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	NRM2020945060
District RP	
Facility ID	
Application ID	

Release Notification

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	NRM2020945060
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: Ramona Marcus Date: 7/27/2020

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: Jocelyn Harimon Date: 12/12/2022

State of New Mexico
Oil Conservation Division

Incident ID	NRM2020945060
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

☒ Detailed description of proposed remediation technique
☒ Scaled sitemap with GPS coordinates showing delineation points
☒ Estimated volume of material to be remediated
☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: 12/12/2022_____

email: ___mkillough@hilcorp.com_____ Telephone: ____713-757-5247_____

OCD Only

Received by: Jocelyn Harimon Date: 12/12/2022

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

(see text box below)

Signature: Nelson Velez Date: 01/11/2023

1. Dual Phase Extraction Pilot Test to be completed by 02/24/2023.
2. Report of Pilot Test to be completed and submitted to OCD by 04/24/2023.

2022 DELINEATION AND UPDATED REMEDIATION WORK PLAN

Property:

Hare 15
San Juan County, New Mexico

New Mexico Oil Conservation Division Incident No. NRM2020945060

December 12, 2022

Prepared for:

Hilcorp Energy Company
1111 Travis Street
Houston, Texas 77002
Attn: Mr. Mitch Killough

Prepared by:

Stuart Hyde, LG
Senior Geologist

Ashley Ager, MS, PG
Principal, Geologist

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ATTACHMENTS

Figures

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Appendices

1.0 INTRODUCTION

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), has prepared this *2022 Delineation and Updated Remediation Work Plan* for the Hare 15 natural gas production well (Site). This document details delineation activities performed at the Site in August 2022 and the proposed remediation work plan to address impacted soil and groundwater resulting from a release of natural gas condensate. The Site is located on public land managed by the Bureau of Land Management (BLM) in Unit M, Section 3, Township 29 North, Range 10 West, in San Juan County, New Mexico (Figure 1).

1.1 Site Description & Background

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. Upon discovery, Hilcorp removed the liquids remaining from inside of the AST; however, no other 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.

As described in the *Site Characterization Report and Remediation Work Plan*, prepared by WSP USA Inc. (WSP) and dated October 15, 2021, the Site was characterized in accordance with *Table I, Closure Criteria for Soils Impacted by a Release* in 19.15.29 of the New Mexico Administrative Code (NMAC). Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria apply to the Site:

- 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

1.2 Previous Site Investigations

In response to the release, Hilcorp conducted several delineation events in attempts to delineate the soil and groundwater impacts at the Site. Specifically, four delineation events were conducted prior to 2022: 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. In total, 29 borings, BH01 through BH29, were advanced at the Site during these events (shown on Figure 2). All borings except BH05, BH12, and BH17 were completed as permanent groundwater monitoring wells. Monitoring wells are designated with “MW” and retained the soil boring numbers (i.e., monitoring well MW01 was constructed in soil boring BH01).

Details regarding the analytical results and findings are presented in WSP’s *Site Characterization Report and Remediation Work Plan* (dated October 15, 2021). Additionally, results previously collected at the Site are included in the attached Tables 1 through 4.

2.0 2022 ADDITIONAL DELINEATION ACTIVITIES

Based on the previous sampling results, Ensolum performed additional drilling and sampling activities in August 2022 to further delineate soil and potential groundwater impacts at the Site. Ensolum submitted notice of sampling to the NMOCD at least 48 hours in advance of the work (Appendix A). A Central Mining Equipment (CME) 75 hollow-stem auger drill rig was utilized to advance borings BH30, BH31, BH32, BH33, BH34, BH35, and BH38 to depths up to 55 feet bgs. Borings BH36 and BH37 were advanced by Ensolum personnel using a hand auger to depths of 5 feet bgs. Boring locations from the recent drilling event are presented on Figure 2.

During drilling, an Ensolum geologist logged soil lithology and inspected the soil for petroleum hydrocarbon staining and odors. Soil descriptions were noted in field books/boring logs and generally followed the Unified Soil Classification System (USCS), as specified in American Society for Testing and Materials (ASTM) method D2488. Soil samples were also field screened for the presence of organic vapors using a photoionization detector (PID), with results noted on the field boring logs (attached as Appendix B). In general, soil samples were collected from depth intervals indicating the greatest impacts based on field screening results. Soil samples were collected directly into laboratory-provided jars and immediately placed on ice. Samples were submitted to Hall Environmental Analysis Laboratory (Hall) for analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021, TPH-GRO, TPH-DRO, TPH-MRO by EPA Method 8015, and chloride by EPA Method 300.0.

2.1 Soil Boring Results

In general, silty sands and sands were encountered at the Site between the ground surface and approximately 20 feet bgs. These unconsolidated sediments were generally underlain by sandstone to depths of up to 40 feet bgs. The sandstone was underlain by a dense siltstone at the terminal depths of most borings advanced during drilling. Field indications of petroleum hydrocarbons, including staining, odors, and/or elevated PID results, were noted in borings BH30 and BH33. Groundwater was encountered in borings BH30, BH31, BH33, BH34, B35, and BH38 at depths ranging from 33 to 47 feet bgs. All borings, except BH36 and BH37, were completed as permanent groundwater monitoring wells.

Based on analytical results gathered during this delineation event, only one soil sample collected from BH33, at a depth of 31 feet bgs, contained TPH concentrations exceeding the NMOCD Table I Closure Criteria. No other exceedances of TPH, BTEX, and/or chloride were detected in the analyzed samples collected during the August 2022 delineation event. A summary of analytical results is presented on Table 1 and Figure 2. Complete laboratory reports are attached in Appendix C.

2.2 Well Installation and Groundwater Sampling Results

Prior to starting work, Ensolum obtained well permits from the New Mexico Office of the State Engineer (NMOSE). Wells were constructed using 2-inch polyvinyl chloride (PVC) well screen and riser. Wells were completed with 15 feet of well screen. Wells were developed prior to sampling by surging and swabbing water within the well and removing approximately 10 well casing volumes of water using a 2-inch disposable bailer.

On September 8 and 9, 2022, all wells were sampled to assess current groundwater conditions. Prior to sampling, depth to phase separated hydrocarbons (PSH) and depth to groundwater were measured in all wells using an oil/water interface probe in order to calculate groundwater elevations and assess the inferred groundwater flow direction. During the September 2022 sampling event, wells MW03, MW04A, MW04B (located immediately adjacent to MW04A), MW07, MW10, MW13, MW15, and MW16 contained measurable PSH. When PSH was present,

a correction factor of 0.8 was applied to the elevation to account for the depression of the water column caused by the presence of overlying PSH. Table 2 presents a summary of groundwater elevations and thickness of PSH measured at the Site.

Wells with sufficient volumes of water to sample and without the presence of PSH (as indicated on Table 3) were first purged by removing 3 well casing volumes of water. After purging, groundwater samples were collected using a disposable bailer, placed directly into laboratory-provided jars, and immediately placed on ice. Samples were submitted to Hall for analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021. Analytical results indicated that BTEX constituents were present at concentrations exceeding New Mexico Water Quality Control Commission (NMWQCC) standards in wells MW06, MW09, MW11, MW14, MW19, MW20, MW22, MW26, and MW30. A summary of groundwater analytical results is presented in Table 3 and on Figure 3. Complete laboratory analytical reports are also attached in Appendix C.

Groundwater elevation contours and the interpreted groundwater flow direction from the September 2022 sampling event are presented on Figure 4. In general, groundwater flow direction is to the north at the Site. In addition, cross section A to A' (shown on Figures 5 and 6) has been prepared for the Site showing the subsurface lithology, boring/well locations with well screen intervals, and areas with impacts to soil and/or groundwater. Based on the boring logs and interpreted subsurface lithology, groundwater is present in two separate lithologic zones at the Site. Specifically, groundwater north of wells MW01, MW02, and MW08 is unconfined and is present within a poorly graded sandstone located on top of a dense siltstone. Groundwater in this perched zone flows to the north. Groundwater south and east of wells MW01, MW02, and MW08 is present in a deeper water-bearing sandstone located below the dense siltstone unit. Groundwater in the southeast portion of the Site has a steep gradient to the east and appears to generally follow the dip of the surface topography dropping to the east.

2.3 PSH Recovery

Beginning in September of 2020, PSH has been manually recovered from monitoring wells using a disposable bailer. During each PSH recovery event, the thickness of product within the well and total volume removed is recorded. Table 4 presents the total volume recovered from each well at the Site during these recovery events. To date, approximately 6.061 gallons of PSH have been recovered from the Site.

3.0 REMEDIATION WORK PLAN

The release has impacted soil up to approximately 35 feet bgs. Based on the nature of the release, Site geology, and the presence of and proximity of impacted soil to active equipment, Ensolum recommends the use of dual-phase extraction (DPE) to recover PSH and remediate soil and groundwater at the Site. As described by the EPA, DPE is an in-situ technology used to remove "various combinations of contaminated groundwater, separate-phase petroleum product, and hydrocarbon vapor from the subsurface." The goal of DPE, in addition to recovering PSH, is to drawdown the groundwater table in order to expose submerged soil impacts and allow for the removal of volatile organic compounds (VOCs) and some semi-volatile organic compounds (SVOCs) from vadose zone soil through the application of vacuum to the subsurface. When air is removed from the soil, contaminants are volatilized and also removed. Depending on contaminant concentrations in the removed air, the DPE system may emit the exhaust directly to the atmosphere.

3.1 Dual-Phase Extraction Pilot Test

Ensolum recommends performing a DPE pilot test to evaluate the effectiveness of DPE for the Site and, if applicable, assess the Site-specific flow and vacuum rates required to volatilize and remove contaminants from the impacted subsurface. Data collected during DPE pilot testing will be used to estimate the system's radius-of-influence (ROI) for both drawdown and vacuum as well as the vacuum radius-of-effect (ROE) to determine well spacing and the need for additional DPE wells at the Site. Additionally, pilot test data can be used to appropriately size a holding tank for PSH and impacted groundwater that is extracted from the subsurface during DPE activities, as well as calculate air effluent concentrations over time.

During pilot testing, monitoring well MW13 will be used as the extraction well due to its location within the PSH plume and the varying distances from other, nearby monitoring wells that can be used as observation wells for ROI/ROE data collection. Existing monitoring wells MW03, MW04A, MW04B, MW06, MW07, and MW11 will be used as observation wells. These observation wells have been chosen to provide varying distances from the point of extraction as well as varying well construction and screen intervals. A summary of which wells will be used for observation during each test, along with construction details and distances from the test wells, is provided below.

Well ID	Distance to MW13 (feet)	Screen Interval (feet bgs)
MW13	--	20 to 30
MW03	35	20 to 35
MW04A	25	5 to 15
MW04B	25	25 to 35
MW06	40	20 to 30
MW07	45	15 to 30
MW11	65	20 to 30

A vacuum truck will be used to perform the DPE pilot test. An adjustable 1-inch PVC stinger will be installed in the test well allowing the inlet to be adjusted as the water level in the well changes during the dewatering process. The stinger will be connected to the vacuum truck. The well will be sealed off to the atmosphere and vacuum will be applied for the duration of the test. An adjustable manifold will be used to incrementally increase the vacuum being applied to the extraction well in order to determine the minimum vacuum required to air lift the groundwater and PSH from within the well casing.

Once adequate vacuum is applied and the stinger tube is at the bottom of the well, the full screen interval will be exposed and soil vapor flow will be maximized. The vapor-liquid mixture will enter a knockout drum where the liquid drops out into the drum and the vapor is discharged to the atmosphere. Gradations on the knockout drum will allow technicians to record total water recovered over time and calculate groundwater extraction rates. When the knockout drum is full, the groundwater and PSH mixture will be extracted into the vacuum truck. All liquids extracted during the event will be containerized within the vacuum truck and will be transported off-Site to an approved disposal facility. All vapors recovered will be emitted to the atmosphere.

System parameters, such as vacuum on the truck, vacuum on the well head, vapor extraction flow rate, vapor hydrocarbon concentration as measured by a PID, vapor lower explosive limit (LEL), vapor oxygen concentration, and vapor carbon dioxide concentration will be collected at 15- to 30-minute intervals during the event. The final data collection interval will be dependent upon noted changes in field observations. Prior to initiating the testing event, Ensolum will collect depth to water and wellhead vacuum readings from surrounding observation wells. These readings will be considered the static conditions. Depth to groundwater and wellhead pressures will be collected from the same observation wells at 15- to 30-minute intervals and compared to the static conditions to determine if there is any measurable influence from the applied vacuum and extraction of fluids from the DPE extraction well. Accumulated groundwater and PSH volumes as observed from knockout drum gradations will also be recorded. The vacuum truck will be gauged following testing activities to determine the total volume of fluids recovered and the estimated volume of PSH recovered.

A vapor sample will be collected after 30 minutes of testing and at the end of the test, prior to vacuum truck shutdown. Additional vapor samples may be collected if increased PID results are observed during the testing. Vapor samples will be collected in 1-liter Tedlar® bags and will be submitted to Hall for analysis of BTEX and total volatile petroleum hydrocarbons (TVPH) by EPA Method 8260.

3.2 Pilot Test Goals

The goal of the testing will be to collect data to verify the feasibility of effectively recovering PSH, depressing the groundwater table, and allowing for vapor recovery from the soil intervals with the greatest impacts. Feasibility of DPE at the Site will depend upon the groundwater extraction flow rate, calculated ROI/ROE, and mass removal observed during the testing. After completion of the DPE pilot test, Ensolum will prepare a Pilot Test Report summarizing the results of the test and recommendations for the design and construction of the full-scale DPE system, if warranted. The report will include the calculations for ROI and ROE, system specifications required to remediate subsurface impacts, and an operation and maintenance plan for the system and the proposed remediation schedule and timeline.

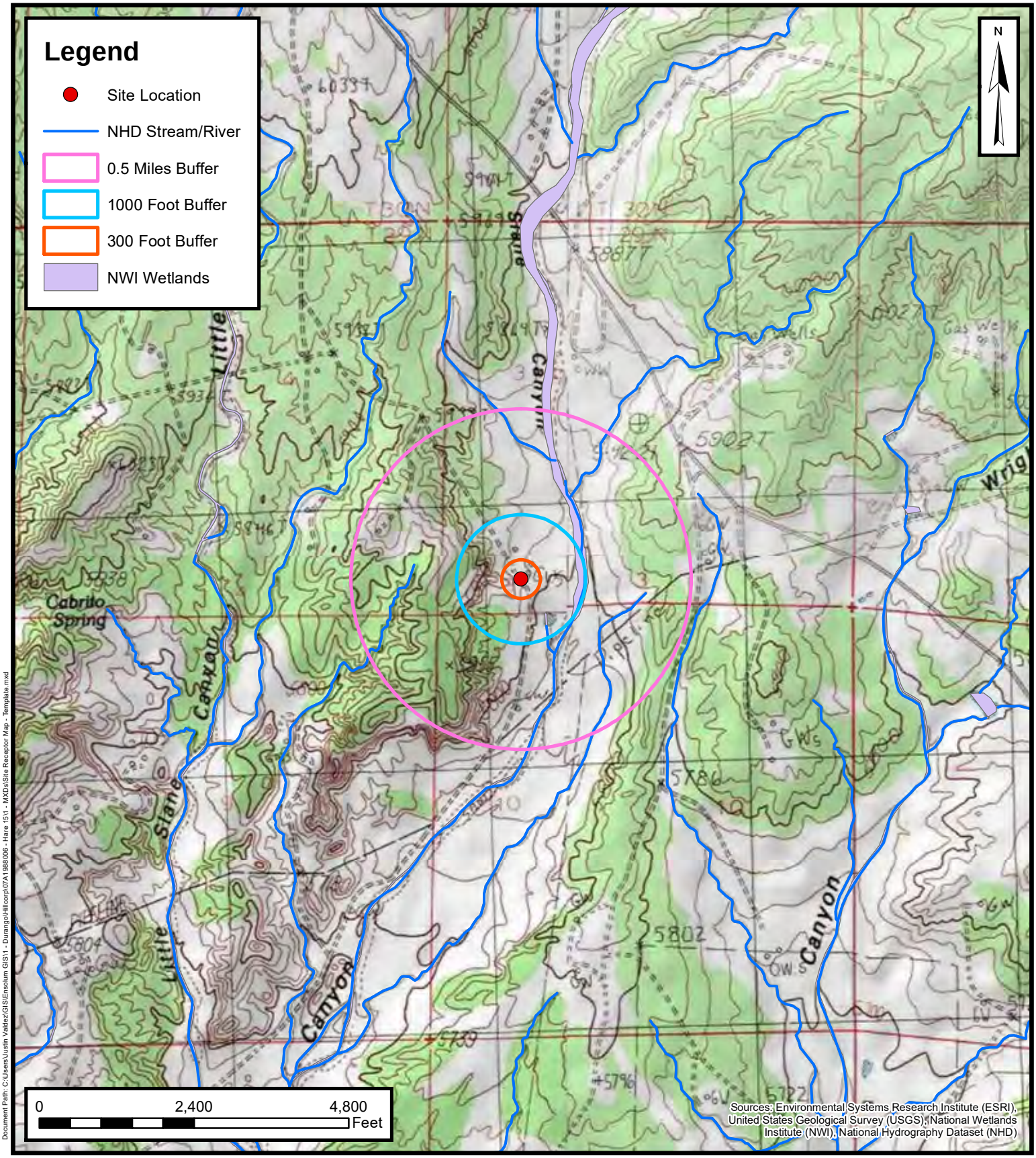
Alternatively, if the pilot test demonstrates that DPE is not viable at the Site, an Updated Remediation Work Plan proposing alternative recommendations for remedial actions will be prepared and submitted to the BLM and NMOCD. Hilcorp and Ensolum will perform the DPE pilot test and prepare the *Pilot Test Report* within 90 days of BLM and NMOCD approval of this 2022 *Delineation and Updated Remediation Work Plan*.

4.0 REFERENCES

Agency, U. S. (2017). How to Evaluate Alternative Cleanup Technologies For Underground Storage Tank Sites: A Guide For Corrective Action Plan Reviewers. *Environmental Protection Agency PA 510-B-17-003*, XI-1.

ENSOLUM

FIGURES



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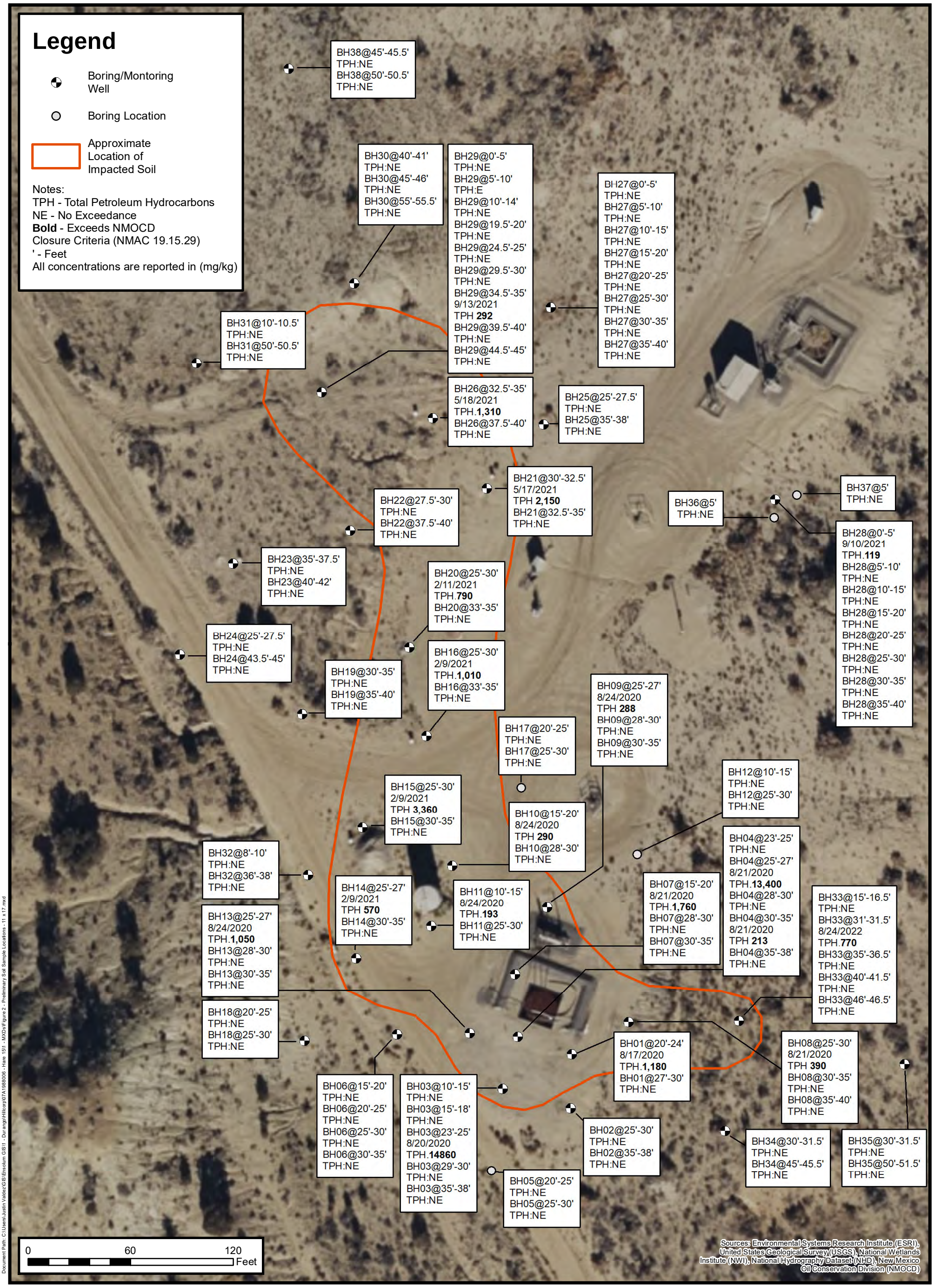
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

Hare 15
Hilcorp Energy Company
36.749188, -107.877461
San Juan County, NM

PROJECT NUMBER: 07A1988006

FIGURE
1



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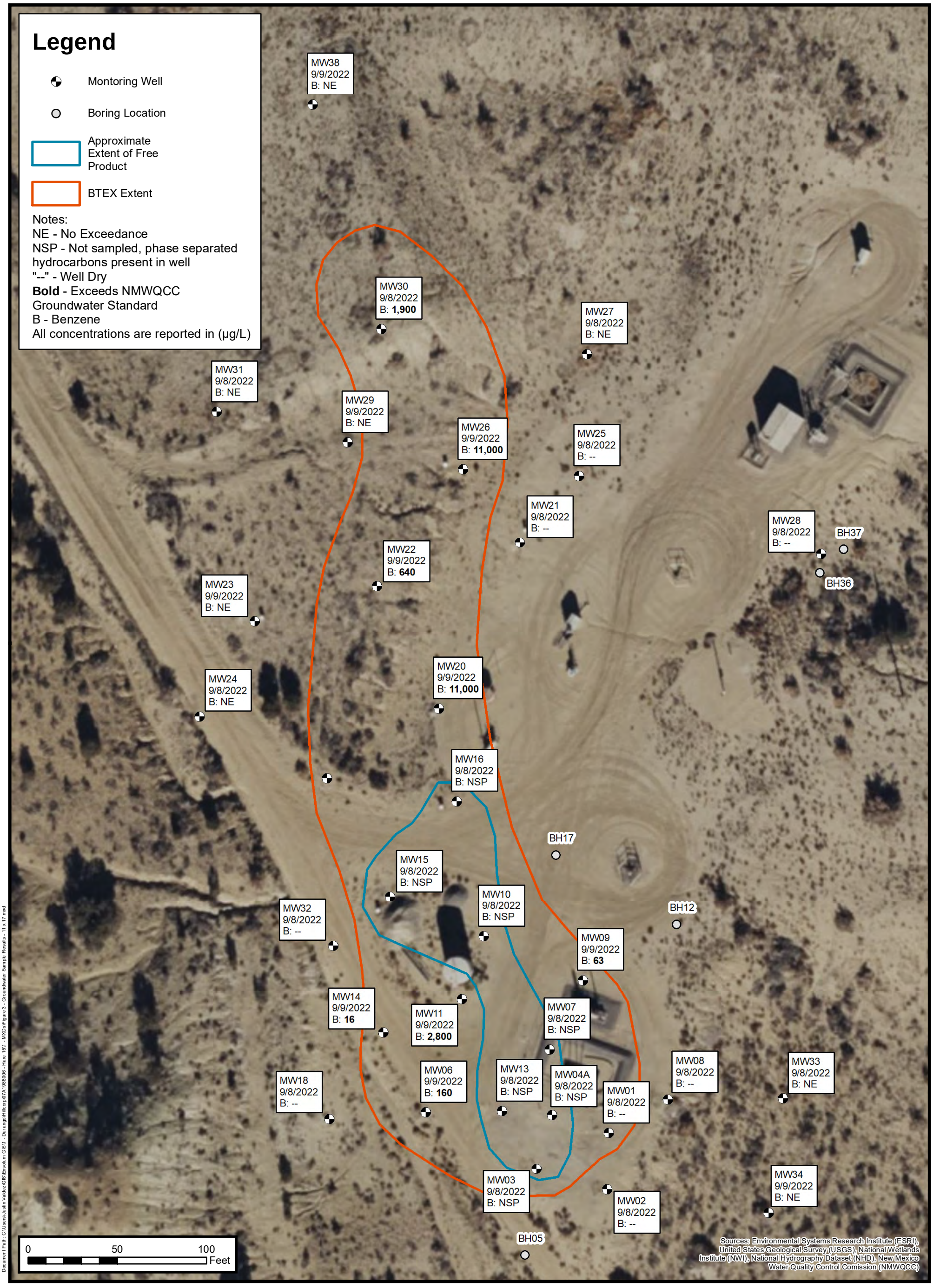
Environmental, Engineering and Hydrogeologic Consultants

Soil Analytical Results

Hare 15
Hilcorp Energy Company

36.749188, -107.877461
San Juan County, NM
PROJECT NUMBER: 07A1988006

FIGURE
2



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Groundwater Analytical Results

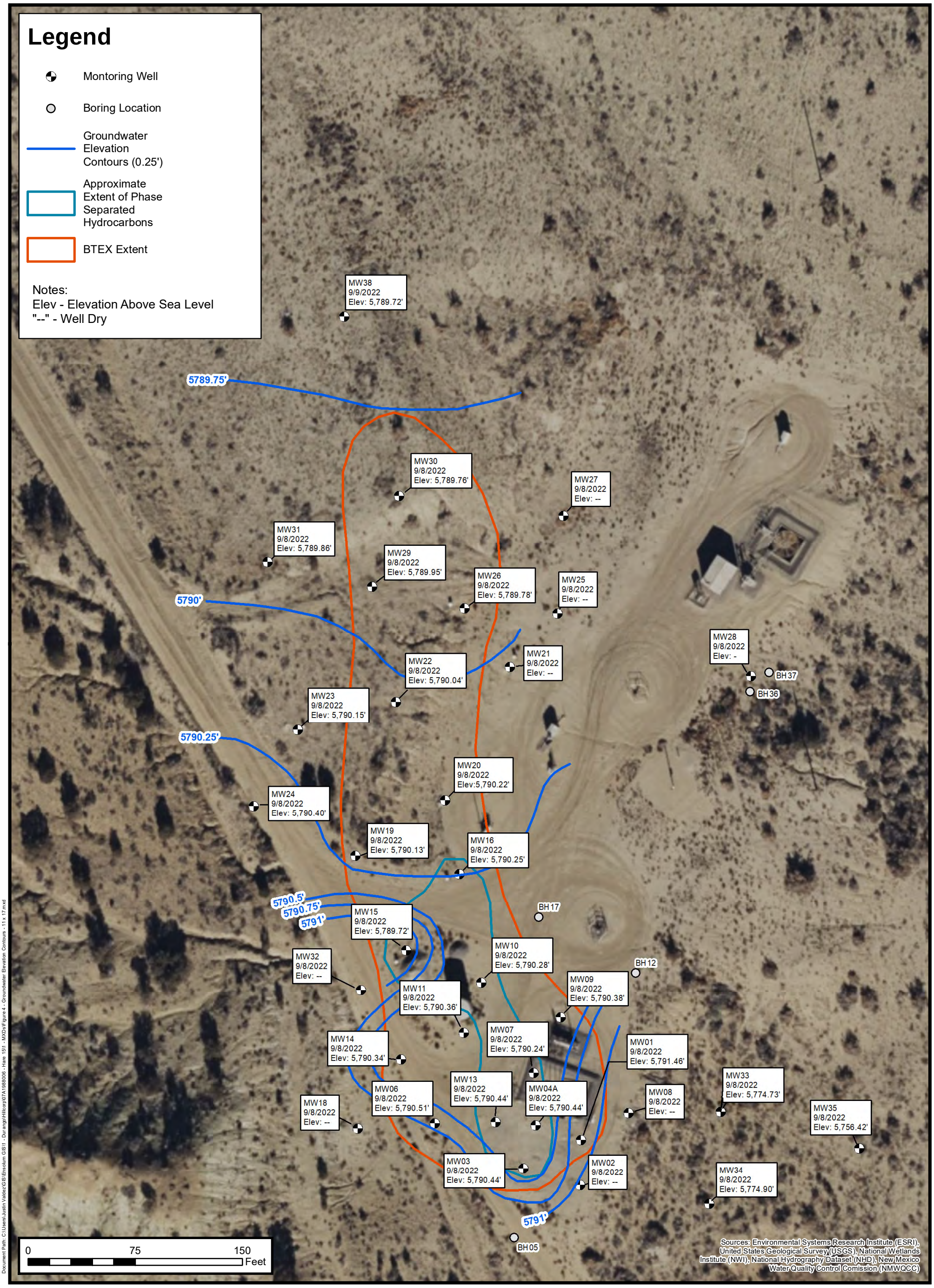
Hare 15

Hilcorp Energy Company

36.749188, -107.877461
San Juan County, NM
PROJECT NUMBER: 07A1988006

FIGURE

3



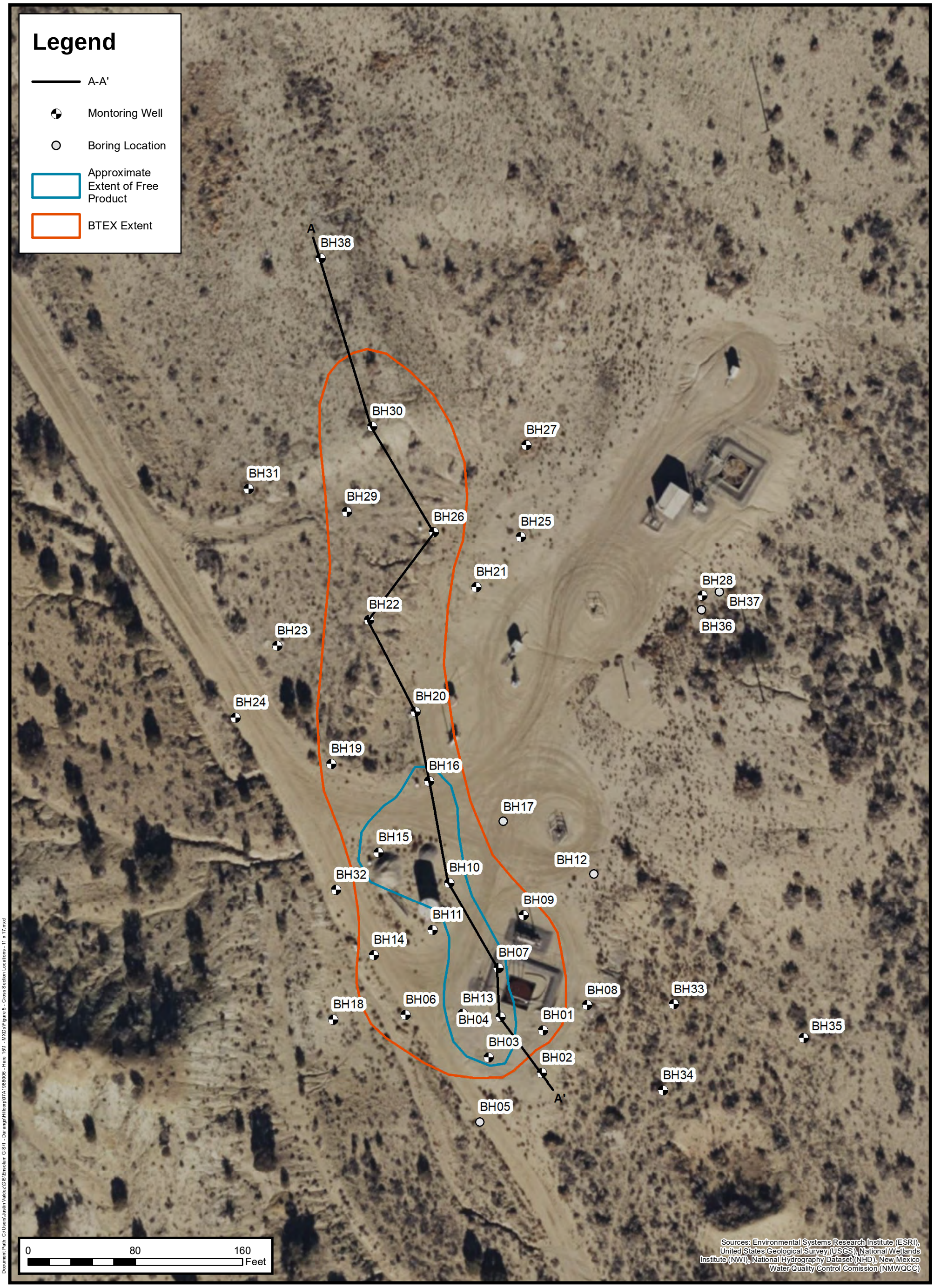
Document Path: C:\Users\Justin.Valdez\GIS\Ensolum GIS\1 - Durango\Hilcorp\07A1988006 - Hare 15\1 - MXDs\Figure 4 - Groundwater Elevation Contours - 11 x 17.mxd

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Groundwater Elevation Contours

Hare 15
Hilcorp Energy Company
36.749188, -107.877461
San Juan County, NM
PROJECT NUMBER: 07A1988006

FIGURE
4



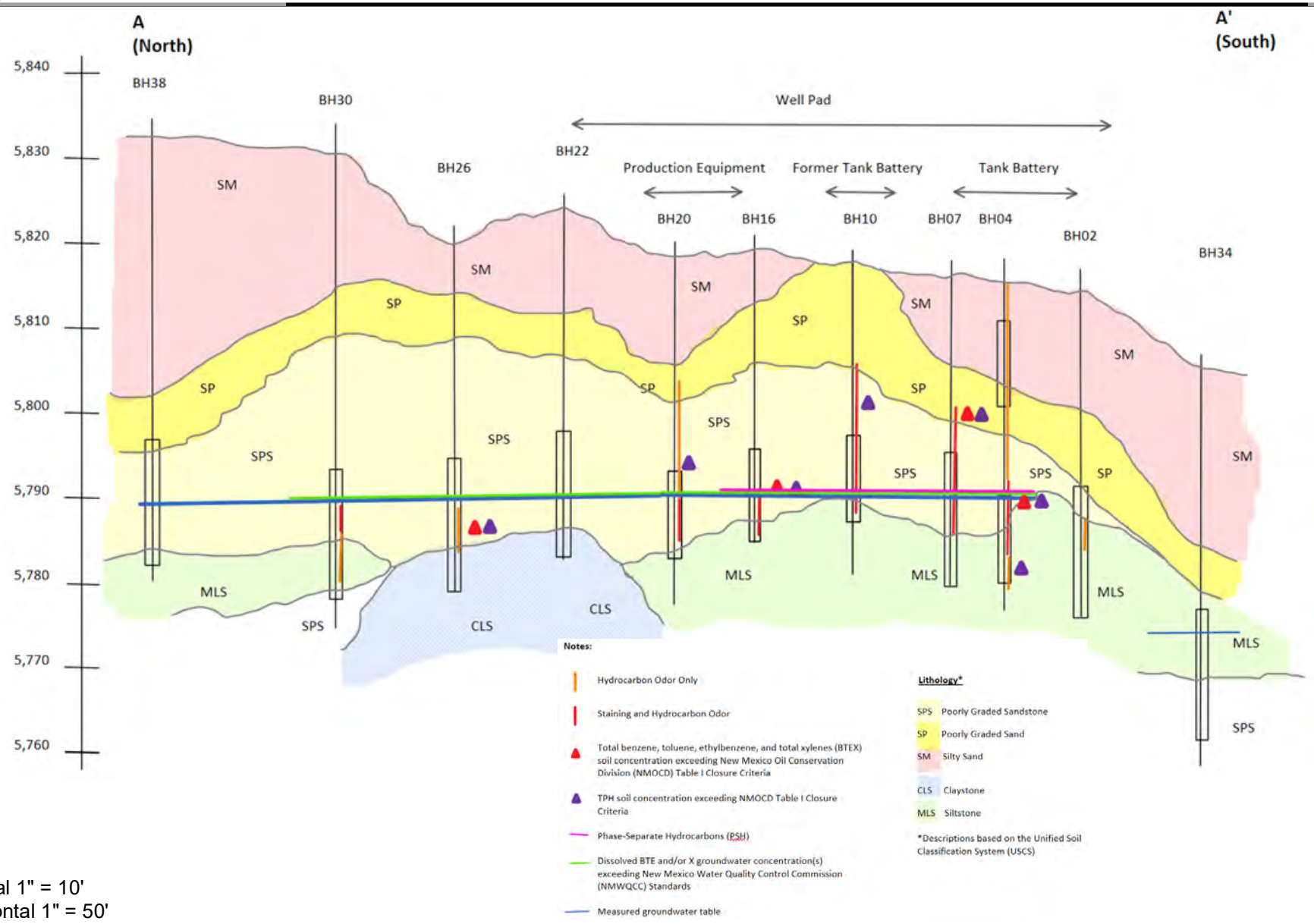
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Cross Section Locations

Hare 15
Hilcorp Energy Company

36.749188, -107.877461
San Juan County, NM
PROJECT NUMBER: 07A1988006

FIGURE
5



A-A'
Vertical 1" = 10'
Horizontal 1" = 50'

Document Path: C:\Users\Justin Vaiez\GIS\Ensolum GIS\1 - Durango\Hilcorp\07A1988006 - Hare 15\1 - MXDs\Figure 6 - Cross Section A-A' Copy.mxd

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Cross Section A-A'

Hare 15
Hilcorp Energy Company
36.749188, -107.877461
San Juan County, NM

Project Number: 07A1988006

FIGURE
6

ENSOLUM

TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Hare 15
Hilcrop Energy Company
San Juan County, New Mexico

Sample Identification	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
BH01@20'-24'	08/17/2020	20'-24'	<0.47	**123**	1,000	180	<47	**1,180**	<60
BH01@27'-30'	08/17/2020	27'-30'	<0.019	0.10	<3.9	<9.8	<49	<49	<60
BH02@25'-30'	08/17/2020	25'-30'	0.053	4.6	48	17	<50	65	<60
BH02@35'-38'	08/17/2020	35'-38'	<0.020	0.15	<3.9	<9.9	<50	<50	<60
BH03@10'-15'	08/17/2020	10'-15'	<0.024	<0.095	<4.8	<9.1	<45	<45	<60
BH03@15'-18'	08/17/2020	15'-18'	<0.025	<0.10	<5.0	<9.8	<49	<49	<60
BH03@23'-25'	08/20/2020	23'-25'	**16**	**1,400**	14,000	860	<480	**14,860**	<60
BH03@29'-30'	08/20/2020	29'-30'	<0.024	5.9	76	16	<46	92	<60
BH03@35'-38'	08/20/2020	35'-38'	<0.025	<0.099	<5.0	<9.0	<45	<45	<59
BH04@23'-25'	08/17/2020	23'-25'	<0.023	2.8	43	35	<45	78	<60
BH04@25'-27'	08/21/2020	25'-27'	**12**	**1,257**	12,000	1,400	<450	**13,400**	<60
BH04@28'-30'	08/21/2020	28'-30'	<0.025	<0.098	<4.9	<9.4	<47	<47	<60
BH04@30'-35'	08/21/2020	30'-35'	<0.12	8.8	130	83	<44	**213**	<60
BH04@35'-38'	08/21/2020	35'-38'	<0.025	0.27	<4.9	10	<49	<49	<60
BH05@20'-25'	08/21/2020	20'-25'	<0.024	<0.097	<4.8	<9.9	<49	<49	<59
BH05@25'-30'	08/21/2020	25'-30'	<0.024	<0.097	<4.9	<9.0	<45	<45	<60
BH06@20'-25'	08/21/2020	20'-25'	<0.12	<0.49	<25	<9.5	<48	<48	<60
BH06@25'-30'	08/21/2020	25'-30'	<0.024	0.45	<4.9	<8.5	<43	<43	<60
BH07@15'-20'	08/21/2020	15'-20'	0.79	**130**	1,600	160	<48	**1,760**	76
BH07@28'-30'	08/21/2020	28'-30'	<0.023	<0.092	<4.6	<8.7	<43	<43	<60
BH08@25'-30'	08/21/2020	25'-30'	<0.050	1.3	120	270	<45	**390**	**610**
BH09@25'-27'	08/24/2020	25'-27'	<0.12	1.0	98	190	<43	**288**	120
BH09@28'-30'	08/24/2020	28'-30'	<0.025	<0.099	<4.9	11	<47	11	73
BH10@15'-20'	08/24/2020	15'-20'	<0.12	20	180	110	<49	**290**	<60
BH10@28'-30'	08/24/2020	28'-30'	0.044	0.68	<4.8	<8.6	<43	<43	<60
BH11@10'-15'	08/24/2020	10'-15'	0.063	19	120	73	<50	**193**	200
BH11@25'-30'	08/24/2020	25'-30'	0.039	1.3	20	19	<47	39	<60
BH12@10'-15'	08/24/2020	10'-15'	<0.024	<0.097	<4.9	<8.9	<45	<45	98
BH12@25'-30'	08/24/2020	25'-30'	<0.024	<0.098	<4.9	<9.7	<49	<49	<60
BH13@25'-27'	08/24/2020	25'-27'	0.46	**89**	800	250	<45	**1,050**	<60
BH13@28'-30'	08/24/2020	28'-30'	<0.024	<0.096	<4.8	<9.4	<47	<47	<60
BH14 @ 25'-27'	02/09/2021	25'-27'	<0.12	28	400	170	<46	**570**	<60
BH14 @ 30'-35'	02/09/2021	30'-35'	<0.023	<0.092	<4.6	<9.8	<49	<49	<60
BH15 @ 25'-30'	02/09/2021	25'-30'	1.7	**292**	3,000	360	<47	**3,360**	<60
BH15 @ 30'-35'	02/09/2021	30'-35'	<0.024	<0.096	<4.8	<9.9	<49	<49	<60
BH16 @ 25'-30'	02/09/2021	25'-30'	0.67	**67**	800	210	<50	**1,010**	<60
BH16 @ 33'-35'	02/09/2021	33'-35'	0.074	0.68	<4.7	<9.8	<49	<49	<60
BH17 @ 20'-25'	02/10/2021	20'-25'	<0.024	<0.095	<4.8	<9.4	<47	<47	<60
BH17 @ 25'-30'	02/10/2021	25'-30'	<0.023	<0.094	<4.7	<10	<51	<51	<60
BH18 @ 20'-25'	02/10/2021	20'-25'	<0.024	<0.095	<4.8	<9.7	<48	<48	<60
BH18 @ 25'-30'	02/10/2021	25'-30'	<0.025	<0.099	<5.0	<8.4	<42	<42	<60
BH19 @ 30'-35'	02/10/2021	30'-35'	<0.024	0.43	9.4	<9.0	<45	9.4	<60
BH19 @ 35'-40'	02/10/2021	35'-40'	0.050	2.4	13	<10	<50	13	<60
BH20 @ 25'-30'	02/11/2021	25'-30'	<0.12	43	600	190	<49	**790**	<60
BH20 @ 33'-35'	02/11/2021	33'-35'	0.056	2.4	10	<9.2	<46	10	<60
BH21 @ 30'-32.5'	05/17/2021	30'-32.5'	<0.12	46	1,400	750	<45	**2,150**	120
BH21 @ 32.5'-35'	05/17/2021	32.5'-35'	<0.025	<0.099	11	20	<45	31	<60
BH22 @ 27.5'-30'	05/17/2021	27.5'-30'	<0.024	<0.098	<4.9	<9.9	<49	<49	<60
BH22 @ 37.5'-40'	05/17/2021	37.5'-40'	<0.023	<0.093	<4.6	<9.4	<47	<47	<60
BH23 @ 35'-37.5'	05/17/2021	35'-37.5'	<0.024	<0.097	<4.9	<8.4	<42	<42	<60
BH23 @ 40'-42'	05/17/2021	40'-42'	<0.025	<0.098	<4.9	<9.0	<45	<45	<60
BH24 @ 25'-27.5'	05/18/2021	25'-27.5'	<0.025	<0.099	<4.9	<8.5	<43	<43	<60
BH24 @ 43.5'-45'	05/18/2021	43.5'-45'	<0.024	<0.094	<4.7	<8.4	<42	<42	<61
BH25 @ 25'-27.5'	05/18/2021	25'-27.5'	<0.024	<0.098	<4.9	<10	<50	<50	130
BH25 @ 35'-38'	05/18/2021	35'-38'	<0.024	<0.094	<4.7	<9.1	<45	<45	85
BH26 @ 32.5'-35'	05/18/2021	32.5'-35'	2.1	**144**	1,200	110	<44	**1,310**	86
BH26 @ 37.5'-40'	05/18/2021	37.5'-40'	0.40	4.1	29	<9.7	<48	29	120

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Hare 15
Hilcrop Energy Company
San Juan County, New Mexico

Sample Identification	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
BH27 @ 0'-5'	09/10/2021	0'-5'	<0.025	<0.099	<5.0	<9.9	<49	<49	<60
BH27 @ 5'-10'	09/10/2021	5'-10'	<0.025	<0.099	<5.0	<10	<51	<51	360
BH27 @ 10'-15'	09/10/2021	10'-15'	<.0.24	<0.096	<4.8	<9.3	<47	<47	210
BH27 @ 15'-20'	09/10/2021	15'-20'	<0.024	<0.096	<4.8	<10	<50	<50	65
BH27 @ 20'-25'	09/10/2021	20'-25'	<0.025	<0.099	<4.9	<9.6	<48	<48	77
BH27 @ 25'-30'	09/10/2021	25'-30'	<0.024	<0.096	<4.8	<9.8	<49	<49	75
BH27 @ 30'-35'	09/10/2021	30'-35'	<0.024	<0.098	<4.9	<10	<50	<50	70
BH27 @ 35'-40'	09/10/2021	35'-40'	<0.024	<0.096	<4.8	<9.9	<49	<49	<60
BH28 @ 0'-5'	09/10/2021	0'-5'	<0.024	<0.097	<4.9	42	77	**119**	<59
BH28 @ 5'-10'	09/10/2021	5'-10'	<0.024	<0.098	<4.9	<9.1	<45	<45	100
BH28 @ 10'-15'	09/10/2021	10'-15'	<0.024	<0.096	<4.8	<9.2	<46	<46	<60
BH28 @ 15'-20'	09/10/2021	15'-20'	<0.024	<0.097	<4.8	<9.6	<48	<48	<60
BH28 @ 20'-25'	09/10/2021	20'-25'	<0.024	<0.097	<4.8	<10	<50	<50	110
BH28 @ 25'-30'	09/10/2021	25'-30'	<0.025	<0.098	<4.9	<9.4	<47	<47	<60
BH28 @ 30'-35'	09/10/2021	30'-35'	<0.024	<0.097	<4.8	<9.5	<47	<47	<60
BH28 @ 35'-40'	09/10/2021	35'-40'	<0.025	<0.099	<4.9	<9.7	<49	<49	<60
BH29 @ 0'-5'	09/13/2021	0'-5'	<0.025	<0.099	<5.0	<10	<50	<50	<60
BH29 @ 5'-10'	09/13/2021	5'-10'	<0.024	<0.097	<4.8	<10	<50	<50	<59
BH29 @ 10'-14'	09/13/2021	10'-14'	<0.025	<0.099	<5.0	<8.6	<43	<43	<60
BH29 @ 19.5'-20'	09/13/2021	19.5'-20'	<0.025	<0.10	<5.0	30	54	84	<60
BH29 @ 24.5'-25'	09/13/2021	24.5'-25'	<0.025	<0.099	<5.0	33	60	93	<60
BH29 @ 29.5'-30'	09/13/2021	29.5'-30'	<0.025	<0.099	<5.0	15	<48	15	<60
BH29 @ 34.5'-35'	09/13/2021	34.5'-35'	<0.025	<0.099	<4.9	92	200	**292**	<60
BH29 @ 39.5'-40'	09/13/2021	39.5'-40'	<0.025	<0.098	<4.9	<9.5	<48	<48	<60
BH29 @ 44.5'-45'	09/13/2021	44.5'-45'	<0.024	<0.098	<4.9	<9.2	<46	<46	<60
BH30 @ 40'-41'	08/22/2022	40'-41'	<0.025	<0.099	<4.8	<14	<48	<48	60
BH30 @ 45'-46'	08/22/2022	45'-46'	<0.019	<0.074	<3.7	<15	<50	<50	60
BH30 @ 55'-55.5'	08/22/2022	55'-55.5'	<0.024	<0.097	<4.9	<13	<44	<44	<59
BH31 @ 10'-10.5'	08/23/2022	10'-10.5'	<0.025	<0.099	<4.9	<15	<50	<50	89
BH31 @ 50'-50.5'	08/23/2022	50'-50.5'	<0.023	<0.094	<4.7	<14	<46	<46	<60
BH32 @ 8'-10'	08/23/2022	8'-10'	<0.024	<0.096	<4.8	<14	<47	<47	<60
BH32 @ 36'-38'	08/23/2022	36'-38'	<0.025	<0.099	<5.0	<13	<43	<43	<60
BH33 @ 15'-16.5'	08/24/2022	15'-16.5'	<0.023	<0.093	<4.6	<13	<44	<43	68
BH33 @ 31'-31.5'	08/24/2022	31'-31.5'	<0.012	24	540	230	<47	**770**	270
BH33 @ 35'-36.5'	08/24/2022	35'-36.5'	<0.025	<0.099	<4.9	<14	<47	<47	<60
BH33 @ 40'-41.5'	08/24/2022	40'-41.5'	<0.023	0.17	<4.6	<13	<45	<45	<60
BH33 @ 46'-46.5'	08/24/2022	46'-46.5'	<0.025	<0.10	<5.0	<13	<44	<44	<60
BH34 @ 30'-31.5'	08/24/2022	30'-31.5'	<0.025	<0.10	<5.0	<15	<48	<48	<60
BH34 @ 45'-45.5'	08/24/2022	45'-45.5'	<0.023	<0.093	<4.7	<13	<44	<44	<60
BH35 @ 30'-31.5'	08/25/2022	30'-31.5'	<0.024	<0.097	<4.8	<14	<48	<48	<59
BH35 @ 50'-51.5'	08/25/2022	50'-51.5'	<0.024	<0.097	<4.9	<14	<47	<47	<60
BH36 @ 5'	08/25/2022	5'	<0.025	<0.099	<4.9	<14	<47	<47	67
BH37 @ 5'	08/25/2022	5'	<0.025	<0.099	<4.9	<13	<43	<43	66
BH38 @ 45'-45.5'	08/25/2022	45'-45.5'	<0.025	<0.099	<4.9	<13	<44	<44	<59
BH38 @ 50'-50.5'	08/25/2022	50'-50.5'	<0.024	<0.095	<4.8	<14	<48	<48	<60

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics
DRO: Diesel Range Organics
MRO: Motor Oil Range Organics
TPH: Total Petroleum Hydrocarbon

ENSOLUM

TABLE 2
GROUNDWATER ELEVATIONSUMMARY
Hare 15
Hilcorp Energy Company
San Juan, New Mexico

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
			1/7/2022	26.40	--	--	5,791.42
			4/22/2022	26.44	--	--	5,791.38
			9/8/2022	26.36	--	--	5,791.46
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	--	--	--
			9/8/2022	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
			11/24/2021	27.48	27.32	0.16	5,790.46
			1/7/2022	27.42	27.31	0.11	5,790.48
			4/22/2022	27.66	27.58	0.08	5,790.21
			9/8/2022	27.45	27.35	0.10	5,790.44
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
			11/24/2021	28.22	27.92	0.30	5,790.25
			1/7/2022	28.04	27.85	0.19	5,790.34
			9/8/2022	27.89	27.77	0.12	5,790.44
MW04B	5,818.22	17.30	9/22/2020	DRY	--	--	--
			10/7/2020	DRY	--	--	--
			2/17/2021	DRY	--	--	--
			9/27/2021	DRY	--	--	--
			4/22/2022	28.06	27.88	0.18	5,790.30
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
			1/7/2022	26.73	--	--	5,791.55
			9/8/2022	27.77	--	--	5,790.51
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
			11/24/2022	28.25	28.21	0.04	5,790.42
			1/7/2022	28.23	Sheen	--	5,790.41
			4/22/2022	28.52	28.17	0.35	5,790.40
			9/8/2022	28.40	Sheen	--	5,790.24

ENSOLUM

TABLE 2
GROUNDWATER ELEVATIONSUMMARY
Hare 15
Hilcorp Energy Company
San Juan, New Mexico

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	37.27	9/22/2020	DRY	--	--	--
			10/2/2020	DRY	--	--	--
			10/7/2020	DRY	--	--	--
			2/17/2021	36.72 (1)	--	--	--
			9/27/2021	36.89 (1)	--	--	--
			9/8/2022	36.80 (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
			1/7/2022	28.22	--	--	5,790.39
			4/22/2022	28.20	--	--	5,790.41
			9/8/2022	28.23	--	--	5,790.38
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
			11/24/2022	29.60	29.39	0.21	5,790.30
			1/7/2022	29.50	29.42	0.08	5,790.29
			4/22/2022	29.55	--	--	5,790.18
			9/8/2022	29.45	Sheen	--	5,790.28
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
			1/7/2022	28.98	--	--	5,790.39
			4/22/2022	28.99	--	--	5,790.38
			9/8/2022	29.01	--	--	5,790.36
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
			11/24/2021	27.70	27.57	0.13	5,790.46
			1/7/2022	27.66	27.58	0.08	5,790.46
			4/22/2022	27.70	27.58	0.12	5,790.46
			9/8/2022	27.69	27.60	0.09	5,790.44
MW14	5,821.30	33.83	2/17/2021	33.78	--	--	5,787.52
			9/27/2021	30.94	--	--	5,790.36
			1/7/2022	30.99	--	--	5,790.31
			9/8/2022	30.96	--	--	5,790.34
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
			1/7/2022	33.44	33.33	0.11	5,789.99
			4/22/2022	33.33	--	--	5,790.01
			9/8/2022	32.23	Trace	--	5,791.11

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TABLE 2
GROUNDWATER ELEVATIONSUMMARY
Hare 15
Hilcorp Energy Company
San Juan, New Mexico

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)
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
			1/7/2022	31.65	31.24	0.41	5,790.23
			4/22/2022	31.56	31.19	0.37	5,790.29
			9/8/2022	31.64	31.21	0.43	5,790.25
MW18	5,821.35	32.54	2/17/2021	DRY	--	--	--
			9/27/2021	DRY	--	--	--
			9/8/2022	DRY	--	--	--
MW19	5,825.06	43.50	2/17/2021	34.93	--	--	5,790.13
			9/27/2021	34.93	--	--	5,790.13
			1/7/2021	34.93	--	--	5,790.13
			4/22/2022	34.88	--	--	5,790.18
			9/8/2022	34.93	--	--	5,790.13
MW20	5,820.60	40.13	2/17/2021	30.36	--	--	5,790.24
			9/27/2021	30.38	--	--	5,790.22
			1/7/2022	30.35	--	--	5,790.25
			4/22/2022	30.33	--	--	5,790.27
			9/8/2022	30.38	--	--	5,790.22
MW21	5,820.72	36.24	5/21/2021	35.88 (1)	--	--	--
			9/27/2021	36.19 (1)	--	--	--
			4/22/2022	36.17 (1)	--	--	--
			9/8/2022	36.16 (1)	--	--	--
MW22	5,826.83	42.95	5/21/2021	36.78	--	--	5,790.05
			9/27/2021	36.81	--	--	5,790.02
			4/22/2022	36.72	--	--	5,790.11
			9/8/2022	36.79	--	--	5,790.04
MW23	5,829.60	44.78	5/21/2021	40.38	--	--	5,789.22
			9/27/2021	39.45	--	--	5,790.15
			4/22/2022	39.38	--	--	5,790.22
			9/8/2022	39.45	--	--	5,790.15
MW24	5,826.76	41.39	5/21/2021	36.35	--	--	5,790.41
			9/27/2021	36.40			5,790.36
			9/8/2022	36.36	--	--	5,790.40
MW25	5,819.84	40.40	5/21/2021	40.02 (1)	--	--	--
			9/27/2021	DRY	--	--	--
			4/22/2022	40.3 (1)	--	--	--
			9/8/2022	40.25 (1)	--	--	--
MW26	5,822.35	40.52	5/21/2021	32.58	--	--	5,789.77
			9/27/2021	32.57	--	--	5,789.78
			4/22/2022	32.49	--	--	5,789.86
			9/8/2022	32.57	--	--	5,789.78
MW27	5,818.56	40.60	9/24/2021	8.00	--	--	--
			9/27/2021	40.46 (1)	--	--	--
			4/22/2022	39.48 (1)	--	--	--
			9/8/2022	39.95 (1)	--	--	--
MW28	5,815.12	40.61	9/24/2021	DRY	--	--	--
			9/27/2021	DRY	--	--	--
			9/8/2022	39.95 (1)	--	--	--
MW29	5,829.68	48.10	9/24/2021	39.75	--	--	5,789.93
			9/27/2021	39.75	--	--	5,789.93
			4/22/2022	39.66	--	--	5,790.02
			9/8/2022	39.73	--	--	5,789.95

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TABLE 2
GROUNDWATER ELEVATIONSUMMARY
Hare 15
Hilcorp Energy Company
San Juan, New Mexico

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)
MW30	5,834.72	54.74	9/8/2022	44.96	--	--	5,789.76
MW31	5,834.88	53.55	9/8/2022	45.02	--	--	5,789.86
MW32	5,821.84	40.18	9/8/2022	40.04 (1)	--	--	--
MW33	5,808.24	47.87	9/8/2022	33.51	--	--	5,774.73
MW34	5,807.90	43.64	9/8/2022	33.00	--	--	5,774.90
MW35	5,803.64	53.75	9/8/2022	47.22	--	--	5,756.42
MW38	5,835.26	53.12	9/9/2022	45.54	--	--	5,789.72

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

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TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Hare 15
Hilcorp Energy Company
San Juan, New Mexico

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**
MW01	9/8/2022	Well Dry			
MW02	9/8/2022	Well Dry			
MW03	9/8/2022	**No Sample Collected, Free Product Present**			
MW04A	9/8/2022	**No Sample Collected, Free Product Present**			
MW06	2/17/2021	**110**	7.7	27	48
MW06	9/28/2021	**210**	<5.0	8.0	130
MW06	9/9/2022	**160**	<5.0	<5.0	70
MW07	9/8/2022	**No Sample Collected, Free Product Present**			
MW08	9/8/2022	Well Dry			
MW09	2/17/2021	**37**	<5.0	99	230
MW09	9/28/2021	**140**	<5.0	200	280
MW09	9/9/2022	**63**	<5.0	48	250
MW10	9/8/2022	**No Sample Collected, Free Product Present**			
MW11	2/17/2021	**3,500**	**4,500**	320	**11,000**
MW11	9/28/2021	**3,400**	**7,500**	650	**11,000**
MW11	9/9/2022	**2,800**	**8,200**	630	**11,000**
MW13	9/8/2022	**No Sample Collected, Free Product Present**			
MW14	9/28/2021	**32**	5.2	8.2	120
MW14	9/9/2022	**16**	33	13.0	250
MW15	9/8/2022	**No Sample Collected, Free Product Present**			
MW16	9/8/2022	**No Sample Collected, Free Product Present**			
MW18	9/8/2022	Well Dry			
MW19	2/17/2021	**660**	390	520	**2,800**
MW19	9/28/2021	**720**	140	**790**	**1,400**
MW19	9/9/2022	**320**	150	670	**1,300**
MW20	2/17/2021	**12,000**	**15,000**	**1,100**	**10,000**
MW20	9/28/2021	**11,000**	**12,000**	610	**5,100**
MW20	9/9/2022	**11,000**	**14,000**	**1,200**	**9,500**
MW21	9/8/2022	Well Dry			
MW22	9/28/2021	**2,000**	**1,500**	**890**	**3,000**
MW22	9/9/2022	**640**	230	660	**1,300**
MW23	9/28/2021	<2.0	<2.0	<2.0	<3.0
MW23	9/9/2022	<2.0	<2.0	<2.0	<4.0
MW24	9/28/2021	<2.0	<2.0	<2.0	<3.0
MW24	9/8/2022	<1.0	<1.0	<1.0	<2.0
MW25	9/8/2022	Well Dry			

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TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Hare 15
Hilcorp Energy Company
San Juan, New Mexico

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**
MW26	9/28/2021	**9,700**	**24,000**	**830**	**11,000**
MW26	9/9/2022	**11,000**	**27,000**	**850**	**11,000**
MW27	9/8/2022	Well Dry			
MW28	9/8/2022	Well Dry			
MW29	9/28/2021	**12**	5.9	17	34
MW29	9/9/2022	4.1	3.9	34	7.9
MW30	9/8/2022	**1,900**	**8,500**	**1,000**	**13,000**
MW31	9/8/2022	<2.0	<2.0	<2.0	<4.0
MW32	9/8/2022	Well Dry			
MW33	9/8/2022	3.7	19	4.4	38
MW34	9/9/2022	<1.0	<1.0	<1.0	<2.0
MW35	9/9/2022	<1.0	<1.0	<1.0	<2.0
MW38	9/9/2022	<1.0	<1.0	<1.0	<2.0

Notes:

µg/L - micrograms per liter

NMWQCC - New Mexico Water Quality Control Commision

Bold and highlighted - indicates value exceeds the NMWQCC Standard

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

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TABLE 4
PSH RECOVERY SUMMARY
Hare 15
Hilcorp Energy Company
San Juan, New Mexico

Boring/Well Number	Date	Product Thickness (feet)	Product Recovered (ounces)
MW03	10/7/2020	2.76	128.00
	9/28/2021	0.14	1.75
	11/24/2021	0.16	1.00
	1/7/2022	0.11	2.00
	3/2/2022	0.07	19.00
	4/22/2022	0.08	24.00
MW04A	9/30/2020	0.49	5.00
	10/2/2020	1.83	100.00
	10/7/2020	0.51	32.00
	9/28/2021	0.25	1.50
	11/24/2021	0.30	4.00
	1/7/2022	0.19	10.00
	3/2/2022	0.21	5.00
	4/22/2022	0.18	18.00
MW07	9/30/2020	0.67	32.00
	10/2/2020	0.49	5.00
	10/7/2020	0.53	16.00
	11/24/2021	0.04	0.50
	1/7/2022	Sheen	0.50
	3/2/2022	0.32	14.00
	4/22/2022	0.35	15.00
MW10	9/30/2020	1.02	64.00
	10/2/2020	0.45	4.00
	10/7/2020	0.59	16.00
	9/28/2021	0.28	6.00
	11/24/2021	0.21	4.00
	1/7/2022	0.08	1.00
	3/2/2022	0.02	13.00
	4/22/2022	ND	8.50
MW12	9/30/2020	0.38	5.00
	10/2/2020	0.36	3.00
MW13	9/28/2021	0.11	0.50
	11/24/2021	0.13	1.00
	1/7/2022	0.08	1.00
	3/2/2022	0.15	1.50
	4/22/2022	0.12	1.00

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TABLE 4
PSH RECOVERY SUMMARY
Hare 15
Hilcorp Energy Company
San Juan, New Mexico

Boring/Well Number	Date	Product Thickness (feet)	Product Recovered (ounces)
MW15	9/28/2021	0.60	26.00
	1/7/2022	0.11	7.00
	3/2/2022	ND	8.50
	4/22/2022	ND	17.00
MW16	9/28/2021	0.53	50.00
	1/7/2022	0.41	20.00
	3/2/2022	0.41	29.50
	4/22/2022	0.37	54.00
	Total Recovered (gallons)		**6.061**

Notes:

ND: not detected

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APPENDIX A

NMOCD Notifications

From: Velez, Nelson, EMNRD
To: Stuart Hyde; Enviro, OCD, EMNRD; Adeloye, Abiodun A
Cc: Mitch Killough; Danny Burns; Devin Hencmann
Subject: RE: [EXTERNAL] NRM2020945060 - Hare 15 Delineation Sampling Notification
Date: Wednesday, August 17, 2022 2:07:30 PM
Attachments: image001.png
image002.png
image003.png
image004.png

[**EXTERNAL EMAIL**]

Stuart,

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

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

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

Regards

Nelson Velez • Environmental Specialist - Adv
Environmental Bureau | EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87410
(505) 469-6146 | nelson.velez@state.nm.us

Office Hrs.:
7:00am – 12:00pm & 1:00 – 3:30 pm Mon.-Thur.
7:00am – 12:00pm & 1:00 – 4:00 pm Fri.

From: Stuart Hyde <shyde@ensolum.com>
Sent: Wednesday, August 17, 2022 8:54 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>; Velez, Nelson, EMNRD <Nelson.Velez@state.nm.us>; Adeloye, Abiodun A <aadeloye@blm.gov>
Cc: Mitch Killough <mkillough@hilcorp.com>; Danny Burns <dburns@ensolum.com>; Devin Hencmann <dhencmann@ensolum.com>
Subject: [EXTERNAL] NRM2020945060 - Hare 15 Delineation Sampling Notification

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

On behalf of Hilcorp Energy Company, Ensolum is submitting this notification to perform delineation activities at the Hare 15 site starting Monday August 22, 2022 at 10 AM. Drilling and sampling activities are anticipated to last until August 26, 2022. The site is located at coordinates 36.749220,

-107.877523. Please reach out with any questions regarding the upcoming work. Thank you.

Stuart Hyde, LG
Senior Geologist
970-903-1607
Ensolum, LLC

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APPENDIX B

Field Boring 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		0–5			SW-SM	Tan, lt. Brown med-coarse sand w/ fines. Well graded sand w/ silt. No stain/odor (s/o)	
	Moist	0.1	No		5–10			SW-SM	Lt. Brown med sand w/ fines well graded. No s/o	
	Moist	0.2	No		10–15			SW-SM	Lt. Brown med-coarse sand w/ fines. well graded. No s/o	

LTE 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.	
					18–19			SP	Lt. grayish tan. medium poorly graded, semi-dense sand. No stain, mod. HC odor.	
	SL Moist to Dry	2,540	No-Mod. odor.		20					
				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					
					24				Black, strong stain/odor, med. sand.	
	V. Moist	2,745	Yes, Heavy		25			SP		
					26				Lt. Brownish gray silt w/ fn. sand, w/ oxidation	
	Dry	53.7	~~53.7~~ No		27			ML	No stain/odor.	backfill slough
				BH01 @ 27'-30' 09:45	28				Lt-gray & gray silt, trace fn. sand. Dense, compact. No stain/odor.	
			No		29			ML		
	Dry	41.2	~~41.2~~		30					
	Dry		No		31			ML	SAA. No s/o Limited to no recovery less than 3"	
					32				split spoon sample 30-32' refusal @ 32'	
					33–37					

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 (+S.U.)		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			SW-SM		
					2				No stain/odor.	
					3				well graded	
	Moist	0.6	No		4					
					5					
					6					
					7				SAA.	
	Moist	0.8	No		8			SW-SM	No s/o.	
					9					
					10					
					11					
					12					
	SL. Moist.	0.3	No		13			SP SM	Brown fn-med sand w/ some silt	
					14				No stain/odor	
					15					

LTE 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	Well graded, med-coarse sand. some gravel, slightly dense, compact. No stain/odor.	
	Dry				24–25			ML	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		30–35			ML	Gray fn. semicemented sandy siltstone. No stain, slight musty odor.	
	Dry	515	No	BH 02 @35'	34–37			ML	Gray & maroon shale w/ fn. sand. No s/o	
					-38' 12:30	38			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
	Moist	3.7	No		0–5			SW-SM	Brown med. sand w/ fines, silt. well graded. No stain/odor.	
	moist	15.4	No		6–10			SW-SM	SAA. Med sand, w/ silt. No stain, v. slt. odor.	
	Dry	22.0	No	BH 03 @ 10-15'	11–15			SW	Brown/tan well graded med.–coarse sand. No stain./odor. some oxidation	

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~~ Resume on 8-20-20 w/ new set up.	
					19			SW	Lt. gray tan, coarse well gr. sand. No stain. V. slt. odor.	
	Dry	246.	No		20					
					21				SAA. No stain. Mod. odor.	
	Dry	985	No		22					
					23				Lt. gray to Black coarse sand.	
		~~985~~	Yes Strong	BH03 @ 23'-25' 1515	24			SW	Heavy stain/odor.	
	Dry				25					
LTQ 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. No stain. V slt. odor.	
	Dry	173	No		37					

Refusal @ 38'

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. well graded. No stain. 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						
	Dry	1,101	No strong odor		11–15			SW	Brown, tan, lt. gray med. - coarse sand. well graded. No stain, strong HC 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
	Dry	1,401	No		15–20			SW	Lt. gray & tan med-coarse dense sand. Well graded. No stain, strong sweet gassy HC odor.	
					21					
				BH04 @ 23-25	22			SW	SAA	
	Dry	1,448	No		23				Lt. gray to dark gray med-coarse sand. well graded. mod. stain/odor.	
					24				Resume 8-20-20	
	Sl Moist		yes	15:15	25					
Sat Cond.	Wet	1,499	Strong	BH04 @25-27 0845	26			SW	Black coarse sand. Well gr. Strong s/o. Liq. cond	
					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					
	Dry	46	No	BH04 @35-38 0910	36			SM/ML	Gray & maroon fn. sandy silt. -Gray siltstone.	
					37					

Refusal @ 38'

Advancing Opportunity
848 E. 2nd Ave
Durango, Colorado 81301

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring Well Number: BH05		Project: Hare 15	
Date: 8-20-20		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
					0					
					1			SW-SM	Lt. Brown fn-med sand w/ silt. well gr. No s/o.	Back-fill w/ Cuttings
					2					
					3					
	Dry	22.0	No		4					
					5					
					6					
					7			SW-SM	Lt. Brown med. sand w/ silt. No s/o	
					8					
	Dry	12.1	No		9					
					10					
					11					
					12				Lt. brown / tan med-med coarse sand. Some dense lenses, hard but still fissile. No stain/odor	
					13			SW.		
	Dry	9.3	No		14					
					15					

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.	Back-fill w/ cuttings
	SL. Moist	42.4	No		18			SW	No s/o	
					19					
				1025	20					
	SL. Moist				21			SW	SAA. No s/o	
				BH05	22					
	Dry	62.6	No	@20-25	23			SW-SM	Brown fn. silty sand/ sandy silt. No s/o	
	Dry				24			SM-ML	Gray v. fn. sandy silt. Dense. No s/o	
				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
	Dry	8.3	No		0–5			SW / SM	Lt. Brown / tan fn-med sand w/ silt. Well Gr. No stain/odor.	
	Dry	5.4	No		6–10			SW	Tan med-coarse sand. Well gr. No S/O	
	SL Moist	2.6	No		11–15			SW	SAA. some oxidation. silty dense. but fissile.	

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	
			SL. to		18			SW	coarse sand	
					19				well gr.	
		22.4	MOD.		20				Mod stain, Slt. sweet odor.	
				1130					Degraded HC odor or swampy organic material	
					21					
				BH 06 @ 20'-25'	22				Dark brown to gray, dark gray	
	Dry				23			SW	med - coarse sand.	
		41.0	SL to mod		24				some dense. Organic, odor, degraded HC odor	
					25				SL-mod stain.	
	SL Moist			1140	26			SW	SAA. SL-mod stain/organic Degraded odor coarse Sand.	
			SL to MOD	BH 06 @ 25'-30'	27					
	Dry	17.1	No		28			SW SM	Brown fn. silty sand	
					29			SM	No s/o.	
	Dry		NO	1150	30			ML	Gray fn. sandy silt Dense. No s/o.	
					31					
					32			ML	SAA No s/o	
		8.0			33					
	Dry		NO		34			ML	Gray & maroon v. fn. sandy silt. No s/o	
				1200	35					
					36					
					37					

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	Well Completion
					0					
					1					
					2					
					3					
	SL Moist	9.2	No		4			SW SM	Brown med sand w/ silt well gr. No s/o	
					5					
					6					
					7					
	Dry	1.4	No		8			SW -SM	SAA. No s/o	
					9					
					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					

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	
			Yes		17					
	Dry	2,402	Slt to Mod		18			SW	med- coarse sand. Mod stain/odor.	
					19				Slt. degraded/organic	
				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 wet.	1,866	yes	1245	26			SW	SAA, dark gray coarse sand, wet w/ condensate strong stain/odor.	
					27			SW-SM		
	Dry		No		28				gray silty sand	
				BH07 28-30 1250	29			SM-ML	Lt. gray fn. sandy silt. No stain/odor. Dense.	
	Dry	174	No		30					
					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
					0					
					1					
					2					
					3			SW	Lt. Brown med. sand w/ silt.	
	Dry	7.3	No		4			SM	No s/o	
					5					
					6					
					7					
					8			SW	SAA. No s/o	
	Dry	3.3	No		9			-SM		
					10					
					11					
					12				SAA. No s/o	
					13					
					14			SP	Lt. Brown med sand med fn -med sand w/ silt. No s/o	
	Dry	4.0	No		15			-SM		

Advancing Opportunity

Boring/Well #	BH 08
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.	

LTE 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	BH				
					38			ML	Gray + maroon silt. No s/o. Dense	
					39					
					40			ML	Bluish gray fn. silt. No s/o	
					41					
					42					
					43					
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

LTE Advancing Opportunity
848 E. 2nd Ave
Durango, Colorado 81301

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	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/Air Rotary	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 30'-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 30'-25' Slot: 0.010"		Diameter: 2" Length: 5'	Total Depth: ~~40~~ 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	Brown med. sand w/ silt.	
	~~Dry~~ SL Moist	~~0.0~~ 0.9	No		3			SM	~~uniform~~ well graded	
					4				No stain/ odor	
					5					
					6					
					7					
	SL Moist	4.0	No		8			SW-SM	SAA. No s/o	
	~~4.6~~				9					
					10					
					11					
					12					
	Dry	1.6	No		13			SW-SM	SAA. No s/o	
					14					
					15					

LTE 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 coarse sand. No s/o	
	Moist	3,359	yes	BH09 @ 25-27	26–27			SW	Lt gray coarse sand. ~~Slt~~ slight St. /odor	backfill/ slough
	Dry	30.1	No	BH 09 @ 28-30	28–30			SM/ML	Lt. gray & brown sandy fn silt & Fn silty sand. Dense. No stain. slt. odor.	
								ML	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

848 E. 2nd Ave
Durango, Colorado 81301

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: 7¼ 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					
					11					
			No		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'	15 16 17 18 19 20			SP	Gray, coarse sand. Mod. stain/odor. Degraded HC gassy odor.	
				1030	21					
	SL Moist	2,369	yes Mod.		22 23 24 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 @ 25'-30' 1045	28			SM/ML	- Gray fn-sandy silt Dense slt. s/o.	
	Dry	113	No		29 30 31 32 33 34 35			ML SM/ML	- Lt. Gray v. fn. sandy silt. Dense No s/o. 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

848 E. 2nd Ave
Durango, Colorado 81301

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
					0					
					1					
	SL Moist	0.5	No		2			SW	Lt. Brown med sand. well gr. No s/o	
					3					
					4					
					5					
					6					
	Dry	31.3	No		7			SW	SAA. med-coarse sand. No s/o	
					8					
					9					
					10					
					11			SW-SM	Dark gray to black med. sand w/ silt. Mod to strong stain. Swampy, deg. HC odor	
	Dry		yes Mod		12					
		1,841	No	BH 11 @10-15' 1150	13			SW SM	Brown, w/ oxid. med silty sand. No stain, slt. odor	
	Dry		SL. No		14			SW SM	Tan, lt Brown med sand w/ silt. No stain, slt. degraded gassy HC odor.	
					15					

LT Advancing Opportunity

Boring/Well #	SH11
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;	
	Dry	175	No		19				degraded HC odor, swampy	
					20					
					21					
					22				Lt. Brown - Lt. gray	
					23			SW	coarse sand.	
	Dry	517	No		24				~~No~~ Slt stain in spots,	
					25				Semi-sweet gassy degraded HC odor.	
	Sl. Moist		Yes		26			SW	SAA ~~10~~	
				BH11 @ 25-30'	27			SM ML	~~SAA~~ Interbedded fn sandy silt & silt stn & silty sand & sand stn. No s/o	
	Dry	686	No		28					
					29			ML	Gray fn sandy silt. No s/o	
				1220	30					
					31				Gray interbedded fn. sandy silt & silt stn.	
					32					
	Dry	13.6	No		33			ML	w/ silty sand, fn. & v. fn & 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
Durango, Colorado 81301

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 SM	SAA No s/o	
					25					
					26					
				BH 12 @ 25'-30'	27					
	Dry	0.8	No		28			SW -SM	Brown med-coarse sand w/ silt.	
					29				No s/o	
				1400	30					
					31					
					32			SW SM	SAA. Brown coarse sand No s/o	
	Dry	0.0	No		33					
					34				Gray, olive, dense fn. sandy silt.	
					35			ML	gray + maroon silt. w/ fn. sand No s/o	
					36					
					37					

Advancing Opportunity

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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		0–5			SW SM	Brown fn-med - med. sand w/ silt. Poss. fill. No s/o	
	Dry	3.9	No		6–10			SW	Lt. Brown / tan med. to med-coarse sand. Tr. silt. No s/o	
	Dry	49.3	No		11–15			SW	SAA. Slthly dense @ 14-15' V. slt gassy odor. No stain	

LT 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		22–23			SW	Lt. gray/dark gray to black Dense.	
					23–25				Lt. gray. med- coarse sand. silty dense. No stain, mod. deg. HC odor	
Liquid COND.	Wet.	1,912	Yes	BH13 @25-27 1445	25–27			SW	Gray to black coarse sand. Strong s/o. Gas.	
	Dry		No		27–28			SM/ML	Grayish brown fn. sandy silt. & silty fn. sand. slt. odor	
	Dry	39.4	No	BH13 @28-30 1450	28–30			ML	Gray fn. sandy silt. No s/o	
	Dry	174	No	BH13 @ 30-35	30–35			ML	Gray sandy silt., silt stn. Cemented, fissile. No s/o	
					35–37				Gray & maroon silt. No s/o	

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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
					0					
					1					
					2				Lt. brown	
	Dry	0.6	No		3			SW -SM	med sand.	
					4				Some silt.	
					5				No stain/odor.	
					6					
		318	No		7			SW	Tan, SAA, med, fn-med	
	Dry				8			-SM	sand w/ silt.	
					9				Lt. gray med sand,	
		2,162	Slight		10				slight stain/odor.	
					11					
					12			SW	Tan, med sand	
			Slt		13				Dense.	
	Dry	745			14				Two small lenses (<2in.)	
			Slt		15				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			~~SAA~~	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 & 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				5–6					
	Dry	2.3	No		6–10			SW	Brown sand, med-coarse w/ oxidation Some gray dense silt. No s/o	
					10–11				✱ continuous sampler refusal, had to put in center plug to get to 20'	
	Dry	2,247	Yes		11–15			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

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	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			
	Dry	18	No		19				Cuttings: Brown med coarse sand. No s/o	
					20					
					21					
			Slt.		22			SW	Lt. gray + tan coarse sand.	
		1,490			23				slt. stain, gassy degraded HC odor.	
	Dry		No		24					
					25					
				BH 15 @ 25'-30' 1245	26					
					27				SAA. Dense. med-coarse sand.	
	Dry	3055	Yes		28			SW	slt - mod stain/odor	
					29					
	Moist				30				- moist @ 30'	
			No	BH 15 @ 30'-35' 1300	31			SM-ML	- gray, dense sandy silt [redacted], No s/o.	
	Dry	82			32					
					33				gray silt, some fn. sand No s/o. Dense fissile	
	Dry		No		34					
					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
					0					
					1					
	SL				2			SW	Brown med sand w/	
	Moist	4.1	No		3			-SM	silt.	
					4				No s/o	
					5					
					6					
					7					
					8			SW	Lt. Brown, tan	
	Dry	0.0	No		9				sand, med. loose.	
					10				No s/o	
					11					
					12				tan med-coarse	
					13			SW	sand. slt. dense.	
	Dry	0.0	No		14				No s/o	
					15					

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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
					15				SAA.	
					16				Tan coarse, med.	
					17				sand. Dense.	
	Dry	0.0	No		18				No s/o.	
					19					
					20					
					21				- using center plug, continuous	
					22				sampler refusal.	
									Logging cuttings.	
	Dry	13	No		23				- Brown, coarse + med	
					24				sand. No s/o.	
					25				* Resume continuous	
					26				sampler.	
	Dry		No		27				- tan to lt. gray	
				BH 14 @ 25-30' 1600	28				dense med. coarse	
	sl. moist	2,332	sl. yes		29				sand.	
					30				slt. stain/odor.	
	wet		yes		31				coarse gray sand,	
					32				wet, slt. sheen.	
				BH 16 @ 33-35' 1615	33				Gr. gray, sandy silt. No s/o	
	Dry	212	No		34				Lt. gray silt. No s/o	
					35				TD. 33.5'	
					36				after pulling out	
					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
					15					
					16			SW -SM	SAA. Tan med sand w/ silt. No s/o	
					17					
	Dry	0.7	No		18				Lt brown / Lt. tan med. coarse sand. Tr. silt. No stain/odor.	
					19			SW		
					20					
					21					
					22					
	Dry	1.8			23				Tan, coarse sand. Some oxidation.	
					24			SP	No s/o	
					25					
					26					
					27				Lt grayish tan v. fn sand + silt to sandy silt. Dense. No s/o.	
					28			SM		
	Dry	0.3			29			ML		
					30					
					31					
					32					
					33					
					34					
					35					
					36					
					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
					0					
					1					
					2			SW	Lt Brown med sand	
	Dry	0.0	No		3			-SM	w/ silt. No s/o	
					4				Dense.	
					5			SM	coarse silty sand. No s/o	
					6					
					7			SW		
	Dry	0.0	No		8			SM	Lt. brown + tan	
					9				fn- med. silty sand.	
					10				Dense. No s/o	
					11					
					12				- center plug cuttings:	
	SL moist	0.0	No		13			SW-SM	SAA. No s/o	
					14					
					15					

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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					
	Sl. 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	
					39				7" diam TD:	
					40					
					41			SW	Lt. Brown fn med sand	
					42			-SM	w/ silt. loose	
	Dry	0.0	N		43				No S/O	
					44					
					45					
					46					
					47				Lt. gray & tan	
	Dry	0.0	N		48			SW	med sand w/ silt	
					49			-SM	No S/O	
					50					
					51			SAA		
					52				No S/O	
	Dry	0.0	N		53					
					54			SP	Tan med-med coarse	
					55				dense sand. No S/O	
					56					
					57				Center plug used.	
	Dry	1.3	N		58			SP	cuttings.	
					59				SAA. No S/O	

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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					
	Dry	7.8	No		48			SP	SAA	
					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	
					56					
	Dry	4.8	No	BH 19 35 -40' 1530	57			ML	No	
					58				Dense SAA s/o	
					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	
					38				-using smaller HSA. 6" diam	
					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			SP	Tan well grad	
	Dry	0.0	No		54				med fn- med coarse	
					55				sand. No s/o	
					56					
					57			SP	Tan med coarse	
					58				sand. Dense	
	Dry	68	No		59				sl. gassy 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					
					38				BH20 2-11-23	
					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.	
					48					
	Moist		yes		49			SW	Lt gray med-sand w/silt.	
				0945	50			SM	Slt. S/O	
					51					
			Yes		52			SW	SAA Med sand - coarse some S/O.	
	wet				53			SM ML		
	Dry	80	No	BH20 @ 33-35' 1000	54			ML	Lt. gray sandy silt. Dense No S/O.	
					55					
					56					
					57				10' screen	
					58				TD: 40	
					59					

backfill to 35'

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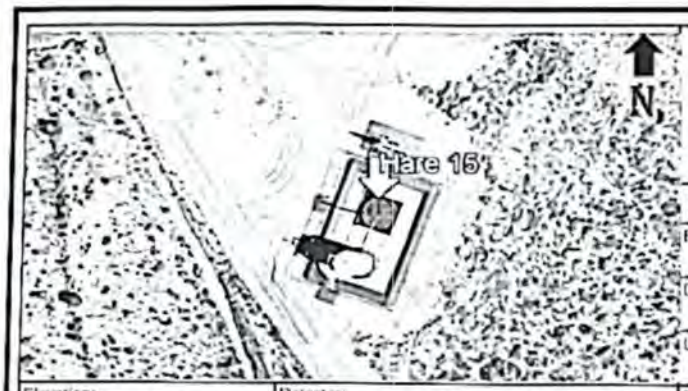

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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

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: ~~20~~ 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 1 2 3 4			SP-SM	Loose, dry, lt brown, Sand, little fines, non cohesive, no S/O	
	DRY	6.7	N		5 6 7			SP/SM	SAA no S/O	
	DRY	8.4	N		8 9 10 11			SP/SM	SAA no S/O	
	DRY	4.1	N		12 13 14			SM	Loose, dry, lt brown, coarse Sand, few fines, no Stain/odor	
	DRY	2.2	N		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	3.4	N		17			SP	SAA	
					18					
					19					
	DRY	1.4	N		20			SP	SAA	
					21					
					22					
	moist	5.3	N		23			SP	med dense, 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	3205	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					

2

LTE Advancing Opportunity

848 E. 2nd Ave

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH22	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: 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 1			SM	Loose, dry, lt. brown, coarse sand, little fines no S/O	
	Dry	8.1	N		2 3 4 5			SM	SAA no S/O	
	DRY	6.3	N		6 7 8			SM	SAA no S/O	
	DRY	5.1	N		9 10			SM	SAA no S/O	
	Dry	4.9	N		11 12 13			SP	Loose, dry, lt brown, coarse sand trace fines, no S/O	
	DRY	4.9	N		14 15			SP	SAA no S/O	

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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			SP	med. dense, dry, lt brown, coarse sand, little gravel no S/O	
					16					
					17					
					18					
	DRY	2.0	N		19			SP	SAA no S/O	
					20					
					21					
	DRY	5.4	N		22			SP	Dense, brown, coarse sand, ~~few~~ few gravel no stain/odor	
					23					
	DRY	8.8	N		24			SP	SAA no S/O	
					25					
	DRY	14.9	N		26			SP	SAA no S/O	
					27					
					28					
	DRY	28.1	N		29			SP	SAA no S/O	
					30					
	moist	7.5	N		31			SP	Dense, moist, coarse sand, few gravel	
					32					
					33					
					34				No recovery 32.5-35	
					35					
	wet	17.5	N		36			SP	coarse, wet, sand, swampy Organic Odor	
					37					

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/O	
					1					
					2					
					3					
	DRY	5.9	N		4			SM	SAA no S/O	
					5					
					6					
	DRY	4.6	N		7			SM	SAA	
					8					
	DRY	3.4	N		9			SM	SAA	
					10					
					11					
	DRY	3.2	N		12			SP	Dense, dry, lt yellow brown, coarse sand no S/O	
					13					
					14			SP	SAA w/ oxidation mottling	
	DRY	3.5	N		15					

LTE Advancing Opportunity

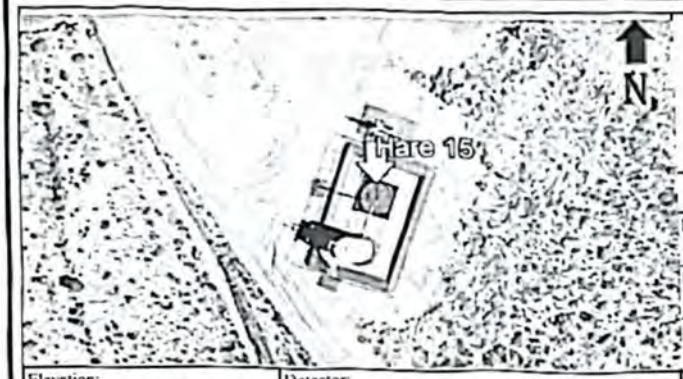
Boring/Well #	BH 25
Project:	Howell M#1
Project #	017820016
Date	5/17/21

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	3.0	N		18			SP	SAA no s/o	
					19					
					20					
	moist	2.3	N		21			SP	SAA no s/o	
					22					
					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					

LTE 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/O	
	wet				39				wet @ 38.5'	
					40					
	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					
					3				SAA no s/o	
	DRY	0.8	N		4					
					5					
					6				SAA no s/o	
	DRY	1.1	N		7					
					8					
					9				Loose, Dry, coarse sand trace fines	
	DRY	1.6	N		10					
					11					
					12				SAA	
	DRY	1.6	N		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				~~Dust~~ dense, brown coarse sand trace fines	
					16					
					17					
	DRY	6.0	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					
	moist	17.6	N		26					
					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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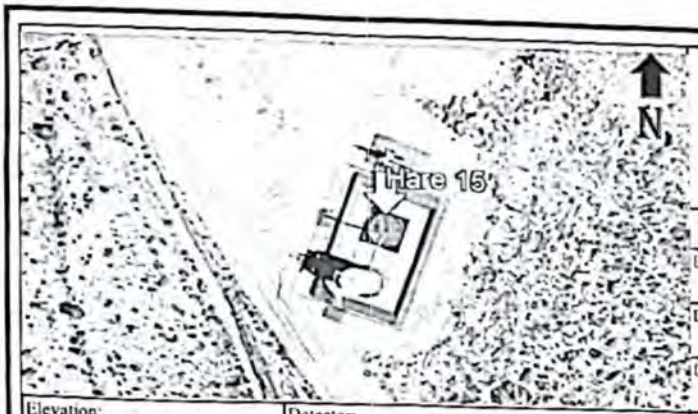
Boring/Well #	BH21
Project:	Hare 15
Project #	017820018
Date	5/19/21

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
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: 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					
					3					
	DRY	16.0	N		4			SP	SAA no S/O	
					5					
					6					
	DRY	4.5	N		7			SP	SAA no S/O	
					8					
					9					
	DRY	19.1	N		10			SP	SAA no S/O	
					11					
					12					
	DRY	3.8	N		13			SP	SAA no S/O	
					14					
	DRY	1.7	N		15			SP	SAA no S/O	

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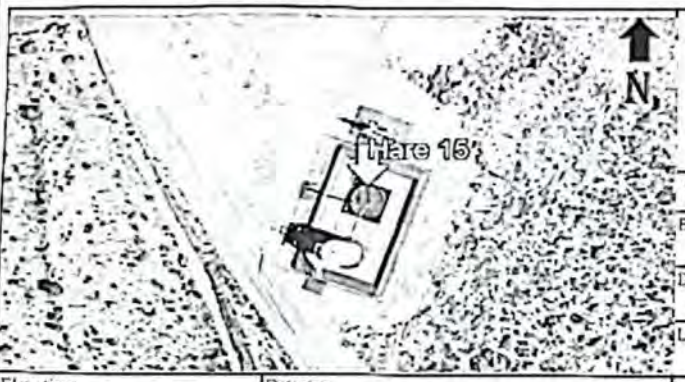
Boring/Well #	BH 25
Project:	Hare 15
Project #	017820018
Date	5/18

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					
	moist	21.8	N		26			SP	SAA no s/o	
					27					
					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					



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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		0–2			SM	Loose, dry, lt. brown, coarse Sand, little fines no S/O	
	DRY	4.2	N		3–5			SM	SAA no S/O	
	DRY	3.0	N		6–8			SP	Loose, dry, brown, coarse Sand few gravel no S/O	
	DRY	3.8			9–11			SP	SAA no S/O	
	DRY	3.8	N		12–13			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					
	mo. st	16.7	N		31			SP	SAA no s/o	
					32					
					33					
	wet	2407	Y		34			SP	Loose, wet, Black, coarse sand, HC odor	
					35					
					36					
	wet	2004	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
					0					1' S.U.
					1					
				BH27 @ 0-5	2					
					3				Tan, lt. brown med sand w/ fines No stain/odor	
	Dry	3.6	No		4			SW -SM		
				1055	5					
					6					
				BH27 @ 5-10	7					
					8				Tan - lt. Brown fine-med sands w/ fines no stain/odor	
	Dry	3.2	No		9			SU -SM		
				1100	10					
					11					
				BH27 @ 10-15	12					
					13				tan - lt. Brown med-course sand w/ some fines no stain/odor	
	Dry	9.0	No		14			SW -SM		
				1105	15					

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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 ~~Odor~~	BH 27 @ 35-40	37			SW-SM	tan - lt brown fine - med sand w/ silt unconsolidated	
					38				N 5Y 6/0	
					39			SM	Bottom 1' grey-greenish to tan silt ~~clay~~ dense, consol. dated N5/0	
				1130	40				TD - 40. sloughed to 38-39.	
					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: 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
					0					4" S.U.
					1					
					2					
					3					
	Dry	1.3	N		4			SW-SM	tan silty-fine sand unconsolidated top 6" fine to medium slightly consolidated No S/O	
					5					
					6					
					7					
					8					
					9			SW-SM	tan unconsolidated silty w/ fine-medium sand & rare gravel pieces. No S/O	
	Dry	3.5	N		10					
					11					
					12				tan unconsolidated fine to coarse, moderately sorted sand grains in silty matrix	
					13			SW-SM		
	Dry	1.2	N		14					
					15					

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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-	tan to lt Brown fine - medium grained w occasional coarse - gravel silty matrix N S/O	
	Slt moist	0.5	N		24			SM		
					25					
					26					
					27					
					28			SW-	tan - lt brown unconsolidated fine - medium grained w/ some coarse silty matrix N S/O	
	Dry	1.0	N		29			SM		
					30				Bottom 1" has white calcareous lenses, slightly more consolidated	
					31					
					32			SW-	tan - lt. Brown moderately cohesive, fine - medium grains in silt, well sorted rare calcareous mineralization	
	Slt moist		N		33			SM		
					34					
					35					
					36					
					37					

WSP USA INC
848 East 2nd Avenue
Durango, CO 81301

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			Sw-Sm	tan fine-medium grained slightly consolidated moderately sorted silty matrix	
					39					
					40				TD = 40' slough to 39.3'	
					41					
					42					
					43					
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

WSP USA INC

848 East 2nd Avenue
Durango, CO 81301

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
					0					3' S.U
	Dry	1.2	N	BH 29 @ 0-5'	1 2 3 4 5			SP-SM	light- med tan fine to coarse grained w/ fines & occasional gravel. No S/O	
	Dry	0.3	N	BH 29 @ 5-10'	6 7 8 9 10			SW-SM	tan - light Brown, fine - medium grained, ~ 2-5% silt/fines rare gravel. no S/O	
	Dry	0.6	N	OH 29 @ 10-14'	11 12 13 14 15			SW-SM	tan - lt. Brown fine to med. grained w/ ~ 2-5% fines NO S/O off-white - light tan, well-sorted medium grained sand, ~ fines	

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

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH30		Project: Hare 15	
Date: 8-22-22		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: ~~Eagle~~ Drill MOTE Drilling	
Elevation: 5,830	Detector: PID	Drilling Method: Hollow Stem/~~Air Rotary~~	Sampling Method: Split Spoon ~~Continuous~~ thru 5'
Gravel Pack: 10-20 Silica Sand 53-36		Seal: Bentonite 36-34	Grout: Bentonite 34-0'
Casing Type: Schedule 40 PVC		Diameter: 2" Length:	Hole Diameter: 8" Depth to Liquid:
Screen Type: Schedule 40 PVC 53-38 Slot: 0.010"		Diameter: 2" Length: 15'	Total Depth: 55 WL @53' 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					
					4					
		6.3			5				Topsoil loam. Lt. brown tan fn-med fn silty sand No s/o	
Low 4/18"	Dry		No		6					
					7					
					8					
					9					
					10					
15/18					11				Lt. Brown/tan fn-med fn silty sand No s/o	
	Dry	17.3	No		12					
					13					
					14					
					15					

Boring/Well #	BH 30
Project	Hare 15
Project #	017820018
Date	8-22-22

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
6/6 5/6 4/6	Dry	16.5	No		15 16 17 18 19 20				Tan med-fn to med sand w/ silt. No s/o	
50/6	Dry	15.0	No		21 22 23 24 25				Tan med-coarse sand w/ silt. Slt. cementation No s/o	
50/6	Slt. Moist	34.2	No		26 27 28 29 30				Lt. gray med-coarse sand. some cementation oxidation. No s/o	
50/12	Slt Moist	3.4	No		31 32 33 34				Brown to orangish tan med silty sand and gray coarse sand. some cement. No s/o	
50/3	Slt Moist	1.5	No		35 36 37				Lt gray med-coarse sand - s.stn. Slt cement. No s/o	

Boring/Well #	BH 30
Project	Hare 15
Project #	017820018
Date	8-12

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
					38					
					39					
50/4	SLT MOIST	4.7	NO	BH30 @40-41	40				Lt brown to orangish tan med coarse — coarse sand. No stain, slight musty odor.	
					41					
					42					
		cuttings 47			43				* some gray/dark gray stain in cuttings coming up. placed in drum	
					44					
					45					
50/4	DRY	74	NO	BH30 @45-46	46				Lt. gray dense silt w/ sand. Hard. No stain, slight sweet HC odor.	
					47					
					48					
					49					
	wet				50				some wet, gray to orange sand No sheen.	
50/4	DRY	3.8	NO		51				- Dense, cemented, hard silt stn. w/ fn. sand. No S/S	
					52					
					53					
					54					
					55					
50/4	DRY	0.7	NO	BH30 @ 55-55.5'	56				SAA.	
					57				Set well @ 53'	
					58				15' screen 2' sand	
					59					

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH31		Project: Hare 15	
Date: 8-23-22		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: 8" Depth to Liquid:
Screen Type: Schedule 40 PVC	Slot: 0.010"	Diameter: 2" Length: 15'	Total Depth: 50' 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
3/6, 4/6, 6/6	DRY	2.0	NO		0–5					
					6				Lt. Brown fn-med gr silty sand. No s/o	
					7–9					
5/5	DRY	7.0	NO	BH31 10-10.5'	10				Tan med coarse sand w/ silt. No s/o.	
					11–15					

Boring Well #	BH 31
Project	Hare 15
Project #	017820018
Date	8-23-22

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
28/6 50/3	DRY	2.4	NO		15–16				Lt. tan med-coarse sand No s/o. some cementation	
50/3	DRY	0.3	NO		20–21				SAA. No s/o	
50/6	DRY	0.6	NO		25–26				Tan med-coarse sand. No s/o. +coarse sand.	
50/5	DRY	0.3	NO		30–31				SAA. No s/o	
50/3	DRY	0.4	NO		35–36				Lt. Tan coarse sand. No s/o. some cementation	

Boring/Well #	BH 31
Project	Hare 15
Project #	017820018
Date	8-23-22

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
					38					
					39					
					40					
50/2	SL. MOIST	0.2	NO		41				Tan coarse sand. No s/c	
					42					
					43					
					44					
	WET				45				slough on top of sspoon is wet silty sand. No stain/odor/sheen	
50/6										
	DRY	0.0	NO		46				-Dark gray, dense, compact silt w/ sand. No S/O	
					47					
					48					
					49					
					50					
50/5	DRY	0.0	NO	[illegible] 50 50 S	51				Lt. bluish gray fn. sandy silt, hard. Some cementation. No S/O	
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH32		Project: Hare 15	
Date: 8-23-22		Project Number: 017820018	
Logged By: Danny Burns		Drilled By: MO-TE Drilling	
Elevation: 5,830	Datum: 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: 8" Depth to Liquid:
Screen Type: Schedule 40 PVC	Slot: 0.010"	Diameter: 2" Length:	Total Depth: 40, ~~38~~ 41' Depth to Water:

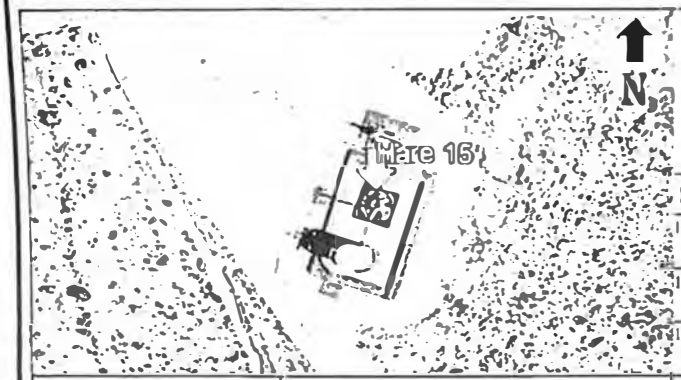
Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0				Move all notes up 2', due to auger setup based on rig elevation above wash.	
					1					
					2					
					3					
					4					
5/6	St Moist	1.8	No		5				Lt. orangish brown med silty sand. No S/O	
					6					
					7					
					8					
					9					
5/6	St Moist	2.4	No		10				Lt. orangish brown med-coarse sand w/ silt. No S/O	
					11					
					12					
					13					
					14					
					15					

Boring/Well #	BH32
Project	Hare 15
Project #	017820018
Date	8-23-22

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
50/5	SL Moist	0.4	No		15–16				Tan med-coarse sand No S/O	
50/4	Dry	0.0	No		20–21				SAA. No S/O	
50/5	Dry	0.4	No		25–26				Lt Brown med-coarse sand. No S/O	
50/5	SL Moist	0.5	No		30–31				Brown coarse sand. No S/O	
50/6	SL	0.3	No		34–35				SAA, some orange oxidation No S/O. – Gray, dense, fn sandy silt. Dry. No S/O	

Boring/Well #	BH32
Project	Hare 15
Project #	017820018
Date	8-23-22

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
SW	Dry	0 0	NO	BH32 36-38 1400	37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59			X	Gray, silt, w/ fn sand. Some cement V. Dry. No S/O	



BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH33		Project: Hare 15	
Date: 8-24-22		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~~ 45-28		Seal: Bentonite 28-26	Grout: Bentonite
Casing Type: Schedule 40 PVC		Diameter: 2" Length: 30+	Hole Diameter: 8" Depth to Liquid:
Screen Type: Schedule 40 PVC	Slot: 0.010" 45-30	Diameter: 2" Length: 15'	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
3/6 4/6 6/6	DRY	0.0	No		0–5	X	X		Lt Brown/tan fn-md silty sand. No s/o	
4 6 6	DRY	0.0	No		10–11	X	X		SAA. No s/o	

Boring/Well #	BH33
Project	Hare 15
Project #	017820018
Date	8-24-22

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
4										
4	DRY	23.0	NO	BH33 @15.5	16	X	X		Tan med. silty sand	
6				0845					No s/o	
					17					
					18					
					19					
					20					
4										
4	DRY	3.4	No		21	X	X		Tan med. sand w/ silt.	
5									No s/o	
					22					
					23					
					24					
					25					
3										
4	DRY SL MOIST	0.0	No		26	X	X		Brown med-coarse sand	
4									w/ silt. Some Mottling.	
					27				No s/o	
					28					
					29					
					30					
5									SAA. No mottling. No s/o	
5	SL MOIST	12.0	NO		31	X	X			
8		3,543	yes	BH33@ 31-31.5 0920					+Dark gray fn. sandy silt. Heavy odor, likely stained.	
					32					
					33					
					34					
					35					
41										
50/6		74	No	BH33 @35 -36.5' 0930	36	X	X		Lt. Brown fn sandy silt and silty fn. sand. Slight odor, no stain.	
					37					

Boring/Well #	BH33
Project:	Hare 15
Project #	017820018
Date	8-24-22

Penetration Resistance	Moisture Content:	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
					38					
					39					
					40					
2	moist									
2	wet	232	NO	BH33 @40-41.5' 0950	41	X	X		orangish brown coarse + med sand w/ silt. 8" ± saturated material, no sheen/odor.	
18	moist				42				← oxidized, dense ~~med~~ med. coarse sand, w/ silt. No stain/odor	
					43					
					44					
					45					
11	Moist	24.1				X	X		SAA. dense, orange/brown med sand w/ silt. No s/o	
38					46					
48	DRY	5.2		BH33 46-46.5' @10:00					← Gray, dense silt w/ fn. sand. Compact, hard, Dry, impermeable. No s/o	
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: BH34	Project: Hare 15
Date: 8-24-22	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 45-28	Seal: Bentonite 28-26
Grout: Bentonite surface	
Casing Type: Schedule 40 PVC	Diameter: 2" Length:
Hole Diameter: 8"	Depth to Liquid:
Screen Type: Schedule 40 PVC 45 30 Slot: 0.010"	Diameter: 2" Length: 15'
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
2 3 3	MOI	1.2	No		0 1 2 3 4 5 6 7 8 9 10	X	X		Lt Brown fine med sd. Hy sand. No s/o	
4 5 5	DRY	0.0	No		11 12 13 14 15	X	X		SAA. No s/o	

Boring/Well #	BH 34
Project	Hare 15
Project #	017820018
Date	8-24-22

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
4 6 6	DRY	0.3	No		15 16 17 18 19 20				SAA. No s/o	
5 5 5	DRY	0.5	NO		21 22 23 24 25				Lt. Brown med sand w/ silt. No s/o.	
12 18 24	DRY	0.0	NO		26 27 28 29 30				SAA — Gray & maroon silt w/ fn. sand. Dense, Fossils. No s/o	
29 31 24	DRY	0.8	NO	BH34 @30 -31.5 1250	31 32 33 34 35				Gray fn sandy silt. Dense. No s/o	
26 50/5	SL Moist	0.2	No	1305	36 37				Lt. Brown med sand w/ silt. No s/o	

Boring/Well #	BH34
Project	Hare 15
Project #	017820018
Date	8-24-22

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
					38					
					39					
					40					
18										
22	MOIST	0.1	No		41	X	X		orangish brown + some gray med to med coarse sand w/ silt. Oxidized. No s/o	
31					42					
					43					
					44					
					45				* - sampler came up w/ water on outside, no sheen/odor, but no real moisture in sample interval	
50/6	SL.M to DRY	0.0	No	BH34 @45-45.5 1330	46		X			
					47				ream out auger depth to 45' TD-45	
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

ENSOLUM

Client: HEC
Project Name: Hare 15
Project Location:
Project Manager: S Hyde

BORING LOG NUMBER: BH35
Project No.:

Date Sampled: 5-24-22
Drilled By: Enviro-Drill
Driller: Swan
Logged By: D. Burns

Ground Surface Elevation:
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 8"
Casing Diameter: N/A
Well Materials: sch 40
Surface Completion: None; stick up
Boring Method: HSA.

BLOW COUNT	DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID READING (PPM)	~~POTENTIOMETRIC SURFACE~~ MOISTURE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
1,2,4	6		100	0.0	Dry		Tan, med to fn. silty sand. No stain/odor	stick up; ground cement slurry from 31' to surface
4,4,5	12		100	0.1	Dry		SAA. No s/o.	
5,6,8	16		100	0.0	Dry		SAA No s/o	
4,5,5	22		100	0.1	Dry		SAA No s/o	
4,6,4	26		25	0.1	Dry		Fn. sandy silt and silty sand. No s/o	
4,6,7	32		100	0.2	Dry		Tan, med sand w/ silt No s/o	Hydrated Bentonite seal 33-31
6,4,10	36		100	0.0	Slight moist		Tan, med-coarse sand. No s/o	sand 50'-33'; screen 50'-35'

ENSOLUM

Client:
Project Name: Hare 15
Project Location:
Project Manager:

BORING LOG NUMBER
BH35
Project No.:

Date Sampled: 8-24-22
Drilled By:
Driller:
Logged By: DB

Ground Surface Elevation:
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter:
Casing Diameter: N/A
Well Materials:
Surface Completion:
Boring Method:

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID READING (PPM)	MOISTURE / POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
40						Tan, med coarse sand. No s/o w/ some dark brown med. silty sand.	
42		100	0.0	SL MOIST			
44							
46		100	0.0	Moist		Dark brown, fn. sandy silt and silty, fn. sand. No s/o	
48						Med coarse orangish brown sand w/ silt. No s/o	
50		100	0.0	Wet		Med coarse brown sand w/ silt. & fn. silty dense sand. wet. No s/o	
52							
54							
56							
18						50' TD.	
20						15' screen	
22							
24						Soil samples:	
26						BH35 @ 30-31.5 @ 0820 PID = 0.2	
28							
30						BH35 @ 50'-51.5 @ 0915 PID = 0.0	
32							
34							
36							
38							
40							

ENSOLUM

Client: Hilcorp
Project Name: Hare 15
Project Location:
Project Manager: S. Hyde

BORING LOG NUMBER: BH36
Project No.:

Date Sampled: 8-25-22
Drilled By: D Burns
Driller: NA - Hand Auger
Logged By: DB

Ground Surface Elevation:
Top of Casing Elevation: None
North Coordinate:
West Coordinate:

Borehole Diameter: 3.25 in.
Casing Diameter: N/A
Well Materials: None
Surface Completion: None
Boring Method: Hand Auger

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
0							
1			0.0			Lt. Brown, fn-med silty sand Dry. No stain/odor	
2			0.0			SAA	
3			0.2			Tan, fn. silty sand. Dry. No s/o	
4			0.0			SAA	None
5			0.2			SAA	
12						Sample BH36@5' @ 10:15, PID: 0.2ppm	
14							
16							
18							
20						8-25-22 BH37 Hand auger Borehole No well completion	
22							
24							
0						Lt. Brown, fn-med, silty sand - Dry. No s/o	
1			0.0				
2			0.1			SAA	
3			0.1				
4			0.2				
5			0.3			SAA No s/o. sample BH37@5' @ 10:30 PID=0.3ppm	
36							
38							
40							

ENSOLUM

Client: HEC
Project Name: Hare 15
Project Location:
Project Manager: B. Hyde

BORING LOG NUMBER BH 38
Project No.:

Date Sampled: 8-25-22
Drilled By: Enviro-Drill
Driller: Juan
Logged By: Danny Burns

Ground Surface Elevation:
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 8"
Casing Diameter: N/A
Well Materials: sch 40 PVC
Surface Completion: stick up
Boring Method: HSA

Blow count	DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
	0				Moisture			stick up
	2							
	4							
5,6,4	6		100	0.0	Dry		Lt. Brown, Fn-silty sand. No s/o	grout cement slurry 31' to surface
	8							
3,4,5	10		100	0.0	Dry		Fn.-med. Fn. silty sand. No s/o	
	12							
	14							
4,6,5	16		100	0.0	Dry		Med. silty sand. No s/o.	
	18							
	20							
8,9,11	22		0				No Recovery	
	24							
	26		0				No recovery. No observed impacts in drill cuttings.	
	28							
	30							
13,17,14	32		100	0.0	Dry		Tan, med sand w/ silt. No s/o	Hydrated Bentonite seal 33'-31'
	34							
7, 50/6	36		50	0.0	Dry		Tan, course & med. coarse sand w/ silt. Mottled, some compacted cementation. No s/o	Sand 50'-33'
	38							
	40							well 50'-35'

ENSOLUM

Client: Hilcorp
Project Name: Hare 15
Project Location:
Project Manager: S. Hyde.

BORING LOG NUMBER BH 38
Project No.:

Date Sampled: 8-25-22
Drilled By: Enviro-Drill
Driller: Jaaan
Logged By: D. Burns

Ground Surface Elevation:
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter:
Casing Diameter: N/A
Well Materials:
Surface Completion:
Boring Method:

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
40							
42	50/3"	10	0.0	Dry		Tan course sand, some cement. No s/o	
44							
46	50/4	10	0.0	wet		Dark orangish brown course sand, saturated. No s/o	
48						Dark gray fn. sandy silt. Dense, sl. moist to dry. No s/o	
50	50/3	10%	0.0	Dry		Gray fn. sandy silt. + siltstone. Dry. No s/o	
52							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							

Soil samples
BH38 @ 45'-45.5'
@ 12:30 PID = 0.0 ppm

BH38 @ 50'-50.5'
@ 1240 PID = 0.0 ppm

Well completed @ 50' w/ 15' screen.

ENSOLUM

APPENDIX C

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: www.hallenvironmental.com

September 02, 2022

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

RE: Hare 15 OrderNo.: 2208E39

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/24/2022 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 **2208E39**
Date Reported: **9/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH30 @40'-41'
Project: Hare 15
Collection Date: 8/22/2022 2:20:00 PM
Lab ID: 2208E39-001 **Matrix:** SOIL **Received Date:** 8/24/2022 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/29/2022 6:29:37 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/29/2022 6:29:37 PM
Surr: DNOP	91.3	21-129		%Rec	1	8/29/2022 6:29:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/25/2022 9:23:52 AM
Surr: BFB	102	37.7-212		%Rec	1	8/25/2022 9:23:52 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	8/25/2022 9:23:52 AM
Toluene	ND	0.048		mg/Kg	1	8/25/2022 9:23:52 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/25/2022 9:23:52 AM
Xylenes, Total	ND	0.095		mg/Kg	1	8/25/2022 9:23:52 AM
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	8/25/2022 9:23:52 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	8/30/2022 5:57:44 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	Estimated value
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 interference		

Analytical Report
Lab Order **2208E39**
Date Reported: **9/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH30 @45'-46'
Project: Hare 15
Collection Date: 8/22/2022 2:45:00 PM
Lab ID: 2208E39-002 **Matrix:** SOIL **Received Date:** 8/24/2022 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/24/2022 12:02:02 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/24/2022 12:02:02 PM
Surr: DNOP	96.0	21-129		%Rec	1	8/24/2022 12:02:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	8/24/2022 9:11:00 AM
Surr: BFB	109	37.7-212		%Rec	1	8/24/2022 9:11:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.019		mg/Kg	1	8/24/2022 9:11:00 AM
Toluene	ND	0.037		mg/Kg	1	8/24/2022 9:11:00 AM
Ethylbenzene	ND	0.037		mg/Kg	1	8/24/2022 9:11:00 AM
Xylenes, Total	ND	0.074		mg/Kg	1	8/24/2022 9:11:00 AM
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	8/24/2022 9:11:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	8/24/2022 12:50:10 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2208E39**
Date Reported: **9/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH30 @55'-55.5'
Project: Hare 15
Collection Date: 8/22/2022 3:15:00 PM
Lab ID: 2208E39-003 **Matrix:** SOIL **Received Date:** 8/24/2022 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	8/29/2022 6:40:28 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/29/2022 6:40:28 PM
Surr: DNOP	96.0	21-129		%Rec	1	8/29/2022 6:40:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/25/2022 10:34:45 AM
Surr: BFB	103	37.7-212		%Rec	1	8/25/2022 10:34:45 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	8/25/2022 10:34:45 AM
Toluene	ND	0.049		mg/Kg	1	8/25/2022 10:34:45 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/25/2022 10:34:45 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/25/2022 10:34:45 AM
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	8/25/2022 10:34:45 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	59		mg/Kg	20	8/30/2022 6:59:28 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
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 interference		

Analytical Report
Lab Order **2208E39**
Date Reported: **9/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH31 @10'-10.5'
Project: Hare 15
Collection Date: 8/23/2022 8:45:00 AM
Lab ID: 2208E39-004 **Matrix:** SOIL
Received Date: 8/24/2022 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/29/2022 6:51:27 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/29/2022 6:51:27 PM
Surr: DNOP	98.6	21-129		%Rec	1	8/29/2022 6:51:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/25/2022 11:45:42 AM
Surr: BFB	99.7	37.7-212		%Rec	1	8/25/2022 11:45:42 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	8/25/2022 11:45:42 AM
Toluene	ND	0.049		mg/Kg	1	8/25/2022 11:45:42 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/25/2022 11:45:42 AM
Xylenes, Total	ND	0.099		mg/Kg	1	8/25/2022 11:45:42 AM
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	8/25/2022 11:45:42 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	89	60		mg/Kg	20	8/30/2022 7:11:49 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2208E39**
Date Reported: **9/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH31 @50'-50.5'
Project: Hare 15
Collection Date: 8/23/2022 11:00:00 AM
Lab ID: 2208E39-005 **Matrix:** SOIL **Received Date:** 8/24/2022 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/30/2022 5:22:50 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/30/2022 5:22:50 PM
Surr: DNOP	76.2	21-129		%Rec	1	8/30/2022 5:22:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/25/2022 12:09:22 PM
Surr: BFB	102	37.7-212		%Rec	1	8/25/2022 12:09:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	8/25/2022 12:09:22 PM
Toluene	ND	0.047		mg/Kg	1	8/25/2022 12:09:22 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/25/2022 12:09:22 PM
Xylenes, Total	ND	0.094		mg/Kg	1	8/25/2022 12:09:22 PM
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	8/25/2022 12:09:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	8/30/2022 7:24:11 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	Estimated value
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 interference		

Analytical Report
Lab Order **2208E39**
Date Reported: **9/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH32 @8'-10'
Project: Hare 15
Collection Date: 8/23/2022 1:15:00 PM
Lab ID: 2208E39-006 **Matrix:** SOIL **Received Date:** 8/24/2022 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/30/2022 5:33:39 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/30/2022 5:33:39 PM
Surr: DNOP	84.7	21-129		%Rec	1	8/30/2022 5:33:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/25/2022 12:33:02 PM
Surr: BFB	102	37.7-212		%Rec	1	8/25/2022 12:33:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	8/25/2022 12:33:02 PM
Toluene	ND	0.048		mg/Kg	1	8/25/2022 12:33:02 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/25/2022 12:33:02 PM
Xylenes, Total	ND	0.096		mg/Kg	1	8/25/2022 12:33:02 PM
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	8/25/2022 12:33:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	8/30/2022 7:36:31 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	Estimated value
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 interference		

Analytical Report
Lab Order **2208E39**
Date Reported: **9/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH32 @36'-38'
Project: Hare 15
Collection Date: 8/23/2022 2:00:00 PM
Lab ID: 2208E39-007 **Matrix:** SOIL **Received Date:** 8/24/2022 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	8/30/2022 5:44:27 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/30/2022 5:44:27 PM
Surr: DNOP	80.4	21-129		%Rec	1	8/30/2022 5:44:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/25/2022 12:56:42 PM
Surr: BFB	103	37.7-212		%Rec	1	8/25/2022 12:56:42 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	8/25/2022 12:56:42 PM
Toluene	ND	0.050		mg/Kg	1	8/25/2022 12:56:42 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/25/2022 12:56:42 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/25/2022 12:56:42 PM
Surr: 4-Bromofluorobenzene	95.3	70-130		%Rec	1	8/25/2022 12:56:42 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	8/30/2022 7:48:52 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	Estimated value
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 interference		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208E39**
02-Sep-22

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **MB-69724** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **69724** RunNo: **90534**
Prep Date: **8/24/2022** Analysis Date: **8/24/2022** SeqNo: **3234917** Units: **mg/Kg**

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

Sample ID: **LCS-69724** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **69724** RunNo: **90534**
Prep Date: **8/24/2022** Analysis Date: **8/24/2022** SeqNo: **3234918** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	90	110			

Sample ID: **MB-69866** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **69866** RunNo: **90679**
Prep Date: **8/30/2022** Analysis Date: **8/30/2022** SeqNo: **3240624** Units: **mg/Kg**

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

Sample ID: **LCS-69866** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **69866** RunNo: **90679**
Prep Date: **8/30/2022** Analysis Date: **8/30/2022** SeqNo: **3240626** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.2	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208E39**
02-Sep-22

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **MB-69720**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **69720**	RunNo: **90531**
Prep Date: **8/24/2022**	Analysis Date: **8/24/2022**	SeqNo: **3233827** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.5		10.00		85.1	21	129			

Sample ID: **LCS-69720**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **69720**	RunNo: **90531**
Prep Date: **8/24/2022**	Analysis Date: **8/24/2022**	SeqNo: **3233828** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	15	50.00	0	94.8	64.4	127			
Surr: DNOP	4.2		5.000		84.9	21	129			

Sample ID: **2208E39-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH30 @45'-46'**	Batch ID: **69720**	RunNo: **90531**
Prep Date: **8/24/2022**	Analysis Date: **8/24/2022**	SeqNo: **3233832** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	15	48.78	0	91.4	36.1	154			
Surr: DNOP	4.6		4.878		95.0	21	129			

Sample ID: **2208E39-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH30 @45'-46'**	Batch ID: **69720**	RunNo: **90531**
Prep Date: **8/24/2022**	Analysis Date: **8/24/2022**	SeqNo: **3233833** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	15	49.55	0	96.9	36.1	154	7.38	33.9	
Surr: DNOP	4.8		4.955		96.8	21	129	0	0	

Sample ID: **LCS-69807**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **69807**	RunNo: **90634**
Prep Date: **8/26/2022**	Analysis Date: **8/29/2022**	SeqNo: **3238841** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	15	50.00	0	80.1	64.4	127			
Surr: DNOP	4.0		5.000		79.2	21	129			

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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208E39**
02-Sep-22

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **MB-69807** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **69807** RunNo: **90634**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238842** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		88.3	21	129			

Sample ID: **LCS-69837** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **69837** RunNo: **90655**
Prep Date: **8/29/2022** Analysis Date: **8/30/2022** SeqNo: **3239736** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	15	50.00	0	92.1	64.4	127			
Surr: DNOP	4.6		5.000		91.9	21	129			

Sample ID: **MB-69837** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **69837** RunNo: **90655**
Prep Date: **8/29/2022** Analysis Date: **8/30/2022** SeqNo: **3239737** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		101	21	129			

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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208E39**
02-Sep-22

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **lcs-69706**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **69706**	RunNo: **90516**
Prep Date: **8/23/2022**	Analysis Date: **8/24/2022**	SeqNo: **3234429** 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	102	72.3	137			
Surr: BFB	2200		1000		225	37.7	212			S

Sample ID: **mb-69706**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **69706**	RunNo: **90516**
Prep Date: **8/23/2022**	Analysis Date: **8/24/2022**	SeqNo: **3234430** 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	37.7	212			

Sample ID: **mb-69732**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **69732**	RunNo: **90581**
Prep Date: **8/24/2022**	Analysis Date: **8/25/2022**	SeqNo: **3235732** 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		103	37.7	212			

Sample ID: **lcs-69732**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **69732**	RunNo: **90581**
Prep Date: **8/24/2022**	Analysis Date: **8/25/2022**	SeqNo: **3235733** 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	93.8	72.3	137			
Surr: BFB	1900		1000		195	37.7	212			

Sample ID: **2208e39-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH30 @40'-41'**	Batch ID: **69732**	RunNo: **90581**
Prep Date: **8/24/2022**	Analysis Date: **8/25/2022**	SeqNo: **3235735** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.7	23.56	0	101	70	130			
Surr: BFB	1900		942.5		204	37.7	212			

Sample ID: **2208e39-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH30 @40'-41'**	Batch ID: **69732**	RunNo: **90581**
Prep Date: **8/24/2022**	Analysis Date: **8/25/2022**	SeqNo: **3235736** 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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208E39**
02-Sep-22

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **2208e39-001amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH30 @40'-41'** Batch ID: **69732** RunNo: **90581**
Prep Date: **8/24/2022** Analysis Date: **8/25/2022** SeqNo: **3235736** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.8	23.83	0	99.7	70	130	0.455	20	
Surr: BFB	1900		953.3		201	37.7	212	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208E39**
02-Sep-22

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **lcs-69706**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **69706**	RunNo: **90516**
Prep Date: **8/23/2022**	Analysis Date: **8/24/2022**	SeqNo: **3234445** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.1	80	120			
Toluene	0.89	0.050	1.000	0	89.3	80	120			
Ethylbenzene	0.92	0.050	1.000	0	91.7	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.5	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	70	130			

Sample ID: **mb-69706**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **69706**	RunNo: **90516**
Prep Date: **8/23/2022**	Analysis Date: **8/24/2022**	SeqNo: **3234446** 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	0.98		1.000		97.8	70	130			

Sample ID: **mb-69732**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **69732**	RunNo: **90581**
Prep Date: **8/24/2022**	Analysis Date: **8/25/2022**	SeqNo: **3235779** 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	0.93		1.000		93.5	70	130			

Sample ID: **LCS-69732**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **69732**	RunNo: **90581**
Prep Date: **8/24/2022**	Analysis Date: **8/25/2022**	SeqNo: **3235780** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	85.1	80	120			
Toluene	0.90	0.050	1.000	0	90.5	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.0	80	120			
Xylenes, Total	2.7	0.10	3.000	0	89.8	80	120			
Surr: 4-Bromofluorobenzene	0.97		1.000		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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208E39**
02-Sep-22

Client: HILCORP ENERGY
Project: Hare 15

Sample ID: **2208e39-003ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH30 @55'-55.5'** Batch ID: **69732** RunNo: **90581**
Prep Date: **8/24/2022** Analysis Date: **8/25/2022** SeqNo: **3235783** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.024	0.9643	0	88.8	68.8	120			
Toluene	0.92	0.048	0.9643	0.01384	93.7	73.6	124			
Ethylbenzene	0.92	0.048	0.9643	0.01287	94.3	72.7	129			
Xylenes, Total	2.8	0.096	2.893	0.05400	94.3	75.7	126			
Surr: 4-Bromofluorobenzene	0.94		0.9643		97.3	70	130			

Sample ID: **2208e39-003amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH30 @55'-55.5'** Batch ID: **69732** RunNo: **90581**
Prep Date: **8/24/2022** Analysis Date: **8/25/2022** SeqNo: **3235784** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.024	0.9709	0	97.0	68.8	120	9.52	20	
Toluene	1.0	0.049	0.9709	0.01384	102	73.6	124	8.64	20	
Ethylbenzene	1.0	0.049	0.9709	0.01287	104	72.7	129	9.94	20	
Xylenes, Total	3.1	0.097	2.913	0.05400	104	75.7	126	9.88	20	
Surr: 4-Bromofluorobenzene	0.96		0.9709		99.4	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2208E39 RcptNo: 1

Received By: **Juan Rojas** 8/24/2022 6:30:00 AM

Completed By: **Juan Rojas** 8/24/2022 6:43:42 AM

Reviewed By: JR 8/24/22

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: JR 8/24/22

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				

Chain-of-Custody Record

Client: Hilcorp

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: see notes

☒ Standard ☒ Rush

Project Name: Hare 15

Project #:

Project Manager: Stuart Hyde

Sampler: D. Burns

On Ice: ~~☐ Yes~~ ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.3+0=2.3 (°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. 2208E39	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)
8-22	1420	SOIL	BH30 @ 40'-41'	1-4oz	cool	-001	X	X					X			
8-22	1445	SOIL	BH30 @ 45'-46'			-002										
8-22	1515	SOIL	BH30 @ 55'-55.5'			-003										
8-23	0845		BH31 @ 10'-10.5'			-004										
	1100		BH31 @ 50'-50.5'			-005										
	1315		BH32 @ 8'-10'			-006										
	1408		BH32 @ 36'-38'			-007										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8-23-22	1707	D B	Courier		8/23/22	1705
8-23-22	1748		Courier		8/24/22	6:30

Remarks:

* same day TAT for BH30 @ 45'-46'

cc: shyde@enemarm@ensolum.com
dburns

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: www.hallenvironmental.com

September 07, 2022

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

RE: HARE 15 OrderNo.: 2208G29

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 13 sample(s) on 8/26/2022 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 **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH33@15'-16.5'
Project: HARE 15
Collection Date: 8/24/2022 8:45:00 AM
Lab ID: 2208G29-001 **Matrix:** SOIL
Received Date: 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	8/31/2022 8:59:23 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/31/2022 8:59:23 PM
Surr: DNOP	88.5	21-129		%Rec	1	8/31/2022 8:59:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/29/2022 4:09:00 PM
Surr: BFB	99.8	37.7-212		%Rec	1	8/29/2022 4:09:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.023		mg/Kg	1	8/29/2022 4:09:00 PM
Toluene	ND	0.046		mg/Kg	1	8/29/2022 4:09:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	8/29/2022 4:09:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	8/29/2022 4:09:00 PM
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	1	8/29/2022 4:09:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	68	60		mg/Kg	20	8/31/2022 10:48:17 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
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 interference		

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH33@31'-31.5'
Project: HARE 15
Collection Date: 8/24/2022 9:20:00 AM
Lab ID: 2208G29-002 **Matrix:** SOIL **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	230	14		mg/Kg	1	8/31/2022 9:10:06 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/31/2022 9:10:06 PM
Surr: DNOP	89.9	21-129		%Rec	1	8/31/2022 9:10:06 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	540	25		mg/Kg	5	8/31/2022 3:55:00 AM
Surr: BFB	324	37.7-212	S	%Rec	5	8/31/2022 3:55:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.12		mg/Kg	5	8/31/2022 3:55:00 AM
Toluene	0.67	0.25		mg/Kg	5	8/31/2022 3:55:00 AM
Ethylbenzene	2.6	0.25		mg/Kg	5	8/31/2022 3:55:00 AM
Xylenes, Total	21	0.49		mg/Kg	5	8/31/2022 3:55:00 AM
Surr: 4-Bromofluorobenzene	143	70-130	S	%Rec	5	8/31/2022 3:55:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	270	60		mg/Kg	20	8/31/2022 11:00:41 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	Estimated value
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 interference		

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH33@35'-36.5'
Project: HARE 15
Collection Date: 8/24/2022 9:30:00 AM
Lab ID: 2208G29-003 **Matrix:** SOIL **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/31/2022 9:20:51 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/31/2022 9:20:51 PM
Surr: DNOP	88.7	21-129		%Rec	1	8/31/2022 9:20:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2022 4:49:00 PM
Surr: BFB	106	37.7-212		%Rec	1	8/29/2022 4:49:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	8/29/2022 4:49:00 PM
Toluene	ND	0.049		mg/Kg	1	8/29/2022 4:49:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2022 4:49:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2022 4:49:00 PM
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	1	8/29/2022 4:49:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/31/2022 11:13:06 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
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 interference		

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH33@40'-41.5'
Project: HARE 15
Collection Date: 8/24/2022 9:50:00 AM
Lab ID: 2208G29-004 **Matrix:** SOIL **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/1/2022 7:48:05 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/1/2022 7:48:05 AM
Surr: DNOP	96.5	21-129		%Rec	1	9/1/2022 7:48:05 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/29/2022 5:09:00 PM
Surr: BFB	108	37.7-212		%Rec	1	8/29/2022 5:09:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.023		mg/Kg	1	8/29/2022 5:09:00 PM
Toluene	ND	0.046		mg/Kg	1	8/29/2022 5:09:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	8/29/2022 5:09:00 PM
Xylenes, Total	0.17	0.092		mg/Kg	1	8/29/2022 5:09:00 PM
Surr: 4-Bromofluorobenzene	94.4	70-130		%Rec	1	8/29/2022 5:09:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/31/2022 11:25:30 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
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 interference		

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH33@46'-46.5'
Project: HARE 15
Collection Date: 8/24/2022 10:00:00 AM
Lab ID: 2208G29-005 **Matrix:** SOIL
Received Date: 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/1/2022 7:58:36 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/1/2022 7:58:36 AM
Surr: DNOP	87.6	21-129		%Rec	1	9/1/2022 7:58:36 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2022 5:29:00 PM
Surr: BFB	101	37.7-212		%Rec	1	8/29/2022 5:29:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	8/29/2022 5:29:00 PM
Toluene	ND	0.050		mg/Kg	1	8/29/2022 5:29:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2022 5:29:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2022 5:29:00 PM
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	8/29/2022 5:29:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	9/1/2022 2:19:11 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	Estimated value
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 interference		

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH34@30'-31.5'
Project: HARE 15
Collection Date: 8/24/2022 12:50:00 PM
Lab ID: 2208G29-006 **Matrix:** SOIL **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/1/2022 8:09:08 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/1/2022 8:09:08 AM
Surr: DNOP	99.1	21-129		%Rec	1	9/1/2022 8:09:08 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2022 5:48:00 PM
Surr: BFB	102	37.7-212		%Rec	1	8/29/2022 5:48:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	8/29/2022 5:48:00 PM
Toluene	ND	0.050		mg/Kg	1	8/29/2022 5:48:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2022 5:48:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2022 5:48:00 PM
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	8/29/2022 5:48:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	9/1/2022 2:31:36 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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH34@45'-45.5'
Project: HARE 15
Collection Date: 8/24/2022 1:30:00 PM
Lab ID: 2208G29-007 **Matrix:** SOIL **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/1/2022 8:19:41 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/1/2022 8:19:41 AM
Surr: DNOP	86.1	21-129		%Rec	1	9/1/2022 8:19:41 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/29/2022 6:08:00 PM
Surr: BFB	93.0	37.7-212		%Rec	1	8/29/2022 6:08:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.023		mg/Kg	1	8/29/2022 6:08:00 PM
Toluene	ND	0.047		mg/Kg	1	8/29/2022 6:08:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/29/2022 6:08:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	8/29/2022 6:08:00 PM
Surr: 4-Bromofluorobenzene	90.4	70-130		%Rec	1	8/29/2022 6:08:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	9/1/2022 3:08:49 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	Estimated value
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 interference		

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH35@30'-31.5'
Project: HARE 15
Collection Date: 8/25/2022 8:20:00 AM
Lab ID: 2208G29-008 **Matrix:** SOIL **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/2/2022 9:03:52 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/2/2022 9:03:52 AM
Surr: DNOP	86.9	21-129		%Rec	1	9/2/2022 9:03:52 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/29/2022 8:06:00 PM
Surr: BFB	95.0	37.7-212		%Rec	1	8/29/2022 8:06:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	8/29/2022 8:06:00 PM
Toluene	ND	0.048		mg/Kg	1	8/29/2022 8:06:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/29/2022 8:06:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/29/2022 8:06:00 PM
Surr: 4-Bromofluorobenzene	91.3	70-130		%Rec	1	8/29/2022 8:06:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	59		mg/Kg	20	9/1/2022 3:21:14 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
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 interference		

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH35@50'-51.5'
Project: HARE 15
Collection Date: 8/25/2022 9:15:00 AM
Lab ID: 2208G29-009 **Matrix:** SOIL **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/2/2022 9:57:32 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/2/2022 9:57:32 AM
Surr: DNOP	84.2	21-129		%Rec	1	9/2/2022 9:57:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2022 9:05:00 PM
Surr: BFB	94.7	37.7-212		%Rec	1	8/29/2022 9:05:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	8/29/2022 9:05:00 PM
Toluene	ND	0.049		mg/Kg	1	8/29/2022 9:05:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2022 9:05:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/29/2022 9:05:00 PM
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	1	8/29/2022 9:05:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	9/1/2022 3:33:38 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	Estimated value
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 interference		

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH36@5'
Project: HARE 15
Collection Date: 8/25/2022 10:15:00 AM
Lab ID: 2208G29-010 **Matrix:** SOIL **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/2/2022 10:08:10 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/2/2022 10:08:10 AM
Surr: DNOP	103	21-129		%Rec	1	9/2/2022 10:08:10 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2022 10:04:00 PM
Surr: BFB	94.3	37.7-212		%Rec	1	8/29/2022 10:04:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	8/29/2022 10:04:00 PM
Toluene	ND	0.049		mg/Kg	1	8/29/2022 10:04:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2022 10:04:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2022 10:04:00 PM
Surr: 4-Bromofluorobenzene	90.3	70-130		%Rec	1	8/29/2022 10:04:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	67	60		mg/Kg	20	9/1/2022 3:46:03 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
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 interference		

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH37@5'
Project: HARE 15
Collection Date: 8/25/2022 10:30:00 AM
Lab ID: 2208G29-011 **Matrix:** SOIL **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/2/2022 10:18:51 AM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	9/2/2022 10:18:51 AM
Surr: DNOP	106	21-129		%Rec	1	9/2/2022 10:18:51 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2022 10:24:00 PM
Surr: BFB	92.7	37.7-212		%Rec	1	8/29/2022 10:24:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	8/29/2022 10:24:00 PM
Toluene	ND	0.049		mg/Kg	1	8/29/2022 10:24:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2022 10:24:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2022 10:24:00 PM
Surr: 4-Bromofluorobenzene	90.1	70-130		%Rec	1	8/29/2022 10:24:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	66	60		mg/Kg	20	9/1/2022 3:58:27 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	Estimated value
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 interference		

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH38@45'-45.5'
Project: HARE 15
Collection Date: 8/25/2022 12:30:00 PM
Lab ID: 2208G29-012 **Matrix:** SOIL
Received Date: 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/2/2022 10:33:10 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/2/2022 10:33:10 AM
Surr: DNOP	85.9	21-129		%Rec	1	9/2/2022 10:33:10 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2022 10:44:00 PM
Surr: BFB	94.9	37.7-212		%Rec	1	8/29/2022 10:44:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	8/29/2022 10:44:00 PM
Toluene	ND	0.049		mg/Kg	1	8/29/2022 10:44:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2022 10:44:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2022 10:44:00 PM
Surr: 4-Bromofluorobenzene	91.2	70-130		%Rec	1	8/29/2022 10:44:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	59		mg/Kg	20	9/1/2022 4:10:51 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
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 interference		

Analytical Report
Lab Order **2208G29**
Date Reported: **9/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: BH38@50'-50.5'
Project: HARE 15
Collection Date: 8/25/2022 12:40:00 PM
Lab ID: 2208G29-013 **Matrix:** SOIL **Received Date:** 8/26/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/2/2022 10:44:26 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/2/2022 10:44:26 AM
Surr: DNOP	81.8	21-129		%Rec	1	9/2/2022 10:44:26 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/29/2022 11:03:00 PM
Surr: BFB	95.3	37.7-212		%Rec	1	8/29/2022 11:03:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	8/29/2022 11:03:00 PM
Toluene	ND	0.048		mg/Kg	1	8/29/2022 11:03:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/29/2022 11:03:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	8/29/2022 11:03:00 PM
Surr: 4-Bromofluorobenzene	90.5	70-130		%Rec	1	8/29/2022 11:03:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	9/1/2022 4:23:15 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	Estimated value
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 interference		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208G29**
07-Sep-22

Client: HILCORP ENERGY
Project: HARE 15

Sample ID: **MB-69877** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **69877** RunNo: **90702**
Prep Date: **8/31/2022** Analysis Date: **8/31/2022** SeqNo: **3243343** Units: **mg/Kg**

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

Sample ID: **LCS-69877** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **69877** RunNo: **90702**
Prep Date: **8/31/2022** Analysis Date: **8/31/2022** SeqNo: **3243344** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	101	90	110			

Sample ID: **MB-69900** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **69900** RunNo: **90702**
Prep Date: **8/31/2022** Analysis Date: **8/31/2022** SeqNo: **3243373** Units: **mg/Kg**

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

Sample ID: **LCS-69900** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **69900** RunNo: **90702**
Prep Date: **8/31/2022** Analysis Date: **8/31/2022** SeqNo: **3243374** 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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208G29**
07-Sep-22

Client: HILCORP ENERGY
Project: HARE 15

Sample ID: **LCS-69845**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **69845**	RunNo: **90697**
Prep Date: **8/30/2022**	Analysis Date: **8/31/2022**	SeqNo: **3241477** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	15	50.00	0	79.6	64.4	127			
Surr: DNOP	3.9		5.000		77.2	21	129			

Sample ID: **MB-69845**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **69845**	RunNo: **90697**
Prep Date: **8/30/2022**	Analysis Date: **8/31/2022**	SeqNo: **3241799** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		89.5	21	129			

Sample ID: **LCS-69863**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **69863**	RunNo: **90697**
Prep Date: **8/30/2022**	Analysis Date: **9/1/2022**	SeqNo: **3242024** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	15	50.00	0	95.9	64.4	127			
Surr: DNOP	5.0		5.000		100	21	129			

Sample ID: **MB-69863**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **69863**	RunNo: **90697**
Prep Date: **8/30/2022**	Analysis Date: **9/1/2022**	SeqNo: **3242027** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		106	21	129			

Sample ID: **LCS-69845**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **69845**	RunNo: **90697**
Prep Date: **8/30/2022**	Analysis Date: **9/1/2022**	SeqNo: **3243574** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	15	50.00	0	84.9	64.4	127			
Surr: DNOP	4.5		5.000		90.1	21	129			

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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208G29**
07-Sep-22

Client: HILCORP ENERGY
Project: HARE 15

Sample ID: **2208G29-008AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH35@30'-31.5'** Batch ID: **69876** RunNo: **90763**
Prep Date: **8/31/2022** Analysis Date: **9/2/2022** SeqNo: **3244592** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	15	49.75	0	82.7	36.1	154			
Surr: DNOP	3.8		4.975		76.4	21	129			

Sample ID: **2208G29-008AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH35@30'-31.5'** Batch ID: **69876** RunNo: **90763**
Prep Date: **8/31/2022** Analysis Date: **9/2/2022** SeqNo: **3244594** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	15	49.41	0	83.1	36.1	154	0.204	33.9	
Surr: DNOP	3.7		4.941		74.1	21	129	0	0	

Sample ID: **LCS-69876** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **69876** RunNo: **90763**
Prep Date: **8/31/2022** Analysis Date: **9/1/2022** SeqNo: **3244629** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	15	50.00	0	83.8	64.4	127			
Surr: DNOP	3.6		5.000		72.2	21	129			

Sample ID: **MB-69876** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **69876** RunNo: **90763**
Prep Date: **8/31/2022** Analysis Date: **9/1/2022** SeqNo: **3244631** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		86.9	21	129			

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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208G29**
07-Sep-22

Client: HILCORP ENERGY
Project: HARE 15

Sample ID: **lcs-69791** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **69791** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238852** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	72.3	137			
Surr: BFB	2200		1000		222	37.7	212			S

Sample ID: **mb-69791** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **69791** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238853** 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		103	37.7	212			

Sample ID: **lcs-69798** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **69798** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238876** 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	97.2	72.3	137			
Surr: BFB	2100		1000		206	37.7	212			

Sample ID: **mb-69798** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **69798** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238877** 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		97.7	37.7	212			

Sample ID: **2208g29-008ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH35@30'-31.5'** Batch ID: **69798** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238879** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.25	0	96.1	70	130			
Surr: BFB	2000		969.9		209	37.7	212			

Sample ID: **2208g29-008amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH35@30'-31.5'** Batch ID: **69798** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238880** 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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208G29**
07-Sep-22

Client: HILCORP ENERGY
Project: HARE 15

Sample ID: **2208g29-008amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH35@30'-31.5'** Batch ID: **69798** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238880** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.32	0	93.9	70	130	2.07	20	
Surr: BFB	2000		972.8		205	37.7	212	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208G29**
07-Sep-22

Client: HILCORP ENERGY
Project: HARE 15

Sample ID: **lcs-69791** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **69791** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238900** 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	88.4	80	120			
Toluene	0.90	0.050	1.000	0	89.7	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.0	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.2	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		95.5	70	130			

Sample ID: **mb-69791** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **69791** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238901** 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		97.4	70	130			

Sample ID: **lcs-69798** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **69798** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238916** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.025	1.000	0	80.4	80	120			
Toluene	0.82	0.050	1.000	0	81.8	80	120			
Ethylbenzene	0.83	0.050	1.000	0	82.7	80	120			
Xylenes, Total	2.5	0.10	3.000	0	82.7	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.1	70	130			

Sample ID: **mb-69798** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **69798** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238917** 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	0.91		1.000		90.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
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 interference		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2208G29**
07-Sep-22

Client: HILCORP ENERGY
Project: HARE 15

Sample ID: **2208g29-009ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH35@50'-51.5'** Batch ID: **69798** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238920** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.73	0.024	0.9671	0	75.6	68.8	120			
Toluene	0.75	0.048	0.9671	0	78.0	73.6	124			
Ethylbenzene	0.77	0.048	0.9671	0	79.2	72.7	129			
Xylenes, Total	2.3	0.097	2.901	0	78.6	75.7	126			
Surr: 4-Bromofluorobenzene	0.88		0.9671		91.3	70	130			

Sample ID: **2208g29-009amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH35@50'-51.5'** Batch ID: **69798** RunNo: **90639**
Prep Date: **8/26/2022** Analysis Date: **8/29/2022** SeqNo: **3238921** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.75	0.024	0.9634	0	77.4	68.8	120	1.91	20	
Toluene	0.76	0.048	0.9634	0	78.9	73.6	124	0.787	20	
Ethylbenzene	0.78	0.048	0.9634	0	81.0	72.7	129	1.93	20	
Xylenes, Total	2.3	0.096	2.890	0	80.5	75.7	126	1.94	20	
Surr: 4-Bromofluorobenzene	0.88		0.9634		90.9	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Hilcorp Energy | Work Order Number: 2208G29 | RcptNo: 1

Received By: Cheyenne Cason 8/26/2022 8:00:00 AM

Completed By: Tracy Casarrubias 8/26/2022 9:03:25 AM

Reviewed By: 8/26/22

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: KPG 8.26.22

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	2.7	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp

Mitch Kilough

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____
☒ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush 5 Day (Per Christine email 8/26/22)

Project Name: HARE 15

Project #:

Project Manager: Stuart Hyde

Sampler: D. Burns

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.7 - 0 = 2.7°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 Request ID	Container Type and #	Preservative Type	HEAL No. 2208G29	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
8-24-22	0845	Soil	BH33@15'-16.5'	1-4oz	Cool	001	X		X					X								
8-24	0920		BH33@31'-31.5'			002																
	0930		BH33@35'-36.5'			003																
	0950		BH33@40'-41.5'			004																
	1000		BH33@46'-46.5'			005																
	1250		BH34@30'-31.5'			006																
	1330		BH34@45'-45.5'			007																
8-25-22	0820		BH35@30'-31.5'			008																
	0915		BH35@50'-51.5'			009																
	1015		BH36@5'			010																
	1030		BH37@5'			011																

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-25-22	1640			8/25/22	1645
8/25/22	1900		Courier	8/26/22	0800

Remarks:
cc: shyde dhencmann @ensolum.com
dburns

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

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush 5 Day

Project Name: Hare 15

Project #:

Project Manager:

Sampler: DB

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.7 & 2.7

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 Request ID	Container Type and #	Preservative Type	HEAL No. 2208G29	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
8-25-22	1230	Soil	BH38@45'-45.5'	1-4oz	cool	012	X		X					X								
↓	1240	↓	BH38@50'-50.5'	↓	↓	013	X		X					X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-25-22	1640				
8/25/22	1900		Emc courier	8/26/22	0800

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: www.hallenvironmental.com

September 20, 2022

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

RE: Hare 15 OrderNo.: 2209499

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 17 sample(s) on 9/10/2022 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 **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW24
Project: Hare 15
Collection Date: 9/8/2022 4:15:00 PM
Lab ID: 2209499-001 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	1.0		µg/L	1	9/16/2022 9:06:00 PM
Toluene	ND	1.0		µg/L	1	9/16/2022 9:06:00 PM
Ethylbenzene	ND	1.0		µg/L	1	9/16/2022 9:06:00 PM
Xylenes, Total	ND	2.0		µg/L	1	9/16/2022 9:06:00 PM
Surr: 4-Bromofluorobenzene	85.8	70-130		%Rec	1	9/16/2022 9:06:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW30
Project: Hare 15 **Collection Date:** 9/8/2022 2:25:00 PM
Lab ID: 2209499-002 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	1900	100		µg/L	100	9/16/2022 9:26:00 PM
Toluene	8500	100		µg/L	100	9/16/2022 9:26:00 PM
Ethylbenzene	1000	100		µg/L	100	9/16/2022 9:26:00 PM
Xylenes, Total	13000	200		µg/L	100	9/16/2022 9:26:00 PM
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	100	9/16/2022 9:26:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW31
Project: Hare 15 **Collection Date:** 9/8/2022 2:55:00 PM
Lab ID: 2209499-003 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	2.0	D	µg/L	2	9/16/2022 9:46:00 PM
Toluene	ND	2.0	D	µg/L	2	9/16/2022 9:46:00 PM
Ethylbenzene	ND	2.0	D	µg/L	2	9/16/2022 9:46:00 PM
Xylenes, Total	ND	4.0	D	µg/L	2	9/16/2022 9:46:00 PM
Surr: 4-Bromofluorobenzene	85.8	70-130	D	%Rec	2	9/16/2022 9:46:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW33
Project: Hare 15
Collection Date: 9/8/2022 3:50:00 PM
Lab ID: 2209499-004 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	3.7	1.0		µg/L	1	9/16/2022 10:05:00 PM
Toluene	19	1.0		µg/L	1	9/16/2022 10:05:00 PM
Ethylbenzene	4.4	1.0		µg/L	1	9/16/2022 10:05:00 PM
Xylenes, Total	38	2.0		µg/L	1	9/16/2022 10:05:00 PM
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	9/16/2022 10:05:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW38
Project: Hare 15
Collection Date: 9/9/2022 9:30:00 AM
Lab ID: 2209499-005 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	1.0		µg/L	1	9/16/2022 10:25:00 PM
Toluene	ND	1.0		µg/L	1	9/16/2022 10:25:00 PM
Ethylbenzene	ND	1.0		µg/L	1	9/16/2022 10:25:00 PM
Xylenes, Total	ND	2.0		µg/L	1	9/16/2022 10:25:00 PM
Surr: 4-Bromofluorobenzene	86.2	70-130		%Rec	1	9/16/2022 10:25:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW23
Project: Hare 15
Collection Date: 9/9/2022 9:42:00 AM
Lab ID: 2209499-006 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	2.0		µg/L	2	9/16/2022 10:45:00 PM
Toluene	ND	2.0		µg/L	2	9/16/2022 10:45:00 PM
Ethylbenzene	ND	2.0		µg/L	2	9/16/2022 10:45:00 PM
Xylenes, Total	ND	4.0		µg/L	2	9/16/2022 10:45:00 PM
Surr: 4-Bromofluorobenzene	89.4	70-130		%Rec	2	9/16/2022 10:45:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW14
Project: Hare 15
Collection Date: 9/9/2022 10:30:00 AM
Lab ID: 2209499-007 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	16	5.0		µg/L	5	9/16/2022 11:04:00 PM
Toluene	33	5.0		µg/L	5	9/16/2022 11:04:00 PM
Ethylbenzene	13	5.0		µg/L	5	9/16/2022 11:04:00 PM
Xylenes, Total	250	10		µg/L	5	9/16/2022 11:04:00 PM
Surr: 4-Bromofluorobenzene	90.6	70-130		%Rec	5	9/16/2022 11:04:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW06
Project: Hare 15
Collection Date: 9/9/2022 10:43:00 AM
Lab ID: 2209499-008 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	160	5.0		µg/L	5	9/16/2022 11:24:00 PM
Toluene	ND	5.0		µg/L	5	9/16/2022 11:24:00 PM
Ethylbenzene	ND	5.0		µg/L	5	9/16/2022 11:24:00 PM
Xylenes, Total	70	10		µg/L	5	9/16/2022 11:24:00 PM
Surr: 4-Bromofluorobenzene	86.1	70-130		%Rec	5	9/16/2022 11:24:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW11
Project: Hare 15
Collection Date: 9/9/2022 2:15:00 PM
Lab ID: 2209499-009 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	2800	100		µg/L	100	9/16/2022 11:44:00 PM
Toluene	8200	100		µg/L	100	9/16/2022 11:44:00 PM
Ethylbenzene	630	100		µg/L	100	9/16/2022 11:44:00 PM
Xylenes, Total	11000	200		µg/L	100	9/16/2022 11:44:00 PM
Surr: 4-Bromofluorobenzene	90.7	70-130		%Rec	100	9/16/2022 11:44:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW19
Project: Hare 15
Collection Date: 9/9/2022 10:13:00 AM
Lab ID: 2209499-010 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	320	20		µg/L	20	9/17/2022 12:03:00 AM
Toluene	150	20		µg/L	20	9/17/2022 12:03:00 AM
Ethylbenzene	670	20		µg/L	20	9/17/2022 12:03:00 AM
Xylenes, Total	1300	40		µg/L	20	9/17/2022 12:03:00 AM
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	20	9/17/2022 12:03:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW22
Project: Hare 15
Collection Date: 9/9/2022 1:00:00 PM
Lab ID: 2209499-011 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	640	10		µg/L	10	9/19/2022 12:11:00 PM
Toluene	230	5.0		µg/L	5	9/17/2022 2:59:00 AM
Ethylbenzene	660	10		µg/L	10	9/19/2022 12:11:00 PM
Xylenes, Total	1300	20		µg/L	10	9/19/2022 12:11:00 PM
Surr: 4-Bromofluorobenzene	128	70-130		%Rec	5	9/17/2022 2:59:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW29
Project: Hare 15
Collection Date: 9/9/2022 12:40:00 PM
Lab ID: 2209499-012 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	4.1	1.0		µg/L	1	9/17/2022 3:19:00 AM
Toluene	3.9	1.0		µg/L	1	9/17/2022 3:19:00 AM
Ethylbenzene	34	1.0		µg/L	1	9/17/2022 3:19:00 AM
Xylenes, Total	7.9	2.0		µg/L	1	9/17/2022 3:19:00 AM
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	9/17/2022 3:19:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW26
Project: Hare 15 **Collection Date:** 9/9/2022 1:25:00 PM
Lab ID: 2209499-013 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	11000	500		µg/L	500	9/19/2022 12:30:00 PM
Toluene	27000	500		µg/L	500	9/19/2022 12:30:00 PM
Ethylbenzene	850	500		µg/L	500	9/19/2022 12:30:00 PM
Xylenes, Total	11000	1000		µg/L	500	9/19/2022 12:30:00 PM
Surr: 4-Bromofluorobenzene	85.6	70-130		%Rec	500	9/19/2022 12:30:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW20
Project: Hare 15 **Collection Date:** 9/9/2022 1:55:00 PM
Lab ID: 2209499-014 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	11000	500		µg/L	500	9/19/2022 12:50:00 PM
Toluene	14000	500		µg/L	500	9/19/2022 12:50:00 PM
Ethylbenzene	1200	50		µg/L	50	9/17/2022 3:59:00 AM
Xylenes, Total	9500	100		µg/L	50	9/17/2022 3:59:00 AM
Surr: 4-Bromofluorobenzene	93.7	70-130		%Rec	50	9/17/2022 3:59:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW09
Project: Hare 15 **Collection Date:** 9/9/2022 2:30:00 PM
Lab ID: 2209499-015 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	63	5.0		µg/L	5	9/17/2022 4:18:00 AM
Toluene	ND	5.0		µg/L	5	9/17/2022 4:18:00 AM
Ethylbenzene	48	5.0		µg/L	5	9/17/2022 4:18:00 AM
Xylenes, Total	250	10		µg/L	5	9/17/2022 4:18:00 AM
Surr: 4-Bromofluorobenzene	90.9	70-130		%Rec	5	9/17/2022 4:18:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW34
Project: Hare 15
Collection Date: 9/9/2022 11:50:00 AM
Lab ID: 2209499-016 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	1.0		µg/L	1	9/17/2022 4:38:00 AM
Toluene	ND	1.0		µg/L	1	9/17/2022 4:38:00 AM
Ethylbenzene	ND	1.0		µg/L	1	9/17/2022 4:38:00 AM
Xylenes, Total	ND	2.0		µg/L	1	9/17/2022 4:38:00 AM
Surr: 4-Bromofluorobenzene	88.2	70-130		%Rec	1	9/17/2022 4:38:00 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	Estimated value
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 interference		

Analytical Report
Lab Order **2209499**
Date Reported: **9/20/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: MW35
Project: Hare 15
Collection Date: 9/9/2022 11:15:00 AM
Lab ID: 2209499-017 **Matrix:** AQUEOUS **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	1.0		µg/L	1	9/17/2022 4:58:00 AM
Toluene	ND	1.0		µg/L	1	9/17/2022 4:58:00 AM
Ethylbenzene	ND	1.0		µg/L	1	9/17/2022 4:58:00 AM
Xylenes, Total	ND	2.0		µg/L	1	9/17/2022 4:58:00 AM
Surr: 4-Bromofluorobenzene	86.8	70-130		%Rec	1	9/17/2022 4:58:00 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	Estimated value
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 interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209499**

20-Sep-22

Client: HILCORP ENERGY

Project: Hare 15

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **C91113**	RunNo: **91113**
Prep Date:	Analysis Date: **9/16/2022**	SeqNo: **3259486** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	86.3	70	130			
Toluene	18	1.0	20.00	0	87.9	70	130			
Ethylbenzene	18	1.0	20.00	0	89.8	70	130			
Xylenes, Total	53	2.0	60.00	0	88.8	70	130			
Surr: 4-Bromofluorobenzene	18		20.00		90.7	70	130			

Sample ID: **mb2**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **C91113**	RunNo: **91113**
Prep Date:	Analysis Date: **9/16/2022**	SeqNo: **3259487** 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		88.4	70	130			

Sample ID: **2209499-001a ms**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW24**	Batch ID: **C91113**	RunNo: **91113**
Prep Date:	Analysis Date: **9/17/2022**	SeqNo: **3259499** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	85.8	70	130			
Toluene	17	1.0	20.00	0	86.6	70	130			
Ethylbenzene	17	1.0	20.00	0	85.6	70	130			
Xylenes, Total	50	2.0	60.00	0	84.2	70	130			
Surr: 4-Bromofluorobenzene	18		20.00		88.5	70	130			

Sample ID: **2209499-001A MSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW24**	Batch ID: **C91113**	RunNo: **91113**
Prep Date:	Analysis Date: **9/17/2022**	SeqNo: **3259500** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	16	1.0	20.00	0	80.1	70	130	6.85	20	
Toluene	16	1.0	20.00	0	79.9	70	130	8.03	20	
Ethylbenzene	16	1.0	20.00	0	79.9	70	130	6.82	20	
Xylenes, Total	48	2.0	60.00	0	79.4	70	130	5.79	20	
Surr: 4-Bromofluorobenzene	17		20.00		82.7	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209499**

20-Sep-22

Client: HILCORP ENERGY

Project: Hare 15

Sample ID: **100ng btex lcs2**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **D91113**	RunNo: **91113**
Prep Date:	Analysis Date: **9/17/2022**	SeqNo: **3259501** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	84.1	70	130			
Toluene	17	1.0	20.00	0	86.1	70	130			
Ethylbenzene	17	1.0	20.00	0	87.1	70	130			
Xylenes, Total	52	2.0	60.00	0	86.3	70	130			
Surr: 4-Bromofluorobenzene	18		20.00		89.9	70	130			

Sample ID: **mb3**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **D91113**	RunNo: **91113**
Prep Date:	Analysis Date: **9/17/2022**	SeqNo: **3259502** 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		89.1	70	130			

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **D91131**	RunNo: **91131**
Prep Date:	Analysis Date: **9/19/2022**	SeqNo: **3260224** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	86.9	70	130			
Toluene	18	1.0	20.00	0	88.8	70	130			
Ethylbenzene	18	1.0	20.00	0	88.5	70	130			
Xylenes, Total	53	2.0	60.00	0	87.7	70	130			
Surr: 4-Bromofluorobenzene	18		20.00		90.2	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **D91131**	RunNo: **91131**
Prep Date:	Analysis Date: **9/19/2022**	SeqNo: **3260225** 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	17		20.00		87.3	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: HILCORP ENERGY | Work Order Number: 2209499 | RcptNo: 1

Received By: **Sean Livingston** 9/10/2022 8:30:00 AM

Completed By: **Tracy Casarrubias** 9/10/2022 11:31:43 AM

Reviewed By: JM 9/12/22

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: JM 9/12/22

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	3.2	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp

Attn: Mitch Killough

Mailing Address:

Phone #: pr 713-757-5247

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 #: 07A1988006

Project Manager: Stuart Hyde shyde@ensolum.com

Sampler: Reece Hanson

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.2+0=3.2 (°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. 2209499	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)
9/8/22	1615	GW	MW 24	3 VOA	HCl	001	X									
	1425		MW 30			002										
	1455		MW 31			003										
	1550		MW 33			004										
9/9/22	930		MW 38			005										
	942		MW 23			006										
	1030		MW 14			007										
	1043		MW 06			008										
	1415		MW 11			009										
	1013		MW 19			010										
	1300		MW 22			011										
	1240		MW 29			012										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9/9/22	1730			Courier	9/9/22	1530
9/9/22	1826			Courier	9/10/22	8:30

Remarks: cc: rhanson@ensolum.com

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

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:

☒ Standard ☐ Rush

Project Name: HARE 15

Project #:

Project Manager: Stuart Hyde

Sampler: Reece Hanson

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.2 ±0=3.2 (°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. 2209499
9/9/22	1325	GW	MW 26	3 VOA	H_gCl_2	013
	1355		MW 20			014
	1430		MW 09			015
	1150		MW 34		HCl	016
	1115		MW 35			017

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)						
X															

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9/9/22	1530				9/9/22	1530
9/9/22	1826			courier	9/10/22	8:30

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.

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 166063

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 166063
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	1. Dual Phase Extraction Pilot Test to be completed by 02/24/2023. 2. Report of Pilot Test to be completed and submitted to OCD by 04/24/2023.	1/11/2023