 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/26/2020 9:52:55 PM
Surr: DNOP	84.7	30.4-154		%Rec	1	8/26/2020 9:52:55 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/29/2020 9:50:15 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.023		mg/Kg	1	8/26/2020 9:32:14 AM
Toluene	ND	0.046		mg/Kg	1	8/26/2020 9:32:14 AM
Ethylbenzene	ND	0.046		mg/Kg	1	8/26/2020 9:32:14 AM
Xylenes, Total	ND	0.092		mg/Kg	1	8/26/2020 9:32:14 AM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	8/26/2020 9:32:14 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/26/2020 9:32:14 AM
Surr: Dibromofluoromethane	113	70-130		%Rec	1	8/26/2020 9:32:14 AM
Surr: Toluene-d8	95.8	70-130		%Rec	1	8/26/2020 9:32:14 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/26/2020 9:32:14 AM
Surr: BFB	100	70-130		%Rec	1	8/26/2020 9:32:14 AM

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 **2008C46**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH08@25-30'
Project: Hare 15
Collection Date: 8/21/2020 3:15:00 PM
Lab ID: 2008C46-017 **Matrix:** SOIL **Received Date:** 8/22/2020 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	270	9.1		mg/Kg	1	8/31/2020 9:07:35 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/31/2020 9:07:35 PM
Surr: DNOP	74.8	30.4-154		%Rec	1	8/31/2020 9:07:35 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	610	60		mg/Kg	20	8/29/2020 10:02:36 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.050		mg/Kg	2	8/30/2020 4:37:03 AM
Toluene	ND	0.10		mg/Kg	2	8/30/2020 4:37:03 AM
Ethylbenzene	0.23	0.10		mg/Kg	2	8/30/2020 4:37:03 AM
Xylenes, Total	1.1	0.20		mg/Kg	2	8/30/2020 4:37:03 AM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	2	8/30/2020 4:37:03 AM
Surr: 4-Bromofluorobenzene	80.4	70-130		%Rec	2	8/30/2020 4:37:03 AM
Surr: Dibromofluoromethane	112	70-130		%Rec	2	8/30/2020 4:37:03 AM
Surr: Toluene-d8	97.7	70-130		%Rec	2	8/30/2020 4:37:03 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	120	10		mg/Kg	2	8/30/2020 4:37:03 AM
Surr: BFB	121	70-130		%Rec	2	8/30/2020 4:37:03 AM

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#: **2008C46**
01-Sep-20

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **MB-54776** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **54776** RunNo: **71475**
Prep Date: **8/28/2020** Analysis Date: **8/29/2020** SeqNo: **2495781** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-54776** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **54776** RunNo: **71475**
Prep Date: **8/28/2020** Analysis Date: **8/29/2020** SeqNo: **2495782** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.5	90	110			

Sample ID: **MB-54771** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **54771** RunNo: **71475**
Prep Date: **8/28/2020** Analysis Date: **8/29/2020** SeqNo: **2495821** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-54771** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **54771** RunNo: **71475**
Prep Date: **8/28/2020** Analysis Date: **8/29/2020** SeqNo: **2495822** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.3	90	110			

Qualifiers:

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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#: **2008C46**
01-Sep-20

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **LCS-54670**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **54670**	RunNo: **71390**
Prep Date: **8/25/2020**	Analysis Date: **8/26/2020**	SeqNo: **2492006** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	70	130			
Surr: DNOP	4.1		5.000		81.6	30.4	154			

Sample ID: **MB-54670**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **54670**	RunNo: **71390**
Prep Date: **8/25/2020**	Analysis Date: **8/26/2020**	SeqNo: **2492010** 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		96.1	30.4	154			

Sample ID: **MB-54770**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **54770**	RunNo: **71494**
Prep Date: **8/28/2020**	Analysis Date: **8/31/2020**	SeqNo: **2496848** 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	11		10.00		105	30.4	154			

Sample ID: **LCS-54770**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **54770**	RunNo: **71494**
Prep Date: **8/28/2020**	Analysis Date: **8/31/2020**	SeqNo: **2496851** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	70	130			
Surr: DNOP	4.9		5.000		98.3	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 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#: **2008C46**
01-Sep-20

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **lcs-54644** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **54644** RunNo: **71358**
Prep Date: **8/24/2020** Analysis Date: **8/25/2020** SeqNo: **2490933** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.9	80	120			
Toluene	0.96	0.050	1.000	0	95.6	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.8	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.4	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		110	70	130			
Surr: Toluene-d8	0.49		0.5000		97.0	70	130			

Sample ID: **mb-54644** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **54644** RunNo: **71358**
Prep Date: **8/24/2020** Analysis Date: **8/25/2020** SeqNo: **2490934** 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	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		99.0	70	130			
Surr: Dibromofluoromethane	0.57		0.5000		115	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			

Sample ID: **mb-54766** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **54766** RunNo: **71470**
Prep Date: **8/28/2020** Analysis Date: **8/29/2020** SeqNo: **2495418** 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	0.49		0.5000		98.6	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.3	70	130			
Surr: Dibromofluoromethane	0.57		0.5000		114	70	130			
Surr: Toluene-d8	0.52		0.5000		104	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#: **2008C46**
01-Sep-20

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **lcs-54766** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **54766** RunNo: **71470**
Prep Date: **8/28/2020** Analysis Date: **8/29/2020** SeqNo: **2495419** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.2	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.2	0.10	3.000	0	108	80	120			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		110	70	130			
Surr: Toluene-d8	0.51		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#: **2008C46**
01-Sep-20

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **lcs-54644**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **54644**	RunNo: **71358**
Prep Date: **8/24/2020**	Analysis Date: **8/25/2020**	SeqNo: **2490993** 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	86.3	70	130			
Surr: BFB	500		500.0		100	70	130			

Sample ID: **mb-54644**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **54644**	RunNo: **71358**
Prep Date: **8/24/2020**	Analysis Date: **8/25/2020**	SeqNo: **2490994** 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		99.2	70	130			

Sample ID: **mb-54766**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **54766**	RunNo: **71470**
Prep Date: **8/28/2020**	Analysis Date: **8/29/2020**	SeqNo: **2495454** 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	510		500.0		103	70	130			

Sample ID: **lcs-54766**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **54766**	RunNo: **71470**
Prep Date: **8/28/2020**	Analysis Date: **8/29/2020**	SeqNo: **2495455** 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	89.3	70	130			
Surr: BFB	520		500.0		104	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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2008C46 RcptNo: 1

Received By: **Juan Rojas** 8/22/2020 9:23:00 AM

Completed By: **Juan Rojas** 8/24/2020 8:10:02 AM

Reviewed By: JD 8/24/20

Chain of Custody

1. Is Chain of Custody 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 MC 8/24/20

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	2.8	Good				

Chain-of-Custody Record

Client: Hilcorp Energy Company
Attn: Jennifer Deal
Mailing Address:
Phone #:
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☒ EDD (Type) PDF

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: Hare 15
Project #: 7
Project Manager: LTE-Danny Burns
Sampler: D. Burns
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 2.8-0=2.8

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2008C46	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)
8-20-20	1515	Soil	BH03@23'-25'	1-4oz	Cool	-001	X	X					X			
	1545		BH03@29'-30'			-002										
	1620		BH03@35-38'			-003										
8-21-20	0845		BH04@25'-27'			-004										
	0850		BH04@28'-30'			-005										
	0900		BH04@30'-35'			-006										
	0910		BH04@35'-38'			-007										
	1030		BH05@20'-25'			-008										
	1040		BH05@25'-30'			-009										
	1130		BH06@15'-20'			-010										
	1140		BH06@20'-25'			-011										
	1150		BH06@25'-30'													

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8/21/20	1725				8/21/20	1725
8/22/20	923			courier	8/22/20	9:23

Remarks:
see email for HOLD list
cc: dburns@ltenv.com
dhencmann@ltenv.com

Chain-of-Custody Record

Client: Hilcorp Energy Company
Attn: Jennifer Deal
Mailing Address:
Phone #:
email or Fax#:
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☑ EDD (Type) PDF

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: Hare 15
Project #:
Project Manager: LTE - Danny Burns
Sampler: DB
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 2.8-0=2.8 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 200FC46	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)
8-21	1150	Soil	BH06@25'-30'	1-4oz	Cool	-012	X	X					X			
	1200		BH06@30'-35'			-013										
	1235		BH07@15'-20'			-014										
	1250		BH07@25'-30'			-015										
	1300		BH07@30'-35'			-016										
	1515		BH08@25'-30'			-017										
	1540		BH08@30'-35'			-018										
	1545		BH08@35'-40'			-019										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/21/20	1725	DB			8/21/20	1725
8/22/2020	923			courier	8/22/20	9:23

Remarks: see pg. 1

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 01, 2020

Jennifer Deal

Hilcorp Energy
PO Box 61529
Houston, TX 77208-1529
TEL: (337) 276-7676
FAX

RE: Hare 15 OrderNo.: 2008C94

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 12 sample(s) on 8/25/2020 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,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2008C94**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Project: Hare 15
Lab ID: 2008C94-001 **Matrix:** SOIL

Client Sample ID: BH09@ 25'-27'
Collection Date: 8/24/2020 9:35:00 AM
Received Date: 8/25/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	120	60		mg/Kg	20	8/29/2020 7:07:45 PM	54781
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	190	8.6		mg/Kg	1	8/27/2020 2:22:29 PM	54694
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/27/2020 2:22:29 PM	54694
Surr: DNOP	84.8	30.4-154		%Rec	1	8/27/2020 2:22:29 PM	54694
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	98	25		mg/Kg	5	8/26/2020 1:11:40 PM	54684
Surr: BFB	319	75.3-105	S	%Rec	5	8/26/2020 1:11:40 PM	54684
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12		mg/Kg	5	8/26/2020 1:11:40 PM	54684
Toluene	ND	0.25		mg/Kg	5	8/26/2020 1:11:40 PM	54684
Ethylbenzene	ND	0.25		mg/Kg	5	8/26/2020 1:11:40 PM	54684
Xylenes, Total	0.97	0.50		mg/Kg	5	8/26/2020 1:11:40 PM	54684
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	5	8/26/2020 1:11:40 PM	54684

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 **2008C94**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Project: Hare 15
Lab ID: 2008C94-002 **Matrix:** SOIL

Client Sample ID: BH09@ 28'-30'
Collection Date: 8/24/2020 9:40:00 AM
Received Date: 8/25/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**JMT**
Chloride	73	60		mg/Kg	20	8/29/2020 7:20:10 PM	54781
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	11	9.4		mg/Kg	1	8/27/2020 2:52:19 PM	54694
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/27/2020 2:52:19 PM	54694
Surr: DNOP	97.4	30.4-154		%Rec	1	8/27/2020 2:52:19 PM	54694
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/26/2020 6:17:41 PM	54684
Surr: BFB	100	75.3-105		%Rec	1	8/26/2020 6:17:41 PM	54684
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	8/26/2020 6:17:41 PM	54684
Toluene	ND	0.049		mg/Kg	1	8/26/2020 6:17:41 PM	54684
Ethylbenzene	ND	0.049		mg/Kg	1	8/26/2020 6:17:41 PM	54684
Xylenes, Total	ND	0.099		mg/Kg	1	8/26/2020 6:17:41 PM	54684
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/26/2020 6:17:41 PM	54684

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 **2008C94**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Project: Hare 15
Lab ID: 2008C94-004 **Matrix:** SOIL

Client Sample ID: BH10@ 15'-20'
Collection Date: 8/24/2020 10:30:00 AM
Received Date: 8/25/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**JMT**
Chloride	ND	60		mg/Kg	20	8/29/2020 7:32:34 PM	54781
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	110	9.8		mg/Kg	1	8/27/2020 3:02:13 PM	54694
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/27/2020 3:02:13 PM	54694
Surr: DNOP	81.5	30.4-154		%Rec	1	8/27/2020 3:02:13 PM	54694
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	180	24		mg/Kg	5	8/26/2020 1:35:07 PM	54684
Surr: BFB	295	75.3-105	S	%Rec	5	8/26/2020 1:35:07 PM	54684
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.12		mg/Kg	5	8/26/2020 1:35:07 PM	54684
Toluene	ND	0.24		mg/Kg	5	8/26/2020 1:35:07 PM	54684
Ethylbenzene	1.2	0.24		mg/Kg	5	8/26/2020 1:35:07 PM	54684
Xylenes, Total	19	0.48		mg/Kg	5	8/26/2020 1:35:07 PM	54684
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	5	8/26/2020 1:35:07 PM	54684

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 **2008C94**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Project: Hare 15
Lab ID: 2008C94-005 **Matrix:** SOIL

Client Sample ID: BH10@ 28'-30'
Collection Date: 8/24/2020 10:45:00 AM
Received Date: 8/25/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	8/29/2020 7:44:59 PM	54781
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	8/27/2020 3:12:06 PM	54694
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/27/2020 3:12:06 PM	54694
Surr: DNOP	89.0	30.4-154		%Rec	1	8/27/2020 3:12:06 PM	54694
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/26/2020 6:41:11 PM	54684
Surr: BFB	106	75.3-105	S	%Rec	1	8/26/2020 6:41:11 PM	54684
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	0.044	0.024		mg/Kg	1	8/26/2020 6:41:11 PM	54684
Toluene	0.11	0.048		mg/Kg	1	8/26/2020 6:41:11 PM	54684
Ethylbenzene	ND	0.048		mg/Kg	1	8/26/2020 6:41:11 PM	54684
Xylenes, Total	0.53	0.097		mg/Kg	1	8/26/2020 6:41:11 PM	54684
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/26/2020 6:41:11 PM	54684

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 **2008C94**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Project: Hare 15
Lab ID: 2008C94-006 **Matrix:** SOIL

Client Sample ID: BH11@ 10'-15'
Collection Date: 8/24/2020 11:50:00 AM
Received Date: 8/25/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**JMT**
Chloride	200	60		mg/Kg	20	8/29/2020 7:57:24 PM	54781
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	73	10		mg/Kg	1	8/27/2020 3:21:59 PM	54694
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/27/2020 3:21:59 PM	54694
Surr: DNOP	76.0	30.4-154		%Rec	1	8/27/2020 3:21:59 PM	54694
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	120	4.9		mg/Kg	1	8/26/2020 7:04:38 PM	54684
Surr: BFB	284	75.3-105	S	%Rec	1	8/26/2020 7:04:38 PM	54684
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	0.063	0.024		mg/Kg	1	8/26/2020 7:04:38 PM	54684
Toluene	0.33	0.049		mg/Kg	1	8/26/2020 7:04:38 PM	54684
Ethylbenzene	0.58	0.049		mg/Kg	1	8/26/2020 7:04:38 PM	54684
Xylenes, Total	18	0.98		mg/Kg	10	8/27/2020 9:00:32 AM	54684
Surr: 4-Bromofluorobenzene	149	80-120	S	%Rec	1	8/26/2020 7:04:38 PM	54684

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 **2008C94**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Project: Hare 15
Lab ID: 2008C94-007 **Matrix:** SOIL

Client Sample ID: BH11@ 25'-30'
Collection Date: 8/24/2020 12:20:00 PM
Received Date: 8/25/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	8/29/2020 8:09:49 PM	54781
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	19	9.3		mg/Kg	1	8/27/2020 3:31:51 PM	54694
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/27/2020 3:31:51 PM	54694
Surr: DNOP	88.3	30.4-154		%Rec	1	8/27/2020 3:31:51 PM	54694
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	20	4.7		mg/Kg	1	8/26/2020 7:28:06 PM	54684
Surr: BFB	163	75.3-105	S	%Rec	1	8/26/2020 7:28:06 PM	54684
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	0.039	0.024		mg/Kg	1	8/26/2020 7:28:06 PM	54684
Toluene	0.14	0.047		mg/Kg	1	8/26/2020 7:28:06 PM	54684
Ethylbenzene	0.079	0.047		mg/Kg	1	8/26/2020 7:28:06 PM	54684
Xylenes, Total	1.0	0.094		mg/Kg	1	8/26/2020 7:28:06 PM	54684
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/26/2020 7:28:06 PM	54684

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 **2008C94**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Project: Hare 15
Lab ID: 2008C94-008 **Matrix:** SOIL

Client Sample ID: BH12@ 10'-15'
Collection Date: 8/24/2020 1:45:00 PM
Received Date: 8/25/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	98	60		mg/Kg	20	8/30/2020 9:14:17 AM	54784
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	8/27/2020 3:41:44 PM	54694
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/27/2020 3:41:44 PM	54694
Surr: DNOP	105	30.4-154		%Rec	1	8/27/2020 3:41:44 PM	54694
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/26/2020 7:51:39 PM	54684
Surr: BFB	98.2	75.3-105		%Rec	1	8/26/2020 7:51:39 PM	54684
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	8/26/2020 7:51:39 PM	54684
Toluene	ND	0.049		mg/Kg	1	8/26/2020 7:51:39 PM	54684
Ethylbenzene	ND	0.049		mg/Kg	1	8/26/2020 7:51:39 PM	54684
Xylenes, Total	ND	0.097		mg/Kg	1	8/26/2020 7:51:39 PM	54684
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/26/2020 7:51:39 PM	54684

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 **2008C94**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Project: Hare 15
Lab ID: 2008C94-009 **Matrix:** SOIL

Client Sample ID: BH12@ 25'-30'
Collection Date: 8/24/2020 2:00:00 PM
Received Date: 8/25/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	8/30/2020 9:51:18 AM	54784
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/27/2020 3:51:36 PM	54694
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/27/2020 3:51:36 PM	54694
Surr: DNOP	87.9	30.4-154		%Rec	1	8/27/2020 3:51:36 PM	54694
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/26/2020 8:15:07 PM	54684
Surr: BFB	102	75.3-105		%Rec	1	8/26/2020 8:15:07 PM	54684
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	8/26/2020 8:15:07 PM	54684
Toluene	ND	0.049		mg/Kg	1	8/26/2020 8:15:07 PM	54684
Ethylbenzene	ND	0.049		mg/Kg	1	8/26/2020 8:15:07 PM	54684
Xylenes, Total	ND	0.098		mg/Kg	1	8/26/2020 8:15:07 PM	54684
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/26/2020 8:15:07 PM	54684

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 **2008C94**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Project: Hare 15
Lab ID: 2008C94-010 **Matrix:** SOIL

Client Sample ID: BH13@ 25'-27'
Collection Date: 8/24/2020 2:45:00 PM
Received Date: 8/25/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	8/30/2020 10:03:38 AM	54784
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	250	8.9		mg/Kg	1	8/27/2020 4:01:29 PM	54694
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/27/2020 4:01:29 PM	54694
Surr: DNOP	82.8	30.4-154		%Rec	1	8/27/2020 4:01:29 PM	54694
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	800	47		mg/Kg	10	8/26/2020 8:38:32 PM	54684
Surr: BFB	375	75.3-105	S	%Rec	10	8/26/2020 8:38:32 PM	54684
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	0.46	0.24		mg/Kg	10	8/26/2020 8:38:32 PM	54684
Toluene	11	0.47		mg/Kg	10	8/26/2020 8:38:32 PM	54684
Ethylbenzene	4.9	0.47		mg/Kg	10	8/26/2020 8:38:32 PM	54684
Xylenes, Total	73	0.95		mg/Kg	10	8/26/2020 8:38:32 PM	54684
Surr: 4-Bromofluorobenzene	122	80-120	S	%Rec	10	8/26/2020 8:38:32 PM	54684

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 **2008C94**
Date Reported: **9/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Project: Hare 15
Lab ID: 2008C94-011 **Matrix:** SOIL

Client Sample ID: BH13@ 28'-30'
Collection Date: 8/24/2020 2:50:00 PM
Received Date: 8/25/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	8/30/2020 10:15:59 AM	54784
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/27/2020 4:11:21 PM	54694
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/27/2020 4:11:21 PM	54694
Surr: DNOP	80.2	30.4-154		%Rec	1	8/27/2020 4:11:21 PM	54694
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/26/2020 10:12:14 PM	54684
Surr: BFB	99.4	75.3-105		%Rec	1	8/26/2020 10:12:14 PM	54684
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	8/26/2020 10:12:14 PM	54684
Toluene	ND	0.048		mg/Kg	1	8/26/2020 10:12:14 PM	54684
Ethylbenzene	ND	0.048		mg/Kg	1	8/26/2020 10:12:14 PM	54684
Xylenes, Total	ND	0.096		mg/Kg	1	8/26/2020 10:12:14 PM	54684
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/26/2020 10:12:14 PM	54684

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		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2008C94**
01-Sep-20

Client: Hilcorp Energy
Project: Hare 15

Sample ID: **MB-54781** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **54781** RunNo: **71481**
Prep Date: **8/29/2020** Analysis Date: **8/29/2020** SeqNo: **2496084** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-54781** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **54781** RunNo: **71481**
Prep Date: **8/29/2020** Analysis Date: **8/29/2020** SeqNo: **2496085** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Sample ID: **MB-54784** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **54784** RunNo: **71487**
Prep Date: **8/30/2020** Analysis Date: **8/30/2020** SeqNo: **2496319** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-54784** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **54784** RunNo: **71487**
Prep Date: **8/30/2020** Analysis Date: **8/30/2020** SeqNo: **2496320** 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#: **2008C94**
01-Sep-20

Client: Hilcorp Energy
Project: Hare 15

Sample ID: **2008C94-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH09@ 25'-27'** Batch ID: **54694** RunNo: **71442**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494229** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	260	8.5	42.30	190.8	157	47.4	136			S
Surr: DNOP	3.9		4.230		92.7	30.4	154			

Sample ID: **2008C94-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH09@ 25'-27'** Batch ID: **54694** RunNo: **71442**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494230** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	270	8.6	43.18	190.8	189	47.4	136	5.72	43.4	S
Surr: DNOP	4.0		4.318		92.3	30.4	154	0	0	

Sample ID: **LCS-54694** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **54694** RunNo: **71442**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494270** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.6	70	130			
Surr: DNOP	4.0		5.000		80.5	30.4	154			

Sample ID: **MB-54694** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **54694** RunNo: **71442**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494272** 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	7.5		10.00		75.1	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 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#: **2008C94**
01-Sep-20

Client: Hilcorp Energy
Project: Hare 15

Sample ID: **mb-54684** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **54684** RunNo: **71387**
Prep Date: **8/25/2020** Analysis Date: **8/26/2020** SeqNo: **2491806** 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	980		1000		98.4	75.3	105			

Sample ID: **lcs-54684** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **54684** RunNo: **71387**
Prep Date: **8/25/2020** Analysis Date: **8/26/2020** SeqNo: **2491807** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	80.2	72.5	106			
Surr: BFB	1100		1000		110	75.3	105			S

Sample ID: **lcs-54699** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **54699** RunNo: **71413**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494653** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		111	75.3	105			S

Sample ID: **lcs-54720** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **54720** RunNo: **71413**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494654** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		110	75.3	105			S

Sample ID: **MB-54699** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **54699** RunNo: **71413**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494655** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		93.5	75.3	105			

Sample ID: **mb-54720** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **54720** RunNo: **71413**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494656** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	980		1000		97.9	75.3	105			

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#: **2008C94**
01-Sep-20

Client: Hilcorp Energy
Project: Hare 15

Sample ID: **mb-54684** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **54684** RunNo: **71387**
Prep Date: **8/25/2020** Analysis Date: **8/26/2020** SeqNo: **2491855** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: **LCS-54684** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **54684** RunNo: **71387**
Prep Date: **8/25/2020** Analysis Date: **8/26/2020** SeqNo: **2491856** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	83.7	80	120			
Toluene	0.86	0.050	1.000	0	85.6	80	120			
Ethylbenzene	0.86	0.050	1.000	0	86.2	80	120			
Xylenes, Total	2.6	0.10	3.000	0	87.1	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID: **LCS-54699** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **54699** RunNo: **71413**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494691** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: **LCS-54720** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **54720** RunNo: **71413**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494692** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: **MB-54699** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **54699** RunNo: **71413**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494693** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		98.6	80	120			

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#: **2008C94**
01-Sep-20

Client: Hilcorp Energy
Project: Hare 15

Sample ID: **mb-54720** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **54720** RunNo: **71413**
Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494694** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **Hilcorp Energy** Work Order Number: **2008C94** RcptNo: **1**

Received By: **Cheyenne Cason** **8/25/2020 8:00:00 AM**

Completed By: **Isaiah Ortiz** **8/25/2020 9:02:54 AM** I-OK

Reviewed By: JR 8/25/20

Chain of Custody

1. Is Chain of Custody 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: CM 8/25/20

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	2.5	Good	Not Present			

Chain-of-Custody Record

Client: Hilcorp Energy Company
Attn: Jennifer Deal
Mailing Address:
Phone #:
email or Fax#: jdeal@hilcorp.com
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☒ EDD (Type) PDF

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: Hare 15
Project #:
Project Manager: LTE - Danny Burns
Sampler: D. Burns
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp (including CF): 2.4 +0.1 = 2.5c

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. 2008944	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 (Cr, Pb 300.0)	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8-24-20	0935	soil	BH09@25'-27'	1-4oz	cool	001	X	X					X			
	0940		BH09@28'-30'			002										
	0950		BH09@30'-35' ☆			003										
	1030		BH10@15'-20'			004										
	1045		BH10@28'-30'			005										
	1150		BH11@10'-15'			006										
	1220		BH11@25'-30'			007										
	1345		BH12@10'-15'			008										
	1400		BH12@25'-30'			009										
	1445		BH13@25'-27'			010										
	1450		BH13@28'-30'			011										
	1500		BH13@30'-35' ☆			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8-24-20	1619		Mint Vault		8/24/20	1619
8/24/2020	1751		Cvc courier		8/25/20	0800

Remarks: ☆ = Hold
cc: dhencmann@ltenv.com
dburns@ltenv.com

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

February 19, 2021

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

RE: Hare 15 OrderNo.: 2102671

Dear Danny Burns:

Hall Environmental Analysis Laboratory received 14 sample(s) on 2/12/2021 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 14 @ 25'-27'
Project: Hare 15
Collection Date: 2/9/2021 10:15:00 AM
Lab ID: 2102671-001 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	170	9.2		mg/Kg	1	2/18/2021 7:35:46 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/18/2021 7:35:46 AM
Surr: DNOP	93.7	70-130		%Rec	1	2/18/2021 7:35:46 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	400	25		mg/Kg	5	2/18/2021 12:42:00 PM
Surr: BFB	227	75.3-105	S	%Rec	5	2/18/2021 12:42:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.12		mg/Kg	5	2/18/2021 12:42:00 PM
Toluene	ND	0.25		mg/Kg	5	2/18/2021 12:42:00 PM
Ethylbenzene	2.1	0.25		mg/Kg	5	2/18/2021 12:42:00 PM
Xylenes, Total	26	0.49		mg/Kg	5	2/18/2021 12:42:00 PM
Surr: 4-Bromofluorobenzene	157	80-120	S	%Rec	5	2/18/2021 12:42:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/17/2021 12:28:10 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 14 @ 30'-35'
Project: Hare 15
Collection Date: 2/9/2021 10:30:00 AM
Lab ID: 2102671-002 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/17/2021 10:53:40 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/17/2021 10:53:40 PM
Surr: DNOP	147	70-130	S	%Rec	1	2/17/2021 10:53:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/17/2021 12:40:00 AM
Surr: BFB	88.3	75.3-105		%Rec	1	2/17/2021 12:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	2/17/2021 12:40:00 AM
Toluene	ND	0.046		mg/Kg	1	2/17/2021 12:40:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	2/17/2021 12:40:00 AM
Xylenes, Total	ND	0.092		mg/Kg	1	2/17/2021 12:40:00 AM
Surr: 4-Bromofluorobenzene	85.5	80-120		%Rec	1	2/17/2021 12:40:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/17/2021 1:05:24 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 15 @ 25'-30'
Project: Hare 15
Collection Date: 2/9/2021 12:45:00 PM
Lab ID: 2102671-003 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	360	9.4		mg/Kg	1	2/15/2021 9:01:28 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/15/2021 9:01:28 AM
Surr: DNOP	92.9	70-130		%Rec	1	2/15/2021 9:01:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	3000	230		mg/Kg	50	2/17/2021 9:05:19 AM
Surr: BFB	233	75.3-105	S	%Rec	50	2/17/2021 9:05:19 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	1.7	1.2		mg/Kg	50	2/17/2021 9:05:19 AM
Toluene	23	2.3		mg/Kg	50	2/17/2021 9:05:19 AM
Ethylbenzene	17	2.3		mg/Kg	50	2/17/2021 9:05:19 AM
Xylenes, Total	250	4.7		mg/Kg	50	2/17/2021 9:05:19 AM
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	50	2/17/2021 9:05:19 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/17/2021 1:42:39 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 15 @ 30'-35'
Project: Hare 15
Collection Date: 2/9/2021 1:00:00 PM
Lab ID: 2102671-004 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/15/2021 10:11:52 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/15/2021 10:11:52 AM
Surr: DNOP	95.1	70-130		%Rec	1	2/15/2021 10:11:52 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/17/2021 10:16:41 AM
Surr: BFB	98.2	75.3-105		%Rec	1	2/17/2021 10:16:41 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/17/2021 10:16:41 AM
Toluene	ND	0.048		mg/Kg	1	2/17/2021 10:16:41 AM
Ethylbenzene	ND	0.048		mg/Kg	1	2/17/2021 10:16:41 AM
Xylenes, Total	ND	0.096		mg/Kg	1	2/17/2021 10:16:41 AM
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	2/17/2021 10:16:41 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/17/2021 1:55:03 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 16 @ 25'-30'
Project: Hare 15
Collection Date: 2/9/2021 4:00:00 PM
Lab ID: 2102671-005 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	210	10		mg/Kg	1	2/15/2021 10:36:25 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/15/2021 10:36:25 AM
Surr: DNOP	94.2	70-130		%Rec	1	2/15/2021 10:36:25 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	800	96		mg/Kg	20	2/17/2021 9:29:07 AM
Surr: BFB	176	75.3-105	S	%Rec	20	2/17/2021 9:29:07 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.67	0.48		mg/Kg	20	2/17/2021 9:29:07 AM
Toluene	9.6	0.96		mg/Kg	20	2/17/2021 9:29:07 AM
Ethylbenzene	3.3	0.96		mg/Kg	20	2/17/2021 9:29:07 AM
Xylenes, Total	53	1.9		mg/Kg	20	2/17/2021 9:29:07 AM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	20	2/17/2021 9:29:07 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/17/2021 2:07:27 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 16 @ 33'-35'
Project: Hare 15
Collection Date: 2/9/2021 4:15:00 PM
Lab ID: 2102671-006 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/15/2021 10:59:56 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/15/2021 10:59:56 AM
Surr: DNOP	92.1	70-130		%Rec	1	2/15/2021 10:59:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/17/2021 11:27:28 AM
Surr: BFB	105	75.3-105	S	%Rec	1	2/17/2021 11:27:28 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.074	0.024		mg/Kg	1	2/17/2021 11:27:28 AM
Toluene	0.19	0.047		mg/Kg	1	2/17/2021 11:27:28 AM
Ethylbenzene	ND	0.047		mg/Kg	1	2/17/2021 11:27:28 AM
Xylenes, Total	0.42	0.095		mg/Kg	1	2/17/2021 11:27:28 AM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	2/17/2021 11:27:28 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/17/2021 2:44:40 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 17 @ 20'-25'
Project: Hare 15
Collection Date: 2/10/2021 9:15:00 AM
Lab ID: 2102671-007 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	2/15/2021 11:23:31 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/15/2021 11:23:31 AM
Surr: DNOP	92.9	70-130		%Rec	1	2/15/2021 11:23:31 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/17/2021 11:51:04 AM
Surr: BFB	101	75.3-105		%Rec	1	2/17/2021 11:51:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/17/2021 11:51:04 AM
Toluene	ND	0.048		mg/Kg	1	2/17/2021 11:51:04 AM
Ethylbenzene	ND	0.048		mg/Kg	1	2/17/2021 11:51:04 AM
Xylenes, Total	ND	0.095		mg/Kg	1	2/17/2021 11:51:04 AM
Surr: 4-Bromofluorobenzene	99.4	80-120		%Rec	1	2/17/2021 11:51:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/17/2021 2:57:05 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 17 @ 25'-30'
Project: Hare 15
Collection Date: 2/10/2021 9:30:00 AM
Lab ID: 2102671-008 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/15/2021 11:47:13 AM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	2/15/2021 11:47:13 AM
Surr: DNOP	94.4	70-130		%Rec	1	2/15/2021 11:47:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/17/2021 12:14:48 PM
Surr: BFB	102	75.3-105		%Rec	1	2/17/2021 12:14:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	2/17/2021 12:14:48 PM
Toluene	ND	0.047		mg/Kg	1	2/17/2021 12:14:48 PM
Ethylbenzene	ND	0.047		mg/Kg	1	2/17/2021 12:14:48 PM
Xylenes, Total	ND	0.094		mg/Kg	1	2/17/2021 12:14:48 PM
Surr: 4-Bromofluorobenzene	99.5	80-120		%Rec	1	2/17/2021 12:14:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/17/2021 3:09:30 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 18 @ 20'-25'
Project: Hare 15
Collection Date: 2/10/2021 12:00:00 PM
Lab ID: 2102671-009 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	2/15/2021 12:10:50 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/15/2021 12:10:50 PM
Surr: DNOP	93.7	70-130		%Rec	1	2/15/2021 12:10:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/17/2021 12:38:34 PM
Surr: BFB	101	75.3-105		%Rec	1	2/17/2021 12:38:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/17/2021 12:38:34 PM
Toluene	ND	0.048		mg/Kg	1	2/17/2021 12:38:34 PM
Ethylbenzene	ND	0.048		mg/Kg	1	2/17/2021 12:38:34 PM
Xylenes, Total	ND	0.095		mg/Kg	1	2/17/2021 12:38:34 PM
Surr: 4-Bromofluorobenzene	98.7	80-120		%Rec	1	2/17/2021 12:38:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/17/2021 3:21:55 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 18 @ 25'-30'
Project: Hare 15
Collection Date: 2/10/2021 12:15:00 PM
Lab ID: 2102671-010 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	2/15/2021 12:34:26 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	2/15/2021 12:34:26 PM
Surr: DNOP	94.0	70-130		%Rec	1	2/15/2021 12:34:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/17/2021 1:02:14 PM
Surr: BFB	101	75.3-105		%Rec	1	2/17/2021 1:02:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	2/17/2021 1:02:14 PM
Toluene	ND	0.050		mg/Kg	1	2/17/2021 1:02:14 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/17/2021 1:02:14 PM
Xylenes, Total	ND	0.099		mg/Kg	1	2/17/2021 1:02:14 PM
Surr: 4-Bromofluorobenzene	99.2	80-120		%Rec	1	2/17/2021 1:02:14 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/17/2021 3:34:20 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 19 @ 30'-35'
Project: Hare 15
Collection Date: 2/10/2021 3:15:00 PM
Lab ID: 2102671-011 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	2/15/2021 12:58:11 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	2/15/2021 12:58:11 PM
Surr: DNOP	92.6	70-130		%Rec	1	2/15/2021 12:58:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	9.4	4.9		mg/Kg	1	2/18/2021 10:29:46 AM
Surr: BFB	139	75.3-105	S	%Rec	1	2/18/2021 10:29:46 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/18/2021 10:29:46 AM
Toluene	ND	0.049		mg/Kg	1	2/18/2021 10:29:46 AM
Ethylbenzene	ND	0.049		mg/Kg	1	2/18/2021 10:29:46 AM
Xylenes, Total	0.43	0.098		mg/Kg	1	2/18/2021 10:29:46 AM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	2/18/2021 10:29:46 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/17/2021 3:46:45 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 19 @ 35'-40'
Project: Hare 15
Collection Date: 2/10/2021 3:30:00 PM
Lab ID: 2102671-012 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/15/2021 1:21:55 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/15/2021 1:21:55 PM
Surr: DNOP	94.5	70-130		%Rec	1	2/15/2021 1:21:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	13	4.8		mg/Kg	1	2/17/2021 3:00:22 PM
Surr: BFB	124	75.3-105	S	%Rec	1	2/17/2021 3:00:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.050	0.024		mg/Kg	1	2/17/2021 3:00:22 PM
Toluene	0.12	0.048		mg/Kg	1	2/17/2021 3:00:22 PM
Ethylbenzene	0.14	0.048		mg/Kg	1	2/17/2021 3:00:22 PM
Xylenes, Total	2.1	0.096		mg/Kg	1	2/17/2021 3:00:22 PM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	2/17/2021 3:00:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/18/2021 2:57:38 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 20 @ 25'-30'
Project: Hare 15
Collection Date: 2/11/2021 9:45:00 AM
Lab ID: 2102671-013 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	190	9.8		mg/Kg	1	2/15/2021 1:45:39 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/15/2021 1:45:39 PM
Surr: DNOP	94.8	70-130		%Rec	1	2/15/2021 1:45:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	600	24		mg/Kg	5	2/17/2021 3:24:01 PM
Surr: BFB	507	75.3-105	S	%Rec	5	2/17/2021 3:24:01 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.12		mg/Kg	5	2/17/2021 3:24:01 PM
Toluene	2.8	0.24		mg/Kg	5	2/17/2021 3:24:01 PM
Ethylbenzene	2.2	0.24		mg/Kg	5	2/17/2021 3:24:01 PM
Xylenes, Total	38	0.47		mg/Kg	5	2/17/2021 3:24:01 PM
Surr: 4-Bromofluorobenzene	121	80-120	S	%Rec	5	2/17/2021 3:24:01 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/18/2021 3:10:02 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 **2102671**
Date Reported: **2/19/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 20 @ 33'-35'
Project: Hare 15
Collection Date: 2/11/2021 10:00:00 AM
Lab ID: 2102671-014 **Matrix:** SOIL **Received Date:** 2/12/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	2/15/2021 2:09:25 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/15/2021 2:09:25 PM
Surr: DNOP	94.5	70-130		%Rec	1	2/15/2021 2:09:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	9.9	4.9		mg/Kg	1	2/17/2021 3:47:32 PM
Surr: BFB	105	75.3-105	S	%Rec	1	2/17/2021 3:47:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.056	0.024		mg/Kg	1	2/17/2021 3:47:32 PM
Toluene	0.72	0.049		mg/Kg	1	2/17/2021 3:47:32 PM
Ethylbenzene	0.091	0.049		mg/Kg	1	2/17/2021 3:47:32 PM
Xylenes, Total	1.5	0.098		mg/Kg	1	2/17/2021 3:47:32 PM
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	2/17/2021 3:47:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/18/2021 3:22:27 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2102671**

19-Feb-21

Client: HILCORP ENERGY

Project: Hare 15

Sample ID: **MB-58160** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **58160** RunNo: **75345**

Prep Date: **2/17/2021** Analysis Date: **2/17/2021** SeqNo: **2663499** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-58160** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **58160** RunNo: **75345**

Prep Date: **2/17/2021** Analysis Date: **2/17/2021** SeqNo: **2663500** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.8	90	110			

Sample ID: **MB-58190** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **58190** RunNo: **75398**

Prep Date: **2/18/2021** Analysis Date: **2/18/2021** SeqNo: **2664555** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-58190** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **58190** RunNo: **75398**

Prep Date: **2/18/2021** Analysis Date: **2/18/2021** SeqNo: **2664556** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.2	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#: **2102671**
19-Feb-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **MB-58108**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **58108**	RunNo: **75307**
Prep Date: **2/13/2021**	Analysis Date: **2/15/2021**	SeqNo: **2660760** 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	9.3		10.00		93.3	70	130			

Sample ID: **LCS-58108**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **58108**	RunNo: **75307**
Prep Date: **2/13/2021**	Analysis Date: **2/15/2021**	SeqNo: **2660763** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.8	68.9	141			
Surr: DNOP	4.3		5.000		87.0	70	130			

Sample ID: **2102671-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH 15 @ 25'-30'**	Batch ID: **58108**	RunNo: **75307**
Prep Date: **2/13/2021**	Analysis Date: **2/15/2021**	SeqNo: **2660769** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	340	9.6	47.76	358.5	-30.0	15	184			S
Surr: DNOP	4.5		4.776		94.4	70	130			

Sample ID: **2102671-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH 15 @ 25'-30'**	Batch ID: **58108**	RunNo: **75307**
Prep Date: **2/13/2021**	Analysis Date: **2/15/2021**	SeqNo: **2660770** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	320	9.1	45.33	358.5	-95.4	15	184	8.77	23.9	S
Surr: DNOP	4.3		4.533		94.6	70	130	0	0	

Sample ID: **MB-58107**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **58107**	RunNo: **75362**
Prep Date: **2/13/2021**	Analysis Date: **2/17/2021**	SeqNo: **2663323** 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	13		10.00		134	70	130			S

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#: **2102671**
19-Feb-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **MB-58130** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **58130** RunNo: **75362**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663324** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		112	70	130			

Sample ID: **LCS-58107** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **58107** RunNo: **75362**
Prep Date: **2/13/2021** Analysis Date: **2/17/2021** SeqNo: **2663326** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	119	68.9	141			
Surr: DNOP	6.8		5.000		136	70	130			S

Sample ID: **LCS-58130** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **58130** RunNo: **75362**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663327** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.7		5.000		115	70	130			

Sample ID: **2102698-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **58130** RunNo: **75362**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663364** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.2		4.766		108	70	130			

Sample ID: **2102698-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **58130** RunNo: **75362**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663365** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		4.955		99.8	70	130	0	0	

Sample ID: **2102662-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **58107** RunNo: **75367**
Prep Date: **2/13/2021** Analysis Date: **2/18/2021** SeqNo: **2663963** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	300	9.3	46.60	301.4	-6.88	15	184			S
Surr: DNOP	5.2		4.660		112	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#: **2102671**
19-Feb-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **2102662-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **58107** RunNo: **75367**
Prep Date: **2/13/2021** Analysis Date: **2/18/2021** SeqNo: **2663964** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	330	9.7	48.59	301.4	51.8	15	184	9.09	23.9	
Surr: DNOP	5.1		4.859		106	70	130	0	0	

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#: **2102671**
19-Feb-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **LCS-58099** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **58099** RunNo: **75347**
Prep Date: **2/12/2021** Analysis Date: **2/16/2021** SeqNo: **2662785** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.9	80	120			
Surr: BFB	1000		1000		99.6	75.3	105			

Sample ID: **MB-58099** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **58099** RunNo: **75347**
Prep Date: **2/12/2021** Analysis Date: **2/16/2021** SeqNo: **2662786** 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	890		1000		88.6	75.3	105			

Sample ID: **2102662-001ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BatchQC** Batch ID: **58099** RunNo: **75347**
Prep Date: **2/12/2021** Analysis Date: **2/16/2021** SeqNo: **2662788** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.73	0	87.3	61.3	114			
Surr: BFB	990		989.1		100	75.3	105			

Sample ID: **2102662-001amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BatchQC** Batch ID: **58099** RunNo: **75347**
Prep Date: **2/12/2021** Analysis Date: **2/16/2021** SeqNo: **2662790** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.83	0	91.0	61.3	114	4.57	20	
Surr: BFB	970		993.0		97.7	75.3	105	0	0	

Sample ID: **mb-58102** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **58102** RunNo: **75364**
Prep Date: **2/12/2021** Analysis Date: **2/17/2021** SeqNo: **2663391** 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	990		1000		99.0	75.3	105			

Sample ID: **lcs-58102** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **58102** RunNo: **75364**
Prep Date: **2/12/2021** Analysis Date: **2/17/2021** SeqNo: **2663392** Units: **mg/Kg**

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

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#: **2102671**

19-Feb-21

Client: HILCORP ENERGY

Project: Hare 15

Sample ID: **lcs-58102** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **58102** RunNo: **75364**
Prep Date: **2/12/2021** Analysis Date: **2/17/2021** SeqNo: **2663392** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	114	80	120			
Surr: BFB	1100		1000		112	75.3	105			S

Sample ID: **mb-58120** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **58120** RunNo: **75364**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663411** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	980		1000		98.5	75.3	105			

Sample ID: **lcs-58120** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **58120** RunNo: **75364**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663412** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		112	75.3	105			S

Sample ID: **2102698-001ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BatchQC** Batch ID: **58120** RunNo: **75364**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663414** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		979.4		110	75.3	105			S

Sample ID: **2102698-001amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BatchQC** Batch ID: **58120** RunNo: **75364**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663415** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		969.9		114	75.3	105	0	0	S

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		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102671**
19-Feb-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **LCS-58099**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **58099**	RunNo: **75347**
Prep Date: **2/12/2021**	Analysis Date: **2/16/2021**	SeqNo: **2662841** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.3	80	120			
Toluene	0.86	0.050	1.000	0	86.4	80	120			
Ethylbenzene	0.86	0.050	1.000	0	85.5	80	120			
Xylenes, Total	2.6	0.10	3.000	0	85.6	80	120			
Surr: 4-Bromofluorobenzene	0.86		1.000		85.9	80	120			

Sample ID: **MB-58099**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **58099**	RunNo: **75347**
Prep Date: **2/12/2021**	Analysis Date: **2/16/2021**	SeqNo: **2662842** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.86		1.000		85.6	80	120			

Sample ID: **2102662-002ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **58099**	RunNo: **75347**
Prep Date: **2/12/2021**	Analysis Date: **2/16/2021**	SeqNo: **2662845** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.025	0.9833	0	80.7	76.3	120			
Toluene	0.78	0.049	0.9833	0	79.7	78.5	120			
Ethylbenzene	0.78	0.049	0.9833	0	79.3	78.1	124			
Xylenes, Total	2.3	0.098	2.950	0	79.3	79.3	125			S
Surr: 4-Bromofluorobenzene	0.83		0.9833		84.3	80	120			

Sample ID: **2102662-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **58099**	RunNo: **75347**
Prep Date: **2/12/2021**	Analysis Date: **2/16/2021**	SeqNo: **2662846** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.024	0.9766	0	81.1	76.3	120	0.189	20	
Toluene	0.78	0.049	0.9766	0	80.3	78.5	120	0.00802	20	
Ethylbenzene	0.78	0.049	0.9766	0	79.9	78.1	124	0.0365	20	
Xylenes, Total	2.3	0.098	2.930	0	79.9	79.3	125	0.0622	20	
Surr: 4-Bromofluorobenzene	0.81		0.9766		83.4	80	120	0	0	

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#: **2102671**
19-Feb-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **mb-58102**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **58102**	RunNo: **75364**
Prep Date: **2/12/2021**	Analysis Date: **2/17/2021**	SeqNo: **2663437** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		96.7	80	120			

Sample ID: **LCS-58102**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **58102**	RunNo: **75364**
Prep Date: **2/12/2021**	Analysis Date: **2/17/2021**	SeqNo: **2663438** 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	100	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.9	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.0	80	120			

Sample ID: **2102671-004ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH 15 @ 30'-35'**	Batch ID: **58102**	RunNo: **75364**
Prep Date: **2/12/2021**	Analysis Date: **2/17/2021**	SeqNo: **2663441** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	0.9930	0.01367	92.2	76.3	120			
Toluene	0.97	0.050	0.9930	0.02050	96.0	78.5	120			
Ethylbenzene	0.97	0.050	0.9930	0.01347	96.4	78.1	124			
Xylenes, Total	3.0	0.099	2.979	0.08345	96.7	79.3	125			
Surr: 4-Bromofluorobenzene	1.0		0.9930		101	80	120			

Sample ID: **2102671-004amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH 15 @ 30'-35'**	Batch ID: **58102**	RunNo: **75364**
Prep Date: **2/12/2021**	Analysis Date: **2/17/2021**	SeqNo: **2663442** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	0.9872	0.01367	92.8	76.3	120	0.0132	20	
Toluene	0.98	0.049	0.9872	0.02050	96.7	78.5	120	0.117	20	
Ethylbenzene	0.96	0.049	0.9872	0.01347	96.2	78.1	124	0.789	20	
Xylenes, Total	3.0	0.099	2.962	0.08345	96.9	79.3	125	0.400	20	
Surr: 4-Bromofluorobenzene	0.97		0.9872		98.2	80	120	0	0	

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#: **2102671**
19-Feb-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **mb-58120** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **58120** RunNo: **75364**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663454** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.97		1.000		97.3	80	120			

Sample ID: **LCS-58120** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **58120** RunNo: **75364**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663455** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: **2102698-002ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC** Batch ID: **58120** RunNo: **75364**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663458** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.97		0.9662		100	80	120			

Sample ID: **2102698-002amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC** Batch ID: **58120** RunNo: **75364**
Prep Date: **2/15/2021** Analysis Date: **2/17/2021** SeqNo: **2663459** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.97		0.9804		98.5	80	120	0	0	

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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **HILCORP ENERGY** Work Order Number: **2102671** RcptNo: **1**

Received By: **Desiree Dominguez** **2/12/2021 7:30:00 AM** DD

Completed By: **Desiree Dominguez** **2/12/2021 10:21:51 AM** DD

Reviewed By: ENM 2/12/21

Chain of Custody

1. Is Chain of Custody 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 2/12/21

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	1.8	Good	Yes			

Chain-of-Custody Record

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

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: Hare 15
Project #:
Project Manager: WSP-Danny Burns
Sampler: D. Burns
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 1.8-0.0=1.8 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2102671	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 by 3010	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
2-9-21	1015	SOIL	BH 14 @ 25'-27'	1-4oz	COOL	-001	X	X					X			
	1030		BH 14 @ 30'-35'			-002										
	1245		BH 15 @ 25'-30'			-003										
	1300		BH 15 @ 30'-35'			-004										
	1600		BH 16 @ 25'-30'			-005										
↓	1615		BH 16 @ 33'-35'			-006										
2-10-21	0915		BH 17 @ 20'-25'			-007										
	0930		BH 17 @ 25'-30'			-008										
	1200		BH 18 @ 20'-25'			-009										
	1215		BH 18 @ 25'-30'			-010										
	1515		BH 19 @ 30'-35'			-011										
↓	1530		BH 19 @ 35'-40'			-012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2-11-21	1327				2/11/21	1327
2/11/21	1817			Courier	2/12/21	7:30

Remarks:
cc: danny.burns@wsp.com
devin.hencmann@wsp.com

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

Chain-of-Custody Record

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

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: Hare 15
Project #:
Project Manager: WSP- Danny Burns
Sampler: D Burns
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 1.8-0.0=1.8 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2102671	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)
2-11-21	0945	soil	BH20@25'-30'	1-4oz	cool	-013	X	X					X			
↓	1000	↓	BH20@33'-35'	↓	↓	-014	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2-11-21	1327		Christen Walls		2/11/21	1327
2/11/21	1817	Christen Waller		Courier	2/12/21	7:30

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

May 28, 2021

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

RE: Hare 15 OrderNo.: 2105875

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 12 sample(s) on 5/20/2021 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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH21 30-32.5
Project: Hare 15
Collection Date: 5/17/2021 10:00:00 AM
Lab ID: 2105875-001 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	750	8.9		mg/Kg	1	5/21/2021 8:33:29 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/21/2021 8:33:29 PM
Surr: DNOP	122	70-130		%Rec	1	5/21/2021 8:33:29 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	1400	24		mg/Kg	5	5/21/2021 10:37:12 PM
Surr: BFB	898	70-130	S	%Rec	5	5/21/2021 10:37:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.12		mg/Kg	5	5/21/2021 10:37:12 PM
Toluene	ND	0.24		mg/Kg	5	5/21/2021 10:37:12 PM
Ethylbenzene	ND	0.24		mg/Kg	5	5/21/2021 10:37:12 PM
Xylenes, Total	46	0.47		mg/Kg	5	5/21/2021 10:37:12 PM
Surr: 4-Bromofluorobenzene	122	70-130		%Rec	5	5/21/2021 10:37:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	120	60		mg/Kg	20	5/21/2021 11:31:42 AM

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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH21 32.5-35
Project: Hare 15
Collection Date: 5/17/2021 10:10:00 AM
Lab ID: 2105875-002 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	20	9.0		mg/Kg	1	5/21/2021 8:43:35 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/21/2021 8:43:35 PM
Surr: DNOP	79.1	70-130		%Rec	1	5/21/2021 8:43:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	11	4.9		mg/Kg	1	5/24/2021 10:16:15 AM
Surr: BFB	136	70-130	S	%Rec	1	5/24/2021 10:16:15 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	5/24/2021 10:16:15 AM
Toluene	ND	0.049		mg/Kg	1	5/24/2021 10:16:15 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/24/2021 10:16:15 AM
Xylenes, Total	0.26	0.099		mg/Kg	1	5/24/2021 10:16:15 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	5/24/2021 10:16:15 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/21/2021 11:44:06 AM

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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH22 27.5-30
Project: Hare 15
Collection Date: 5/17/2021 12:00:00 PM
Lab ID: 2105875-003 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/21/2021 8:53:42 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/21/2021 8:53:42 PM
Surr: DNOP	85.4	70-130		%Rec	1	5/21/2021 8:53:42 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/21/2021 11:24:04 PM
Surr: BFB	90.8	70-130		%Rec	1	5/21/2021 11:24:04 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	5/21/2021 11:24:04 PM
Toluene	ND	0.049		mg/Kg	1	5/21/2021 11:24:04 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/21/2021 11:24:04 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/21/2021 11:24:04 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	5/21/2021 11:24:04 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/21/2021 11:56:31 AM

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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH22 37.5-40
Project: Hare 15
Collection Date: 5/17/2021 12:30:00 PM
Lab ID: 2105875-004 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/21/2021 9:03:50 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/21/2021 9:03:50 PM
Surr: DNOP	131	70-130	S	%Rec	1	5/21/2021 9:03:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	5/21/2021 11:47:30 PM
Surr: BFB	90.6	70-130		%Rec	1	5/21/2021 11:47:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	5/21/2021 11:47:30 PM
Toluene	ND	0.046		mg/Kg	1	5/21/2021 11:47:30 PM
Ethylbenzene	ND	0.046		mg/Kg	1	5/21/2021 11:47:30 PM
Xylenes, Total	ND	0.093		mg/Kg	1	5/21/2021 11:47:30 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	5/21/2021 11:47:30 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/21/2021 12:33:43 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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH23 35-37.5
Project: Hare 15
Collection Date: 5/17/2021 3:00:00 PM
Lab ID: 2105875-005 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	5/21/2021 9:13:58 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	5/21/2021 9:13:58 PM
Surr: DNOP	87.3	70-130		%Rec	1	5/21/2021 9:13:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2021 12:10:49 AM
Surr: BFB	92.0	70-130		%Rec	1	5/22/2021 12:10:49 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	5/22/2021 12:10:49 AM
Toluene	ND	0.049		mg/Kg	1	5/22/2021 12:10:49 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2021 12:10:49 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/22/2021 12:10:49 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	5/22/2021 12:10:49 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/21/2021 12:46:08 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH23 40-42
Project: Hare 15
Collection Date: 5/17/2021 3:15:00 PM
Lab ID: 2105875-006 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	5/21/2021 9:24:00 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/21/2021 9:24:00 PM
Surr: DNOP	86.5	70-130		%Rec	1	5/21/2021 9:24:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2021 12:34:15 AM
Surr: BFB	89.7	70-130		%Rec	1	5/22/2021 12:34:15 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	5/22/2021 12:34:15 AM
Toluene	ND	0.049		mg/Kg	1	5/22/2021 12:34:15 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2021 12:34:15 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/22/2021 12:34:15 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	5/22/2021 12:34:15 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/21/2021 12:58:32 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH24 25-27.5
Project: Hare 15
Collection Date: 5/18/2021 10:30:00 AM
Lab ID: 2105875-007 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	5/21/2021 3:17:33 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	5/21/2021 3:17:33 PM
Surr: DNOP	103	70-130		%Rec	1	5/21/2021 3:17:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2021 2:55:56 AM
Surr: BFB	89.4	70-130		%Rec	1	5/22/2021 2:55:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	5/22/2021 2:55:56 AM
Toluene	ND	0.049		mg/Kg	1	5/22/2021 2:55:56 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2021 2:55:56 AM
Xylenes, Total	ND	0.099		mg/Kg	1	5/22/2021 2:55:56 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	5/22/2021 2:55:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/21/2021 1:10:57 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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH24 43.5-45
Project: Hare 15
Collection Date: 5/18/2021 11:00:00 AM
Lab ID: 2105875-008 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	5/21/2021 3:56:24 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	5/21/2021 3:56:24 PM
Surr: DNOP	118	70-130		%Rec	1	5/21/2021 3:56:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/22/2021 4:06:05 AM
Surr: BFB	90.7	70-130		%Rec	1	5/22/2021 4:06:05 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	5/22/2021 4:06:05 AM
Toluene	ND	0.047		mg/Kg	1	5/22/2021 4:06:05 AM
Ethylbenzene	ND	0.047		mg/Kg	1	5/22/2021 4:06:05 AM
Xylenes, Total	ND	0.094		mg/Kg	1	5/22/2021 4:06:05 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	5/22/2021 4:06:05 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	61		mg/Kg	20	5/21/2021 1:23:21 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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH25 25-27.5
Project: Hare 15
Collection Date: 5/18/2021 1:00:00 PM
Lab ID: 2105875-009 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/21/2021 4:06:06 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/21/2021 4:06:06 PM
Surr: DNOP	112	70-130		%Rec	1	5/21/2021 4:06:06 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2021 5:17:00 AM
Surr: BFB	89.9	70-130		%Rec	1	5/22/2021 5:17:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	5/22/2021 5:17:00 AM
Toluene	ND	0.049		mg/Kg	1	5/22/2021 5:17:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2021 5:17:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/22/2021 5:17:00 AM
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	5/22/2021 5:17:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	130	60		mg/Kg	20	5/21/2021 1:35:45 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH25 35-38
Project: Hare 15
Collection Date: 5/18/2021 1:20:00 PM
Lab ID: 2105875-010 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	5/21/2021 4:15:48 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/21/2021 4:15:48 PM
Surr: DNOP	123	70-130		%Rec	1	5/21/2021 4:15:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/22/2021 5:40:37 AM
Surr: BFB	87.2	70-130		%Rec	1	5/22/2021 5:40:37 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	5/22/2021 5:40:37 AM
Toluene	ND	0.047		mg/Kg	1	5/22/2021 5:40:37 AM
Ethylbenzene	ND	0.047		mg/Kg	1	5/22/2021 5:40:37 AM
Xylenes, Total	ND	0.094		mg/Kg	1	5/22/2021 5:40:37 AM
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	5/22/2021 5:40:37 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	85	60		mg/Kg	20	5/21/2021 1:48:09 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH26 32.5-35
Project: Hare 15
Collection Date: 5/18/2021 3:25:00 PM
Lab ID: 2105875-011 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	110	8.8		mg/Kg	1	5/21/2021 4:25:28 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	5/21/2021 4:25:28 PM
Surr: DNOP	112	70-130		%Rec	1	5/21/2021 4:25:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	1200	250		mg/Kg	50	5/22/2021 6:04:10 AM
Surr: BFB	111	70-130		%Rec	50	5/22/2021 6:04:10 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	2.1	1.2		mg/Kg	50	5/22/2021 6:04:10 AM
Toluene	42	2.5		mg/Kg	50	5/22/2021 6:04:10 AM
Ethylbenzene	6.1	2.5		mg/Kg	50	5/22/2021 6:04:10 AM
Xylenes, Total	94	4.9		mg/Kg	50	5/22/2021 6:04:10 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	50	5/22/2021 6:04:10 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	86	60		mg/Kg	20	5/21/2021 2:00:34 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 **2105875**
Date Reported: **5/28/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH26 37.5-40
Project: Hare 15
Collection Date: 5/18/2021 3:35:00 PM
Lab ID: 2105875-012 **Matrix:** SOIL **Received Date:** 5/20/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/21/2021 4:35:08 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/21/2021 4:35:08 PM
Surr: DNOP	107	70-130		%Rec	1	5/21/2021 4:35:08 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	29	24		mg/Kg	5	5/22/2021 6:27:37 AM
Surr: BFB	95.4	70-130		%Rec	5	5/22/2021 6:27:37 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.40	0.12		mg/Kg	5	5/22/2021 6:27:37 AM
Toluene	1.7	0.24		mg/Kg	5	5/22/2021 6:27:37 AM
Ethylbenzene	ND	0.24		mg/Kg	5	5/22/2021 6:27:37 AM
Xylenes, Total	2.0	0.48		mg/Kg	5	5/22/2021 6:27:37 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	5	5/22/2021 6:27:37 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	120	59		mg/Kg	20	5/21/2021 2:12:59 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		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2105875**

28-May-21

Client: HILCORP ENERGY

Project: Hare 15

Sample ID: **MB-60175**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **60175**	RunNo: **77560**							
Prep Date: **5/21/2021**	Analysis Date: **5/21/2021**	SeqNo: **2753340**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-60175**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **60175**	RunNo: **77560**							
Prep Date: **5/21/2021**	Analysis Date: **5/21/2021**	SeqNo: **2753341**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	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#: **2105875**
28-May-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **MB-60165**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **60165**	RunNo: **77563**							
Prep Date: **5/20/2021**	Analysis Date: **5/21/2021**	SeqNo: **2753501**	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	14		10.00		138	70	130			S

Sample ID: **2105875-007AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **BH24 25-27.5**	Batch ID: **60165**	RunNo: **77563**							
Prep Date: **5/20/2021**	Analysis Date: **5/21/2021**	SeqNo: **2753508**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	8.6	43.03	0	101	15	184			
Surr: DNOP	6.2		4.303		145	70	130			S

Sample ID: **2105875-007AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **BH24 25-27.5**	Batch ID: **60165**	RunNo: **77563**							
Prep Date: **5/20/2021**	Analysis Date: **5/21/2021**	SeqNo: **2753509**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	8.7	43.29	0	102	15	184	0.849	23.9	
Surr: DNOP	4.7		4.329		107	70	130	0	0	

Sample ID: **MB-60164**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **60164**	RunNo: **77604**							
Prep Date: **5/20/2021**	Analysis Date: **5/22/2021**	SeqNo: **2754502**	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	9.7		10.00		97.3	70	130			

Sample ID: **LCS-60164**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **60164**	RunNo: **77604**							
Prep Date: **5/20/2021**	Analysis Date: **5/22/2021**	SeqNo: **2754504**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.4	68.9	141			
Surr: DNOP	4.4		5.000		88.6	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 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#: **2105875**
28-May-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **LCS-60165** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **60165** RunNo: **77604**
Prep Date: **5/20/2021** Analysis Date: **5/22/2021** SeqNo: **2754505** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	118	68.9	141			
Surr: DNOP	5.9		5.000		118	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#: **2105875**
28-May-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **mb-60157** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **60157** RunNo: **77587**
Prep Date: **5/20/2021** Analysis Date: **5/21/2021** SeqNo: **2753626** 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	960		1000		95.8	70	130			

Sample ID: **lcs-60157** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **60157** RunNo: **77587**
Prep Date: **5/20/2021** Analysis Date: **5/21/2021** SeqNo: **2753627** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.9	78.6	131			
Surr: BFB	1100		1000		108	70	130			

Sample ID: **mb-60161** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **60161** RunNo: **77587**
Prep Date: **5/20/2021** Analysis Date: **5/22/2021** SeqNo: **2753650** 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	890		1000		88.7	70	130			

Sample ID: **lcs-60161** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **60161** RunNo: **77587**
Prep Date: **5/20/2021** Analysis Date: **5/22/2021** SeqNo: **2753651** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.4	78.6	131			
Surr: BFB	970		1000		97.3	70	130			

Sample ID: **2105875-007ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH24 25-27.5** Batch ID: **60161** RunNo: **77587**
Prep Date: **5/20/2021** Analysis Date: **5/22/2021** SeqNo: **2753653** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.7	23.54	0	109	61.3	114			
Surr: BFB	960		941.6		102	70	130			

Sample ID: **2105875-007amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH24 25-27.5** Batch ID: **60161** RunNo: **77587**
Prep Date: **5/20/2021** Analysis Date: **5/22/2021** SeqNo: **2753654** Units: **mg/Kg**

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

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#: **2105875**
28-May-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **2105875-007amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH24 25-27.5** Batch ID: **60161** RunNo: **77587**
Prep Date: **5/20/2021** Analysis Date: **5/22/2021** SeqNo: **2753654** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	23.83	0	113	61.3	114	4.89	20	
Surr: BFB	970		953.3		102	70	130	0	0	

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#: **2105875**
28-May-21

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **mb-60157**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **60157**	RunNo: **77587**
Prep Date: **5/20/2021**	Analysis Date: **5/21/2021**	SeqNo: **2753689** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	70	130			

Sample ID: **LCS-60157**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **60157**	RunNo: **77587**
Prep Date: **5/20/2021**	Analysis Date: **5/21/2021**	SeqNo: **2753690** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.2	80	120			
Toluene	0.93	0.050	1.000	0	93.4	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.9	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	70	130			

Sample ID: **mb-60161**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **60161**	RunNo: **77587**
Prep Date: **5/20/2021**	Analysis Date: **5/22/2021**	SeqNo: **2753713** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		99.5	70	130			

Sample ID: **LCS-60161**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **60161**	RunNo: **77587**
Prep Date: **5/20/2021**	Analysis Date: **5/22/2021**	SeqNo: **2753714** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.1	80	120			
Toluene	0.98	0.050	1.000	0	98.2	80	120			
Ethylbenzene	0.97	0.050	1.000	0	97.3	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.7	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	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#: **2105875**

28-May-21

Client: HILCORP ENERGY

Project: Hare 15

Sample ID: **2105875-008ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BH24 43.5-45** Batch ID: **60161** RunNo: **77587**

Prep Date: **5/20/2021** Analysis Date: **5/22/2021** SeqNo: **2753717** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9597	0.01675	109	76.3	120			
Toluene	1.1	0.048	0.9597	0.03274	115	78.5	120			
Ethylbenzene	1.1	0.048	0.9597	0	117	78.1	124			
Xylenes, Total	3.4	0.096	2.879	0.03979	117	79.3	125			
Surr: 4-Bromofluorobenzene	0.98		0.9597		102	70	130			

Sample ID: **2105875-008amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BH24 43.5-45** Batch ID: **60161** RunNo: **77587**

Prep Date: **5/20/2021** Analysis Date: **5/22/2021** SeqNo: **2753718** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9625	0.01675	113	80	120	3.87	20	
Toluene	1.2	0.048	0.9625	0.03274	120	80	120	4.90	20	S
Ethylbenzene	1.2	0.048	0.9625	0	123	80	120	4.59	20	S
Xylenes, Total	3.5	0.096	2.887	0.03979	121	80	120	4.01	20	S
Surr: 4-Bromofluorobenzene	0.98		0.9625		102	70	130	0	0	

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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **HILCORP ENERGY** Work Order Number: **2105875** RcptNo: **1**

Received By: **Juan Rojas** **5/20/2021 7:20:00 AM** Juan Rojas

Completed By: **Sean Livingston** **5/20/2021 8:17:35 AM** Sean Livingston

Reviewed By: JR 5/20/21

Chain of Custody

1. Is Chain of Custody 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: SPA 5.20.21

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				

Chain-of-Custody Record

Client: Hilcorp Energy

Mitch Killough

Mailing Address:

Phone #:

email or Fax#: mKillough@hilcorp.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☒ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Hare 15

Project #:

Project Manager: Danny Burns - WSP

Sampler: Eric Carroll

On Ice: ☒ Yes ☐ No

# of Coolers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2105875	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chloride
5/17	1000	soil	BH21 30-32.5	1402	Cool	001	X	X									X
	1010		BH21 32.5-35			002											
	1200		BH22 27.5-30			003											
	1230		BH22 37.5-46			004											
	1500		BH23 35-37.5			005											
	1515		BH23 40-42			006											
5/18	1030		BH24 25-27.5			007											
	1100		BH24 43.5-45			008											
	1300		BH25 25-27.5			009											
	1320		BH25 35-38			010											
	1525		BH26 32.5-35			011											
	1535		BH26 37.5-46			012											

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
5/19	1710	Eric Carroll			5/19/21	1710
5/19/21	1830		Courier		5/20/21	7:20

Remarks:

Please cc: Daniel.Burns@wsp.com

Eric.carroll@wsp.com

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 27, 2021

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

RE: HARE 15 OrderNo.: 2109910

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 25 sample(s) on 9/17/2021 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 27 0-5
Project: HARE 15
Collection Date: 9/10/2021 10:55:00 AM
Lab ID: 2109910-001 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/20/2021 3:56:54 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/20/2021 3:56:54 PM
Surr: DNOP	113	70-130		%Rec	1	9/20/2021 3:56:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/20/2021 10:39:00 PM
Surr: BFB	96.1	70-130		%Rec	1	9/20/2021 10:39:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/20/2021 10:39:00 PM
Toluene	ND	0.050		mg/Kg	1	9/20/2021 10:39:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/20/2021 10:39:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/20/2021 10:39:00 PM
Surr: 4-Bromofluorobenzene	79.7	70-130		%Rec	1	9/20/2021 10:39:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 1:55:49 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 27 5-10
Project: HARE 15
Collection Date: 9/10/2021 11:00:00 AM
Lab ID: 2109910-002 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/20/2021 4:09:26 PM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	9/20/2021 4:09:26 PM
Surr: DNOP	105	70-130		%Rec	1	9/20/2021 4:09:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/20/2021 10:59:00 PM
Surr: BFB	93.5	70-130		%Rec	1	9/20/2021 10:59:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/20/2021 10:59:00 PM
Toluene	ND	0.050		mg/Kg	1	9/20/2021 10:59:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/20/2021 10:59:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/20/2021 10:59:00 PM
Surr: 4-Bromofluorobenzene	80.1	70-130		%Rec	1	9/20/2021 10:59:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	360	60		mg/Kg	20	9/23/2021 2:33:03 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 27 10-15
Project: HARE 15
Collection Date: 9/10/2021 11:05:00 AM
Lab ID: 2109910-003 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/20/2021 4:22:12 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/20/2021 4:22:12 PM
Surr: DNOP	115	70-130		%Rec	1	9/20/2021 4:22:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/20/2021 11:19:00 PM
Surr: BFB	94.6	70-130		%Rec	1	9/20/2021 11:19:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/20/2021 11:19:00 PM
Toluene	ND	0.048		mg/Kg	1	9/20/2021 11:19:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/20/2021 11:19:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/20/2021 11:19:00 PM
Surr: 4-Bromofluorobenzene	79.6	70-130		%Rec	1	9/20/2021 11:19:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	210	60		mg/Kg	20	9/23/2021 4:12:23 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 27 15-20
Project: HARE 15
Collection Date: 9/10/2021 11:10:00 AM
Lab ID: 2109910-004 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/20/2021 4:47:12 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2021 4:47:12 PM
Surr: DNOP	108	70-130		%Rec	1	9/20/2021 4:47:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/20/2021 11:38:00 PM
Surr: BFB	95.8	70-130		%Rec	1	9/20/2021 11:38:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/20/2021 11:38:00 PM
Toluene	ND	0.048		mg/Kg	1	9/20/2021 11:38:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/20/2021 11:38:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/20/2021 11:38:00 PM
Surr: 4-Bromofluorobenzene	80.0	70-130		%Rec	1	9/20/2021 11:38:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	65	60		mg/Kg	20	9/23/2021 4:24:48 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 27 20-25
Project: HARE 15
Collection Date: 9/10/2021 11:15:00 AM
Lab ID: 2109910-005 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/20/2021 4:59:35 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/20/2021 4:59:35 PM
Surr: DNOP	98.6	70-130		%Rec	1	9/20/2021 4:59:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/20/2021 11:58:00 PM
Surr: BFB	92.8	70-130		%Rec	1	9/20/2021 11:58:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/20/2021 11:58:00 PM
Toluene	ND	0.049		mg/Kg	1	9/20/2021 11:58:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/20/2021 11:58:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/20/2021 11:58:00 PM
Surr: 4-Bromofluorobenzene	76.6	70-130		%Rec	1	9/20/2021 11:58:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	77	60		mg/Kg	20	9/23/2021 4:37:13 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 27 25-30
Project: HARE 15
Collection Date: 9/10/2021 11:20:00 AM
Lab ID: 2109910-006 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/20/2021 5:11:59 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/20/2021 5:11:59 PM
Surr: DNOP	90.0	70-130		%Rec	1	9/20/2021 5:11:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/21/2021 12:17:00 AM
Surr: BFB	90.9	70-130		%Rec	1	9/21/2021 12:17:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/21/2021 12:17:00 AM
Toluene	ND	0.048		mg/Kg	1	9/21/2021 12:17:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/21/2021 12:17:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/21/2021 12:17:00 AM
Surr: 4-Bromofluorobenzene	76.9	70-130		%Rec	1	9/21/2021 12:17:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	75	60		mg/Kg	20	9/23/2021 5:14:27 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 27 30-35
Project: HARE 15
Collection Date: 9/10/2021 11:25:00 AM
Lab ID: 2109910-007 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/20/2021 11:22:11 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2021 11:22:11 AM
Surr: DNOP	93.9	70-130		%Rec	1	9/20/2021 11:22:11 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/21/2021 1:16:00 AM
Surr: BFB	99.3	70-130		%Rec	1	9/21/2021 1:16:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/21/2021 1:16:00 AM
Toluene	ND	0.049		mg/Kg	1	9/21/2021 1:16:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/21/2021 1:16:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/21/2021 1:16:00 AM
Surr: 4-Bromofluorobenzene	81.1	70-130		%Rec	1	9/21/2021 1:16:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	70	60		mg/Kg	20	9/23/2021 5:51:42 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 27 35-40
Project: HARE 15
Collection Date: 9/10/2021 11:30:00 AM
Lab ID: 2109910-008 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/20/2021 12:33:56 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/20/2021 12:33:56 PM
Surr: DNOP	94.3	70-130		%Rec	1	9/20/2021 12:33:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/21/2021 1:36:00 AM
Surr: BFB	95.2	70-130		%Rec	1	9/21/2021 1:36:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/21/2021 1:36:00 AM
Toluene	ND	0.048		mg/Kg	1	9/21/2021 1:36:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/21/2021 1:36:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/21/2021 1:36:00 AM
Surr: 4-Bromofluorobenzene	81.0	70-130		%Rec	1	9/21/2021 1:36:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 6:28:56 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 28 0-5
Project: HARE 15
Collection Date: 9/10/2021 12:45:00 PM
Lab ID: 2109910-009 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	42	9.5		mg/Kg	1	9/20/2021 12:57:54 PM
Motor Oil Range Organics (MRO)	77	48		mg/Kg	1	9/20/2021 12:57:54 PM
Surr: DNOP	107	70-130		%Rec	1	9/20/2021 12:57:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/21/2021 1:56:00 AM
Surr: BFB	92.0	70-130		%Rec	1	9/21/2021 1:56:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/21/2021 1:56:00 AM
Toluene	ND	0.049		mg/Kg	1	9/21/2021 1:56:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/21/2021 1:56:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/21/2021 1:56:00 AM
Surr: 4-Bromofluorobenzene	80.0	70-130		%Rec	1	9/21/2021 1:56:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	59		mg/Kg	20	9/23/2021 6:41:20 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 28 5-10
Project: HARE 15
Collection Date: 9/10/2021 12:51:00 PM
Lab ID: 2109910-010 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	9/20/2021 1:45:40 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/20/2021 1:45:40 PM
Surr: DNOP	100	70-130		%Rec	1	9/20/2021 1:45:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/21/2021 2:15:00 AM
Surr: BFB	94.0	70-130		%Rec	1	9/21/2021 2:15:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/21/2021 2:15:00 AM
Toluene	ND	0.049		mg/Kg	1	9/21/2021 2:15:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/21/2021 2:15:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/21/2021 2:15:00 AM
Surr: 4-Bromofluorobenzene	79.6	70-130		%Rec	1	9/21/2021 2:15:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	100	60		mg/Kg	20	9/23/2021 6:53:45 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 28 10-15
Project: HARE 15
Collection Date: 9/10/2021 12:55:00 PM
Lab ID: 2109910-011 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/20/2021 2:09:38 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/20/2021 2:09:38 PM
Surr: DNOP	96.6	70-130		%Rec	1	9/20/2021 2:09:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/21/2021 2:35:00 AM
Surr: BFB	95.2	70-130		%Rec	1	9/21/2021 2:35:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/21/2021 2:35:00 AM
Toluene	ND	0.048		mg/Kg	1	9/21/2021 2:35:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/21/2021 2:35:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/21/2021 2:35:00 AM
Surr: 4-Bromofluorobenzene	81.2	70-130		%Rec	1	9/21/2021 2:35:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 7:06:10 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 28 15-20
Project: HARE 15
Collection Date: 9/10/2021 1:01:00 PM
Lab ID: 2109910-012 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/20/2021 2:33:39 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/20/2021 2:33:39 PM
Surr: DNOP	104	70-130		%Rec	1	9/20/2021 2:33:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/21/2021 2:55:00 AM
Surr: BFB	94.7	70-130		%Rec	1	9/21/2021 2:55:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/21/2021 2:55:00 AM
Toluene	ND	0.048		mg/Kg	1	9/21/2021 2:55:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/21/2021 2:55:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/21/2021 2:55:00 AM
Surr: 4-Bromofluorobenzene	80.6	70-130		%Rec	1	9/21/2021 2:55:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 7:18:35 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 28 20-25
Project: HARE 15
Collection Date: 9/10/2021 1:11:00 PM
Lab ID: 2109910-013 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/20/2021 2:57:35 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2021 2:57:35 PM
Surr: DNOP	103	70-130		%Rec	1	9/20/2021 2:57:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/21/2021 3:14:00 AM
Surr: BFB	93.4	70-130		%Rec	1	9/21/2021 3:14:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/21/2021 3:14:00 AM
Toluene	ND	0.048		mg/Kg	1	9/21/2021 3:14:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/21/2021 3:14:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/21/2021 3:14:00 AM
Surr: 4-Bromofluorobenzene	79.3	70-130		%Rec	1	9/21/2021 3:14:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	110	60		mg/Kg	20	9/23/2021 7:31:00 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 28 25-30
Project: HARE 15
Collection Date: 9/10/2021 1:29:00 PM
Lab ID: 2109910-014 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/20/2021 3:21:32 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/20/2021 3:21:32 PM
Surr: DNOP	109	70-130		%Rec	1	9/20/2021 3:21:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/21/2021 3:34:00 AM
Surr: BFB	95.0	70-130		%Rec	1	9/21/2021 3:34:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/21/2021 3:34:00 AM
Toluene	ND	0.049		mg/Kg	1	9/21/2021 3:34:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/21/2021 3:34:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/21/2021 3:34:00 AM
Surr: 4-Bromofluorobenzene	80.9	70-130		%Rec	1	9/21/2021 3:34:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 7:43:24 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 28 30-35
Project: HARE 15
Collection Date: 9/10/2021 1:41:00 PM
Lab ID: 2109910-015 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/20/2021 3:45:38 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/20/2021 3:45:38 PM
Surr: DNOP	97.3	70-130		%Rec	1	9/20/2021 3:45:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/21/2021 3:54:00 AM
Surr: BFB	93.1	70-130		%Rec	1	9/21/2021 3:54:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/21/2021 3:54:00 AM
Toluene	ND	0.048		mg/Kg	1	9/21/2021 3:54:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/21/2021 3:54:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/21/2021 3:54:00 AM
Surr: 4-Bromofluorobenzene	80.1	70-130		%Rec	1	9/21/2021 3:54:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 7:55:49 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 28 35-40
Project: HARE 15
Collection Date: 9/10/2021 2:14:00 PM
Lab ID: 2109910-016 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/20/2021 4:09:29 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/20/2021 4:09:29 PM
Surr: DNOP	97.7	70-130		%Rec	1	9/20/2021 4:09:29 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/21/2021 4:13:00 AM
Surr: BFB	93.1	70-130		%Rec	1	9/21/2021 4:13:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/21/2021 4:13:00 AM
Toluene	ND	0.049		mg/Kg	1	9/21/2021 4:13:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/21/2021 4:13:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/21/2021 4:13:00 AM
Surr: 4-Bromofluorobenzene	77.6	70-130		%Rec	1	9/21/2021 4:13:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 8:08:14 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 29 0-5
Project: HARE 15
Collection Date: 9/13/2021 9:17:00 AM
Lab ID: 2109910-017 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/21/2021 2:14:51 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/21/2021 2:14:51 PM
Surr: DNOP	97.4	70-130		%Rec	1	9/21/2021 2:14:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/22/2021 1:02:00 AM
Surr: BFB	95.6	70-130		%Rec	1	9/22/2021 1:02:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/22/2021 1:02:00 AM
Toluene	ND	0.050		mg/Kg	1	9/22/2021 1:02:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/22/2021 1:02:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/22/2021 1:02:00 AM
Surr: 4-Bromofluorobenzene	80.1	70-130		%Rec	1	9/22/2021 1:02:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 8:20:38 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 29 5-10
Project: HARE 15
Collection Date: 9/13/2021 9:30:00 AM
Lab ID: 2109910-018 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/21/2021 2:39:06 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/21/2021 2:39:06 PM
Surr: DNOP	95.7	70-130		%Rec	1	9/21/2021 2:39:06 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/22/2021 1:21:00 AM
Surr: BFB	89.9	70-130		%Rec	1	9/22/2021 1:21:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/22/2021 1:21:00 AM
Toluene	ND	0.048		mg/Kg	1	9/22/2021 1:21:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/22/2021 1:21:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/22/2021 1:21:00 AM
Surr: 4-Bromofluorobenzene	78.5	70-130		%Rec	1	9/22/2021 1:21:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	59		mg/Kg	20	9/23/2021 8:57:51 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 29 10-14
Project: HARE 15
Collection Date: 9/13/2021 9:50:00 AM
Lab ID: 2109910-019 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	9/21/2021 3:03:21 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	9/21/2021 3:03:21 PM
Surr: DNOP	112	70-130		%Rec	1	9/21/2021 3:03:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/22/2021 1:41:00 AM
Surr: BFB	95.6	70-130		%Rec	1	9/22/2021 1:41:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/22/2021 1:41:00 AM
Toluene	ND	0.050		mg/Kg	1	9/22/2021 1:41:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/22/2021 1:41:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/22/2021 1:41:00 AM
Surr: 4-Bromofluorobenzene	79.9	70-130		%Rec	1	9/22/2021 1:41:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 9:10:16 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 29 19.5-20
Project: HARE 15
Collection Date: 9/13/2021 10:35:00 AM
Lab ID: 2109910-020 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	30	8.5		mg/Kg	1	9/21/2021 3:27:38 PM
Motor Oil Range Organics (MRO)	54	42		mg/Kg	1	9/21/2021 3:27:38 PM
Surr: DNOP	96.0	70-130		%Rec	1	9/21/2021 3:27:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/22/2021 2:01:00 AM
Surr: BFB	92.8	70-130		%Rec	1	9/22/2021 2:01:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/22/2021 2:01:00 AM
Toluene	ND	0.050		mg/Kg	1	9/22/2021 2:01:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/22/2021 2:01:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	9/22/2021 2:01:00 AM
Surr: 4-Bromofluorobenzene	79.6	70-130		%Rec	1	9/22/2021 2:01:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 9:22:41 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 29 24.5-25
Project: HARE 15
Collection Date: 9/13/2021 11:25:00 AM
Lab ID: 2109910-021 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	33	9.3		mg/Kg	1	9/21/2021 3:52:00 PM
Motor Oil Range Organics (MRO)	60	47		mg/Kg	1	9/21/2021 3:52:00 PM
Surr: DNOP	102	70-130		%Rec	1	9/21/2021 3:52:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/22/2021 2:20:00 AM
Surr: BFB	91.7	70-130		%Rec	1	9/22/2021 2:20:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/22/2021 2:20:00 AM
Toluene	ND	0.050		mg/Kg	1	9/22/2021 2:20:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/22/2021 2:20:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/22/2021 2:20:00 AM
Surr: 4-Bromofluorobenzene	78.5	70-130		%Rec	1	9/22/2021 2:20:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 9:35:06 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 29 29.5-30
Project: HARE 15
Collection Date: 9/13/2021 11:55:00 AM
Lab ID: 2109910-022 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	15	9.7		mg/Kg	1	9/21/2021 4:16:12 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/21/2021 4:16:12 PM
Surr: DNOP	96.7	70-130		%Rec	1	9/21/2021 4:16:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/22/2021 2:40:00 AM
Surr: BFB	90.6	70-130		%Rec	1	9/22/2021 2:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/22/2021 2:40:00 AM
Toluene	ND	0.050		mg/Kg	1	9/22/2021 2:40:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/22/2021 2:40:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/22/2021 2:40:00 AM
Surr: 4-Bromofluorobenzene	78.8	70-130		%Rec	1	9/22/2021 2:40:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 10:12:21 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 29 34.5-35
Project: HARE 15
Collection Date: 9/13/2021 12:50:00 PM
Lab ID: 2109910-023 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	92	22		mg/Kg	1	9/21/2021 4:40:46 PM
Motor Oil Range Organics (MRO)	200	110		mg/Kg	1	9/21/2021 4:40:46 PM
Surr: DNOP	101	70-130		%Rec	1	9/21/2021 4:40:46 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2021 3:00:00 AM
Surr: BFB	91.4	70-130		%Rec	1	9/22/2021 3:00:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/22/2021 3:00:00 AM
Toluene	ND	0.049		mg/Kg	1	9/22/2021 3:00:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2021 3:00:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/22/2021 3:00:00 AM
Surr: 4-Bromofluorobenzene	77.3	70-130		%Rec	1	9/22/2021 3:00:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 10:24:46 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 29 39.5-40
Project: HARE 15
Collection Date: 9/13/2021 1:34:00 PM
Lab ID: 2109910-024 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/21/2021 5:05:03 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/21/2021 5:05:03 PM
Surr: DNOP	92.1	70-130		%Rec	1	9/21/2021 5:05:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2021 3:19:00 AM
Surr: BFB	93.3	70-130		%Rec	1	9/22/2021 3:19:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.025		mg/Kg	1	9/22/2021 3:19:00 AM
Toluene	ND	0.049		mg/Kg	1	9/22/2021 3:19:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2021 3:19:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/22/2021 3:19:00 AM
Surr: 4-Bromofluorobenzene	81.1	70-130		%Rec	1	9/22/2021 3:19:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 10:37:11 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 **2109910**
Date Reported: **9/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH 29 44.5-50
Project: HARE 15
Collection Date: 9/13/2021 2:09:00 PM
Lab ID: 2109910-025 **Matrix:** SOIL **Received Date:** 9/17/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/21/2021 5:29:22 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/21/2021 5:29:22 PM
Surr: DNOP	104	70-130		%Rec	1	9/21/2021 5:29:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2021 3:39:00 AM
Surr: BFB	87.8	70-130		%Rec	1	9/22/2021 3:39:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **mb**
Benzene	ND	0.024		mg/Kg	1	9/22/2021 3:39:00 AM
Toluene	ND	0.049		mg/Kg	1	9/22/2021 3:39:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2021 3:39:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/22/2021 3:39:00 AM
Surr: 4-Bromofluorobenzene	76.0	70-130		%Rec	1	9/22/2021 3:39:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/23/2021 10:49:36 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2109910**
27-Sep-21

Client: HILCORP ENERGY
Project: HARE 15

Sample ID: **MB-62777**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **62777**	RunNo: **81506**							
Prep Date: **9/23/2021**	Analysis Date: **9/23/2021**	SeqNo: **2880721**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-62777**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **62777**	RunNo: **81506**							
Prep Date: **9/23/2021**	Analysis Date: **9/23/2021**	SeqNo: **2880722**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.9	90	110			

Sample ID: **MB-62788**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **62788**	RunNo: **81506**							
Prep Date: **9/23/2021**	Analysis Date: **9/23/2021**	SeqNo: **2880751**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-62788**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **62788**	RunNo: **81506**							
Prep Date: **9/23/2021**	Analysis Date: **9/23/2021**	SeqNo: **2880752**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	102	90	110			

Sample ID: **MB-62801**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **62801**	RunNo: **81506**							
Prep Date: **9/23/2021**	Analysis Date: **9/23/2021**	SeqNo: **2880783**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-62801**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **62801**	RunNo: **81506**							
Prep Date: **9/23/2021**	Analysis Date: **9/23/2021**	SeqNo: **2880784**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	100	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#: **2109910**
27-Sep-21

Client: HILCORP ENERGY
Project: HARE 15

Sample ID: **MB-62671** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **62671** RunNo: **81393**
Prep Date: **9/17/2021** Analysis Date: **9/20/2021** SeqNo: **2875403** 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	11		10.00		106	70	130			

Sample ID: **LCS-62671** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **62671** RunNo: **81393**
Prep Date: **9/17/2021** Analysis Date: **9/20/2021** SeqNo: **2875404** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	115	68.9	135			
Surr: DNOP	5.7		5.000		113	70	130			

Sample ID: **MB-62674** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **62674** RunNo: **81438**
Prep Date: **9/18/2021** Analysis Date: **9/20/2021** SeqNo: **2877128** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.9		10.00		89.4	70	130			

Sample ID: **LCS-62674** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **62674** RunNo: **81438**
Prep Date: **9/18/2021** Analysis Date: **9/20/2021** SeqNo: **2877129** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.8	68.9	135			
Surr: DNOP	4.9		5.000		98.9	70	130			

Sample ID: **2109910-007AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH 27 30-35** Batch ID: **62674** RunNo: **81438**
Prep Date: **9/18/2021** Analysis Date: **9/20/2021** SeqNo: **2877131** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.5	47.39	0	94.0	39.3	155			
Surr: DNOP	4.6		4.739		96.7	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#: **2109910**

27-Sep-21

Client: HILCORP ENERGY

Project: HARE 15

Sample ID: **2109910-007AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **BH 27 30-35** Batch ID: **62674** RunNo: **81438**

Prep Date: **9/18/2021** Analysis Date: **9/20/2021** SeqNo: **2877132** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.2	45.96	0	91.2	39.3	155	6.18	23.4	
Surr: DNOP	4.4		4.596		95.9	70	130	0	0	

Sample ID: **LCS-62694** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **62694** RunNo: **81459**

Prep Date: **9/20/2021** Analysis Date: **9/21/2021** SeqNo: **2878299** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.9	68.9	135			
Surr: DNOP	5.2		5.000		105	70	130			

Sample ID: **MB-62694** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **62694** RunNo: **81459**

Prep Date: **9/20/2021** Analysis Date: **9/21/2021** SeqNo: **2878300** 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		101	70	130			

Sample ID: **MB-62745** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **62745** RunNo: **81517**

Prep Date: **9/22/2021** Analysis Date: **9/23/2021** SeqNo: **2881527** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.4		10.00		93.7	70	130			

Sample ID: **LCS-62745** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **62745** RunNo: **81517**

Prep Date: **9/22/2021** Analysis Date: **9/23/2021** SeqNo: **2881536** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		95.6	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 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#: **2109910**

27-Sep-21

Client: HILCORP ENERGY

Project: HARE 15

Sample ID: **MB-62670**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **62670**	RunNo: **81399**
Prep Date: **9/17/2021**	Analysis Date: **9/20/2021**	SeqNo: **2875617** 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	910		1000		91.5	70	130			

Sample ID: **LCS-62670**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **62670**	RunNo: **81399**
Prep Date: **9/17/2021**	Analysis Date: **9/20/2021**	SeqNo: **2875627** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	114	78.6	131			
Surr: BFB	1100		1000		106	70	130			

Sample ID: **mb-62692**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **62692**	RunNo: **81447**
Prep Date: **9/20/2021**	Analysis Date: **9/21/2021**	SeqNo: **2877396** 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	930		1000		92.5	70	130			

Sample ID: **lcs-62692**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **62692**	RunNo: **81447**
Prep Date: **9/20/2021**	Analysis Date: **9/21/2021**	SeqNo: **2877398** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	78.6	131			
Surr: BFB	1100		1000		107	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#: **2109910**

27-Sep-21

Client: HILCORP ENERGY

Project: HARE 15

Sample ID: **MB-62670**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **62670**	RunNo: **81399**
Prep Date: **9/17/2021**	Analysis Date: **9/20/2021**	SeqNo: **2875681** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.77		1.000		76.7	70	130			

Sample ID: **LCS-62670**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **62670**	RunNo: **81399**
Prep Date: **9/17/2021**	Analysis Date: **9/20/2021**	SeqNo: **2875683** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.4	80	120			
Toluene	0.90	0.050	1.000	0	90.4	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.1	80	120			
Surr: 4-Bromofluorobenzene	0.80		1.000		79.6	70	130			

Sample ID: **mb-62692**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **62692**	RunNo: **81447**
Prep Date: **9/20/2021**	Analysis Date: **9/21/2021**	SeqNo: **2877444** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.79		1.000		79.1	70	130			

Sample ID: **lcs-62692**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **62692**	RunNo: **81447**
Prep Date: **9/20/2021**	Analysis Date: **9/21/2021**	SeqNo: **2877446** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.1	80	120			
Toluene	0.91	0.050	1.000	0	91.4	80	120			
Ethylbenzene	0.92	0.050	1.000	0	91.6	80	120			
Xylenes, Total	2.8	0.10	3.000	0	91.8	80	120			
Surr: 4-Bromofluorobenzene	0.80		1.000		79.6	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 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

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Albuquerque, NM 87109
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Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **HILCORP ENERGY** Work Order Number: **2109910** RcptNo: 1

Received By: **Cheyenne Cason** **9/17/2021 7:30:00 AM** Chel

Completed By: **Sean Livingston** **9/17/2021 10:33:48 AM** Sean Livingston

Reviewed By: JR 9/17/21

Chain of Custody

1. Is Chain of Custody 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 ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
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 ☐	Checked by: TMe 9.17.21

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	2.3	Good				
2	4.0	Good				

Chain-of-Custody Record

Client: HEC

attn- Mitch Killough

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: HARTE 15

Project #: 01782001B

Project Manager: Stuart Hyde Danny Burns
stuart.hyde@wsp.com
Danny.Burns@wsp.com

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 2 2.3-0=2.3

Cooler Temp(including CF): 4.0-0=4.0 (°C)

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

Analysis Request

Date	Time	Matrix (BH)	Sample Name	Container Type and #	Preservative Type	HEAL No. 2109910	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)
9-10-21	905	Soil	BH 27 0-5	1-4oz	Cool	001										
	1100		BH 27 5-10			002										
	1105		BH 27 10-15			003										
	1110		BH 27 15-20			004										
	1115		BH 27 20-25			005										
	1120		BH 27 25-30			006										
	1125		BH 27 30-35			007										
	1130		BH 27 35-40			008										
	1245		BH 28 0-5			009										
	1251		BH 28 5-10			010										
	1255		BH 28 10-15			011										
	1301		BH 28 15-20			012										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9-15-21	1800				9-15-21	1800
9-16-21	1055				9/16/21	1055

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.

9/16/21 1900 9/17/21 0730

Chain-of-Custody Record

Client: HEC

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

Project #:

Project Manager:

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 2 2.3 - 0 = 2.3

Cooler Temp(including CF): 4.0 - 0 = 4.0 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-10-21	1311	soil	BH 28 20-25	0-4 oz	Cool	013										
	1329		BH 28 25-30			014										
	1341		BH 28 30-35			015										
	1414		BH 28 35-40			016										
9-13-21	917		BH 29 0-5			017										
	930		BH 29 5-10			018										
	950		BH 29 10-14			019										
	1035		BH 29 19.5-20			020										
	1125		BH 29 24.5-25			021										
	1155		BH 29 29.5-30			022										
	1250		BH 29 34.5-35			023										
	1334		BH 29 39.5-40			024										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9-15-21	1800				9-15-21	1800
9-16-21	1055				9/16/21	1055
9/16/21	1900		CHC COUR		9/17/21	0730

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.

Chain-of-Custody Record

Client: HEC

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:

Project #:

Project Manager:

Sampler:
On Ice: ☒ Yes ☐ No
# of Coolers: 2 2.3-0=2.3
Cooler Temp(including CF): 4.0-0=4.0 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-13-21	1409	soil	BH 29 445-50	0-4 oz	Cool	025	✓	✓					✓			

Remarks:

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9-15-21	1800				9-15-21	1800
9-16-21	1055				9/16/21	1055
9/16/21	1900			one courier	9/17/21	0730

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 14, 2021

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

RE: HARE15 OrderNo.: 2109G57

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 12 sample(s) on 9/29/2021 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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW01
Project: HARE15 **Collection Date:** 9/28/2021 10:25:00 AM
Lab ID: 2109G57-001 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	1200	100		µg/L	100	10/8/2021 1:10:11 PM
Toluene	14	5.0		µg/L	5	10/5/2021 4:11:45 PM
Ethylbenzene	9.1	5.0		µg/L	5	10/5/2021 4:11:45 PM
Xylenes, Total	9900	150		µg/L	100	10/8/2021 1:10:11 PM
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	5	10/5/2021 4:11:45 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	5	10/5/2021 4:11:45 PM
Surr: Toluene-d8	102	70-130		%Rec	5	10/5/2021 4:11:45 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW06
Project: HARE15 **Collection Date:** 9/28/2021 11:05:00 AM
Lab ID: 2109G57-002 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	210	5.0		µg/L	5	10/8/2021 1:38:46 PM
Toluene	ND	5.0		µg/L	5	10/8/2021 1:38:46 PM
Ethylbenzene	8.0	5.0		µg/L	5	10/8/2021 1:38:46 PM
Xylenes, Total	130	7.5		µg/L	5	10/8/2021 1:38:46 PM
Surr: 1,2-Dichloroethane-d4	97.0	70-130		%Rec	5	10/8/2021 1:38:46 PM
Surr: Dibromofluoromethane	94.2	70-130		%Rec	5	10/8/2021 1:38:46 PM
Surr: Toluene-d8	99.3	70-130		%Rec	5	10/8/2021 1:38:46 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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW09
Project: HARE15 **Collection Date:** 9/28/2021 1:30:00 PM
Lab ID: 2109G57-003 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	140	5.0		µg/L	5	10/5/2021 5:08:57 PM
Toluene	ND	5.0		µg/L	5	10/5/2021 5:08:57 PM
Ethylbenzene	200	5.0		µg/L	5	10/5/2021 5:08:57 PM
Xylenes, Total	280	7.5		µg/L	5	10/5/2021 5:08:57 PM
Surr: 1,2-Dichloroethane-d4	115	70-130		%Rec	5	10/5/2021 5:08:57 PM
Surr: Dibromofluoromethane	110	70-130		%Rec	5	10/5/2021 5:08:57 PM
Surr: Toluene-d8	103	70-130		%Rec	5	10/5/2021 5:08:57 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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW11
Project: HARE15 **Collection Date:** 9/28/2021 1:10:00 PM
Lab ID: 2109G57-004 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	3400	50		µg/L	50	10/8/2021 2:07:18 PM
Toluene	7500	50	E	µg/L	50	10/8/2021 2:07:18 PM
Ethylbenzene	650	50		µg/L	50	10/8/2021 2:07:18 PM
Xylenes, Total	11000	75		µg/L	50	10/8/2021 2:07:18 PM
Surr: 1,2-Dichloroethane-d4	97.4	70-130		%Rec	50	10/8/2021 2:07:18 PM
Surr: Dibromofluoromethane	99.2	70-130		%Rec	50	10/8/2021 2:07:18 PM
Surr: Toluene-d8	98.9	70-130		%Rec	50	10/8/2021 2:07:18 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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW14
Project: HARE15 **Collection Date:** 9/28/2021 12:40:00 PM
Lab ID: 2109G57-005 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	32	5.0		µg/L	5	10/5/2021 6:05:59 PM
Toluene	5.2	5.0		µg/L	5	10/5/2021 6:05:59 PM
Ethylbenzene	8.2	5.0		µg/L	5	10/5/2021 6:05:59 PM
Xylenes, Total	120	7.5		µg/L	5	10/5/2021 6:05:59 PM
Surr: 1,2-Dichloroethane-d4	118	70-130		%Rec	5	10/5/2021 6:05:59 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	5	10/5/2021 6:05:59 PM
Surr: Toluene-d8	101	70-130		%Rec	5	10/5/2021 6:05:59 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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW19
Project: HARE15 **Collection Date:** 9/28/2021 12:10:00 PM
Lab ID: 2109G57-006 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	720	50		µg/L	50	10/5/2021 6:34:40 PM
Toluene	140	50		µg/L	50	10/5/2021 6:34:40 PM
Ethylbenzene	790	50		µg/L	50	10/5/2021 6:34:40 PM
Xylenes, Total	1400	75		µg/L	50	10/5/2021 6:34:40 PM
Surr: 1,2-Dichloroethane-d4	119	70-130		%Rec	50	10/5/2021 6:34:40 PM
Surr: Dibromofluoromethane	110	70-130		%Rec	50	10/5/2021 6:34:40 PM
Surr: Toluene-d8	102	70-130		%Rec	50	10/5/2021 6:34:40 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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW20
Project: HARE15 **Collection Date:** 9/28/2021 11:40:00 AM
Lab ID: 2109G57-007 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	11000	1000		µg/L	1000	10/8/2021 2:35:56 PM
Toluene	12000	1000		µg/L	1000	10/8/2021 2:35:56 PM
Ethylbenzene	1200	100		µg/L	100	10/5/2021 7:03:10 PM
Xylenes, Total	10000	150		µg/L	100	10/5/2021 7:03:10 PM
Surr: 1,2-Dichloroethane-d4	116	70-130		%Rec	100	10/5/2021 7:03:10 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	100	10/5/2021 7:03:10 PM
Surr: Toluene-d8	102	70-130		%Rec	100	10/5/2021 7:03:10 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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW22
Project: HARE15 **Collection Date:** 9/27/2021 2:55:00 PM
Lab ID: 2109G57-008 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	2000	50		µg/L	50	10/5/2021 7:31:39 PM
Toluene	1500	50		µg/L	50	10/5/2021 7:31:39 PM
Ethylbenzene	890	50		µg/L	50	10/5/2021 7:31:39 PM
Xylenes, Total	3000	75		µg/L	50	10/5/2021 7:31:39 PM
Surr: 1,2-Dichloroethane-d4	114	70-130		%Rec	50	10/5/2021 7:31:39 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	50	10/5/2021 7:31:39 PM
Surr: Toluene-d8	104	70-130		%Rec	50	10/5/2021 7:31:39 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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW23
Project: HARE15 **Collection Date:** 9/28/2021 10:15:00 AM
Lab ID: 2109G57-009 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	2.0	D	µg/L	2	10/8/2021 3:04:33 PM
Toluene	ND	2.0	D	µg/L	2	10/8/2021 3:04:33 PM
Ethylbenzene	ND	2.0	D	µg/L	2	10/8/2021 3:04:33 PM
Xylenes, Total	ND	3.0	D	µg/L	2	10/8/2021 3:04:33 PM
Surr: 1,2-Dichloroethane-d4	102	70-130	D	%Rec	2	10/8/2021 3:04:33 PM
Surr: Dibromofluoromethane	102	70-130	D	%Rec	2	10/8/2021 3:04:33 PM
Surr: Toluene-d8	97.4	70-130	D	%Rec	2	10/8/2021 3:04:33 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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW24
Project: HARE15 **Collection Date:** 9/28/2021 10:40:00 AM
Lab ID: 2109G57-010 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	2.0	D	µg/L	2	10/8/2021 3:33:13 PM
Toluene	ND	2.0	D	µg/L	2	10/8/2021 3:33:13 PM
Ethylbenzene	ND	2.0	D	µg/L	2	10/8/2021 3:33:13 PM
Xylenes, Total	ND	3.0	D	µg/L	2	10/8/2021 3:33:13 PM
Surr: 1,2-Dichloroethane-d4	102	70-130	D	%Rec	2	10/8/2021 3:33:13 PM
Surr: Dibromofluoromethane	101	70-130	D	%Rec	2	10/8/2021 3:33:13 PM
Surr: Toluene-d8	95.4	70-130	D	%Rec	2	10/8/2021 3:33:13 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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW26
Project: HARE15 **Collection Date:** 9/27/2021 2:15:00 PM
Lab ID: 2109G57-011 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	9700	500	P	µg/L	500	10/8/2021 4:01:50 PM
Toluene	24000	500	P	µg/L	500	10/8/2021 4:01:50 PM
Ethylbenzene	830	50	P	µg/L	50	10/5/2021 8:57:15 PM
Xylenes, Total	11000	75	P	µg/L	50	10/5/2021 8:57:15 PM
Surr: 1,2-Dichloroethane-d4	114	70-130	P	%Rec	50	10/5/2021 8:57:15 PM
Surr: Dibromofluoromethane	109	70-130	P	%Rec	50	10/5/2021 8:57:15 PM
Surr: Toluene-d8	103	70-130	P	%Rec	50	10/5/2021 8:57:15 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 **2109G57**
Date Reported: **10/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW29
Project: HARE15 **Collection Date:** 9/28/2021 9:30:00 AM
Lab ID: 2109G57-012 **Matrix:** GROUNDWA **Received Date:** 9/29/2021 7:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	12	2.0	D	µg/L	2	10/8/2021 4:30:28 PM
Toluene	5.9	2.0	D	µg/L	2	10/8/2021 4:30:28 PM
Ethylbenzene	17	2.0	D	µg/L	2	10/8/2021 4:30:28 PM
Xylenes, Total	34	3.0	D	µg/L	2	10/8/2021 4:30:28 PM
Surr: 1,2-Dichloroethane-d4	98.5	70-130	D	%Rec	2	10/8/2021 4:30:28 PM
Surr: Dibromofluoromethane	96.9	70-130	D	%Rec	2	10/8/2021 4:30:28 PM
Surr: Toluene-d8	97.4	70-130	D	%Rec	2	10/8/2021 4:30:28 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#: **2109G57**
14-Oct-21

Client: HILCORP ENERGY
Project: HARE15

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R81831**	RunNo: **81831**
Prep Date:	Analysis Date: **10/5/2021**	SeqNo: **2894787** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	26	1.0	20.00	0	129	70	130			
Toluene	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R81831**	RunNo: **81831**
Prep Date:	Analysis Date: **10/5/2021**	SeqNo: **2894802** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		113	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		105	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R81984**	RunNo: **81984**
Prep Date:	Analysis Date: **10/8/2021**	SeqNo: **2902662** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.6	70	130			
Toluene	19	1.0	20.00	0	92.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.6	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.9	70	130			
Surr: Toluene-d8	9.4		10.00		94.1	70	130			

Sample ID: **2109g57-012ams**	SampType: **MS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW29**	Batch ID: **R81984**	RunNo: **81984**
Prep Date:	Analysis Date: **10/8/2021**	SeqNo: **2902671** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	51	2.0	40.00	12.31	97.6	70	130			D
Toluene	44	2.0	40.00	5.869	95.5	70	130			D

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#: **2109G57**
14-Oct-21

Client: HILCORP ENERGY
Project: HARE15

Sample ID: **2109g57-012ams** SampType: **MS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW29** Batch ID: **R81984** RunNo: **81984**
Prep Date: Analysis Date: **10/8/2021** SeqNo: **2902671** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	19		20.00		96.3	70	130			D
Surr: 4-Bromofluorobenzene	21		20.00		103	70	130			D
Surr: Dibromofluoromethane	19		20.00		97.4	70	130			D
Surr: Toluene-d8	20		20.00		98.3	70	130			D

Sample ID: **2109g57-012amsd** SampType: **MSD** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW29** Batch ID: **R81984** RunNo: **81984**
Prep Date: Analysis Date: **10/8/2021** SeqNo: **2902672** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	46	2.0	40.00	12.31	83.1	70	130	12.0	20	D
Toluene	43	2.0	40.00	5.869	91.8	70	130	3.35	20	D
Surr: 1,2-Dichloroethane-d4	19		20.00		95.0	70	130	0	0	D
Surr: 4-Bromofluorobenzene	21		20.00		104	70	130	0	0	D
Surr: Dibromofluoromethane	19		20.00		95.3	70	130	0	0	D
Surr: Toluene-d8	20		20.00		98.4	70	130	0	0	D

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **R81984** RunNo: **81984**
Prep Date: Analysis Date: **10/8/2021** SeqNo: **2903892** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		99.7	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2109G57 RcptNo: 1

Received By: Cheyenne Cason 9/29/2021 7:21:00 AM

Completed By: Sean Livingston 9/29/2021 9:28:28 AM

Reviewed By: TMC 9/29/21

Chain of Custody

1. Is Chain of Custody 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 ☑

    # of preserved bottles checked for pH: ____ (<2 or >12 unless noted)
    Adjusted? ____
    Checked by: JR 9/29/21
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 ☐

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	2.8	Good				
2	2.1	Good				
3	3.1	Good				

Chain-of-Custody Record

Client: Hilcorp

attn. Mitch Killough

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: Need results by 10/8/2021
☐ Standard ☐ Rush

Project Name: HARE 15

Project #: TE 01782018

Project Manager: Danny Burns
Danny.Burns@wsp.com

Sampler: Reece Hanson

On Ice: ☒ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): see Remarks (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2109657	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)
9-28-21	1025	GW	MW01	VOA	$HgCl_2$	001										
	1105		MW06		HCl	002										
	1330		MW09		$HgCl_2$	003										
	1310		MW11		HCl	004										
	1240		MW14			005										
	1210		MW19			006										
	1140		MW20		$HgCl_2$	007										
9-27-21	1455		MW22		HCl	008										
9-28-21	1015		MW23			009										
	1040		MW24			010										
9-27-21	1415		MW26			011										
9-28-21	0930		MW29			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9-28-21	1521				9/28/21	1521
9/28/21	1754		CMC courier		9/29/21	0721

Remarks:
2.8 - 0 = 2.8
2.1 - 0 = 2.1
3.1 - 0 = 3.1

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.

ENCLOSURE C – GROUNDWATER SAMPLE COLLECTION FORMS

WSP USA Inc.
848 E. 2nd Ave.
Durango, Colorado 81301
T 970 385 1096

Groundwater Sample Collection Form

Project Name: HARE 15
Project Number:
Project Location: Hare 15
Sampler: GP

Sample ID: MW 01
Sample Date: 09-28-21
Laboratory: Hall Environmental
Analyses:
Matrix: Groundwater
Sample Time: 10:25
Shipping Method: Hand Delivery

Depth to Water: 26.45
Time:
Total Depth of Well: 27.58
Depth to Product: ND

Vol. of Water to Purge: (27.58 - 26.45) * 0.1831 * 3 = 0.55
(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging: Bailer
Method of Sampling: Bailer

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (F)	Conductivity (us or ms)	Comments
1010	0.25	0.25	7.15	603.9	12.92	brown, no sheen, gasoline odor

Comments: Sample taken after purging 0.25 gallons due to well nearly running dry after 0.25 gallons.

Describe Deviations from SOP:

Signature:
Date: 9-28-21

WSP USA Inc.
848 E 2nd Ave
Durango, Colorado 81301
T 970.385.1096

Groundwater Sample Collection Form

Project Name: Hare 15
Project Number:
Project Location: Hare 15
Sampler: GP

Sample ID: MW 06
Sample Date: 09-28-21
Laboratory: Hall Environmental
Analyses:
Matrix: Groundwater
Sample Time: 1105
Shipping Method: Hand Delivery

Depth to Water: 27.75
Time:
Total Depth of Well: 32.59
Depth to Product: —

Vol. of Water to Purge: (32.59 - 27.75) · 0.1631 · 3 = 2.37
(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging: Bailer
Method of Sampling: Bailer

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (F) C	Conductivity (us or ms)	Comments
10:42	0.5	0.5	6.82	17.3	4.43	clear, no sheen, slt odor
1103	0.5	1.0	6.81	16.8	2.16	gray/black, no sheen, slt odor

Comments: dark gray, turbid, no sheen, slt odor

Describe Deviations from SOP: well began to go dry after ~ 1.25 gal removed sample taken after ~ 1.25 gal removed

Signature:
Date: 9-28-21

WSP USA Inc.
848 E 2nd Ave
Durango, Colorado 81301
T 970 385.1096

Groundwater Sample Collection Form

Project Name: Hare 15
Project Number:
Project Location: Hare 15
Sampler: GP

Sample ID: MW - 09
Sample Date: 09-28-21
Laboratory: Hall Environmental
Analyses:
Matrix: Groundwater
Sample Time: 1330
Shipping Method: Hand Delivery

Depth to Water: 28.17
Time:
Total Depth of Well: 32.30
Depth to Product: ND

Vol. of Water to Purge: (32.30 - 28.17) * 0.1631 * 3 = 2.02
(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging:
Method of Sampling:

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (F) C	Conductivity (us or ms)	Comments
1320	0.5	0.5	7.01	17.3	28.4	murky yellowish
1322	0.5	1.0	7.01	17.0	28.4	no sheen, strong odor
1324	0.5	1.5	7.00	17.2	28.5	SAA
1326	0.5	2.0	6.99	17.2	15.16	SAA

Comments: murky yellowish, no sheen, strong odor
$HgCl_2$ VOA's

Describe Deviations from SOP:

Signature:
Date: 9-28-21

WSP USA Inc.
848 E 2nd Ave
Durango, Colorado 81301
T 970.385.1096

Groundwater Sample Collection Form

Project Name: HARE 15
Project Number:
Project Location: Hare 15
Sampler: RH

Sample ID: MW 11
Sample Date: 9-28-21
Laboratory: Hall Environmental
Analyses:
Matrix: Groundwater
Sample Time: 1310
Shipping Method: Hand Delivery

Depth to Water: 28.97
Time:
Total Depth of Well: 32.53
Depth to Product: —

Vol. of Water to Purge: 1.75 gal (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging:
Method of Sampling:

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. °C	Conductivity (us or ms)	Comments
1259	0.75	0.75	6.91	17.5	5.17	Mostly clear to lt.
1302	0.5	1.25	6.91	17.2	4.93	gray. No sheen, strong odor
1304	0.5	1.75	6.91	17.6	4.81	SAA

Comments: murky lt gray, some silt. No sheen, strong odor

Describe Deviations from SOP:

Signature: RH
Date: 9-28-21

WSP USA Inc.
848 E. 2nd Ave.
Durango, Colorado 81301
T 970.385 1096

Groundwater Sample Collection Form

Project Name: HARE 15
Project Number:
Project Location: Hare 15
Sampler:

Sample ID: MW 14
Sample Date: 9-28-21
Laboratory: Hall Environmental
Analyses:
Matrix: Groundwater
Sample Time: 1240
Shipping Method: Hand Delivery

Depth to Water: 30.94
Time:
Total Depth of Well: 33.83
Depth to Product: —

Vol. of Water to Purge: 1.4 gal (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging:
Method of Sampling:

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (F)	Conductivity (us or ms)	Comments
1234	0.5	0.5	6.90	18.2	5.21	dark gray, mod. silty, no sheen, mod. odor
~~1236~~						
1236	0.5	1.0	6.87	17.3	5.04	SAA
1238	0.5	1.5	6.85	17.2	5.04	SAA

Comments: dark gray, moderately silty. no sheen, moderate odor

Describe Deviations from SOP:

Signature:
Date: 9-28-21

WSP USA Inc.
848 E 2nd Ave
Durango, Colorado 81301
T 970.385.1096

Groundwater Sample Collection Form

Project Name: HARE 15
Project Number:
Project Location: Hare 15
Sampler: RH

Sample ID: MW 19
Sample Date: 9-28-21
Laboratory: Hall Environmental
Analyses:
Matrix: Groundwater
Sample Time: 1210
Shipping Method: Hand Delivery

Depth to Water: 34.93
Time:
Total Depth of Well: 43.50
Depth to Product: —

Vol. of Water to Purge: 4.2 gal (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging:
Method of Sampling:

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (°C)	Conductivity (us or ms)	Comments
1156	1.25	1.25	6.87	16.4	4.54	dark gray, mod. silty, no sheen, strong odor
1159	1.0	2.25	6.86	17.5	4.46	SAA, mod odor
1202	1.0	3.25	6.86	16.6	4.70	less silty
1206	1.0	4.25	6.86	16.4	4.80	SAA

Comments: murky gray, no sheen, mod. to strong odor

Describe Deviations from SOP:

Signature: RH
Date: 9-28-21

WSP USA Inc.
848 E 2nd Ave
Durango, Colorado 81301
T 970.385.1096

Groundwater Sample Collection Form

Project Name: HARE 15
Project Number:
Project Location: Hare 15
Sampler: RH

Sample ID: MW 20
Sample Date: 9-28-21
Laboratory: Hall Environmental
Analyses:
Matrix: Groundwater
Sample Time: 1140
Shipping Method: Hand Delivery

Depth to Water: 30.38
Time:
Total Depth of Well: 40.13
Depth to Product: —

Vol. of Water to Purge: 4.8 gal (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging: Bailer
Method of Sampling: Bailer

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (°C)	Conductivity (us or ms)	Comments
1125	1.5	1.5	6.89	17.4	8.11	dark gray, silty
1128	1.5	3.0	6.88	17.2	8.38	no sheen / strong diesel odor
1131	1	4.0	6.88	16.7	8.40	SAA
1135	1	5.0	6.88	16.7	8.49	SAA

Comments: dark gray, very silty, no sheen, strong odor
Sampled in VOA's w/ Hg Cl_2 preservative

Describe Deviations from SOP:

Signature: RH
Date: 9-23-21

WSP USA Inc.
848 E 2nd Ave
Durango, Colorado 81301
T 970.385.1096

Groundwater Sample Collection Form

Project Name: HARE 15
Project Number:
Project Location: Hare 15
Sampler: FH

Sample ID: MW 22
Sample Date: 9-27-21
Laboratory: Hall Environmental
Analyses:
Matrix: Groundwater
Sample Time: 1455
Shipping Method: Hand Delivery

Depth to Water: 36.81
Time:
Total Depth of Well: 42.75
Depth to Product: —

Vol. of Water to Purge: 2.9 gal (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging: Bailer
Method of Sampling: Bailer

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (F) C	Conductivity (us or ms)	Comments
1446	1.0	1.0	6.87	17.1	4.53	silty gray, no sheen
1449	1.0	~~1.0~~ 2.0	6.85	16.8	4.5	slt. odor
1452	1.0	3.0	6.86	16.7	4.49	slt more clear, slt odor

Comments: slt. silty, no sheen / slt odor

Describe Deviations from SOP:

Signature:

Date: 9-27-21

WSP USA Inc.
848 E 2nd Ave
Durango, Colorado 81301
T 970.385.1096

Groundwater Sample Collection Form

Project Name: HARE 15
Project Number:

Project Location: Hare 15
Sampler: RT

Sample ID: MW 23
Sample Date: ~~4-29-21~~ 9-28-21

Matrix: Groundwater
Sample Time: 1015

Laboratory: Hall Environmental
Analyses:

Shipping Method: Hand Delivery

Depth to Water: 39.48
Time:

Total Depth of Well: 43.82
Depth to Product: —

Vol. of Water to Purge: 2.1 gal (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging: Bailer
Method of Sampling: Bailer

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (F)C	Conductivity (us or ms)	Comments
1511	1.0	1.0	6.87	17.8	3.61	Brown/grey, very silty no sheen/odor

Comments: well bailed dry after ~1.0 gal removed
Sampled on 9-28-21 after well re-charged, bailed ~1.0 gal

Describe Deviations from SOP:

Signature: [signature]

Date: 9-28-21

WSP USA Inc.
848 E. 2nd Ave
Durango, Colorado 81301
T 970.385.1096

Groundwater Sample Collection Form

Project Name: HARE 15
Project Number:
Project Location: Hare 15
Sampler: RH

Sample ID: MW 24
Sample Date: 9-28-21
Laboratory: Hall Environmental
Analyses:
Matrix: Groundwater
Sample Time: 1040
Shipping Method: Hand Delivery

Depth to Water: 36.40
Time:
Total Depth of Well: 40.18
Depth to Product: —

Vol. of Water to Purge: 1.85 gal (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging: Bailer
Method of Sampling: Bailer

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments
1031	0.5	0.5	6.90	16.4	4.97	mud. silty no sheen/odor
1034	0.5	1.0	6.87	16.0	4.89	SAA
1036	0.5	1.5	6.86	16.0	4.88	silty, turbid no sheen/odor
1038	0.5	2.0	6.86	15.8	4.89	SAA

Comments: Silty, turbid, gray. No sheen/odor

Describe Deviations from SOP:

Signature: [signature]
Date: 9-28-21

WSP USA Inc.
848 E 2nd Ave.
Durango, Colorado 81301
T 970.385.1096

Groundwater Sample Collection Form

Project Name: HARE 15
Project Number:
Project Location: Hare 15
Sampler: RH

Sample ID: MW 26
Sample Date: 9-27-21
Laboratory: Hall Environmental
Analyses:
Matrix: Groundwater
Sample Time: 1415
Shipping Method: Hand Delivery

Depth to Water: 32.57
Time:
Total Depth of Well: 39.90
Depth to Product: —

Vol. of Water to Purge: 3.6 gal (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging: bailer
Method of Sampling: bailer

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (F)C	Conductivity (us or ms)	Comments
1403	1.0	1.0	6.85	16.8	7.83	silty grey, no sheen, slt. odor
1407	1.0	2.0	6.85	16.4	7.95	SAA
1410	1.0	3.0	6.84	16.5	8.01	SAA
1413	0.75	3.75	6.84	16.6	8.02	SAA

Comments: silty grey, no sheen, slt. odor

Describe Deviations from SOP:

Signature:
Date: 9-28-21

WSP USA Inc.
848 E. 2nd Ave
Durango, Colorado 81301
T 970.385 1096

Groundwater Sample Collection Form

Project Name: HARE 15
Project Number:
Project Location: Hare 15
Sampler: RH

Sample ID: MW 29
Sample Date: 9-28-21
Laboratory: Hall Environmental
Analyses:
Matrix: Groundwater
Sample Time: 0930
Shipping Method: Hand Delivery

Depth to Water: 39.75
Time:
Total Depth of Well: 48.25
Depth to Product: —

Vol. of Water to Purge: 4.2 gal (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging: Bailer
Method of Sampling: Bailer

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments
0917	1.0	1.0	6.87	16.0	4.97	mod. silty, no sheen no odor
0920	1.0	2.0	6.37	15.9	4.94	SAA
0923	1.0	3.0	6.87	15.9	4.92	SAA
0926	1.5	4.5	6.87	15.8	4.94	SAA, more silty

Comments: gray, very silty, turbid water, no sheen/odor

Describe Deviations from SOP:

Signature:
Date: 9-28-21

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 56351

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 56351
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Accepted for the record. See app ID 166063 for most updated status.	1/26/2023