State of New Mexico
Oil Conservation Division

Incident ID	nAPP2308124076
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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☐ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
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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: 5/15/2023

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2308124076
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: Mitch Killough Date: 5/15/2023

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

OCD Only

Received by: _____ Date: _____

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

Signature: Nelson Velez Date: 05/15/2023

1. **OCD approves SVE Pilot Test.**
2. **Hilcorp to perform the SVE pilot test within 60-days of BLM and NMOCD (July 14, 2023) approval of this Site Characterization Report and Remediation Work Plan.**
3. **Submittal of a SVE Pilot Test Report along with a Final Remediation Plan are due by September 12, 2023.**

ENSOLUM

May 2, 2023

New Mexico Oil Conservation Division
New Mexico Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Site Investigation Report and Remediation Work Plan
L C Kelly 1E
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident Number: nAPP2308124076

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Site Investigation Report and Remediation Work Plan* for a mixed fluid release at the L C Kelly 1E natural gas production well (Site). The Site is located on land managed by the Bureau of Land Management (BLM) in Unit C, Section 5, Township 30 North, Range 12 West in San Juan County, New Mexico (Figure 1).

SITE BACKGROUND

On March 8, 2023, Hilcorp personnel discovered approximately 45 barrels (bbls) of fluid (35.07 bbls of condensate and 10.02 bbls of produced water) released from a drain valve on a 300-bbls condensate storage tank. Due to freezing temperatures, ice had formed on the inside of the drain valve, subsequently causing it to rupture. The released fluids stayed within the secondary containment earthen berm, with the obvious impacted area measuring approximately 20 feet by 6 feet in areal extent. No fluids were recovered after discovery of the release. The release volume was determined based on the operator's monthly tank gauging data. Hilcorp reported the release via email to the New Mexico Oil Conservation Division (NMOCD) and BLM on March 9, 2023. Hilcorp subsequently submitted a Form C-141, *Release Notification* to the NMOCD and a *Major Undesirable Event Report* to the BLM on March 22, 2023. Agency release notifications are attached as Appendix A. The release was assigned NMOCD Incident Number nAPP2308124076.

SITE CLOSURE CRITERIA

The Site is located on BLM surface approximately 5 miles north of Flora Vista, New Mexico. As part of the Site investigation, local geology/hydrogeology and nearby sensitive receptors were assessed in accordance with Title 19, Chapter 15, Part 29, Sections 11 and 12 (19.15.29.11 and 12) of the New Mexico Administrative Code (NMAC). This information is further discussed below.

GEOLOGY AND HYDROGEOLOGY

The Site is located within the Nacimiento Geologic Formation. In the report titled "*Hydrogeology and Water Resources of San Juan Basin, New Mexico*" (Stone, et. al., 1983), the Nacimiento

Formation is characterized by interbedded black carbonaceous mudstones and white, coarse-grained sandstones, which ranges in thickness from 418 feet to 2,232 feet. The hydrologic properties of the Nacimiento Formation display variable hydrologic properties dependent on location. Where sufficient yield is present, the primary use of water from this formation is for domestic and/or livestock supply. The Nacimiento Formation in underlain by the Ojo Alamo sandstone (Stone et. al., 1983).

POTENTIAL SENSITIVE RECEPTORS

Potential nearby receptors were assessed through desktop reviews of United States Geological Survey (USGS) topographic maps, Federal Emergency Management Administration (FEMA) Geographic Information System (GIS) maps, New Mexico Office of the State Engineer (NMOSE) database, aerial photographs, and Site-specific observations.

The closest surface water feature is an unnamed dry wash located approximately 1,300 feet south of the Site. The Site is greater than 200 feet from any lakebed, sinkhole, or playa lake, and greater than 300 feet from any wetland (Figure 1). The closest fresh-water well is NMOSE permitted well SJ-02145 (Appendix B), located approximately 3,900 feet east of the Site. The recorded depth to water on the NMOSE Point of Diversion (POD) summary is 110 feet below ground surface (bgs). Wellhead protection areas, springs, or domestic/stock wells are not located within a ½-mile from the Site. The Site is not within a 100-year floodplain, overlying a subsurface mine, or located within an area underlain by unstable geology (area designated as low potential karst by the BLM). Schools, hospitals, institutions, churches, and/or other occupied permanent residence or structures are not located within 300 feet of the Site.

SITE CLOSURE CRITERIA

Based on the information presented above and in accordance with the *Table I, Closure Criteria for Soils Impacted by a Release* (19.15.29.12 NMAC), the following Closure Criteria for constituents of concern (COCs) should be applied to the Site:

- Chloride: 20,000 milligrams per kilogram (mg/kg)
- Total Petroleum Hydrocarbons (TPH) as a combination of gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO): 2,500 mg/kg
- TPH-GRO + TPH-DRO: 1,000 mg/kg
- A combination of benzene, toluene, ethylbenzene, and xylenes (BTEX): 50 mg/kg
- Benzene: 10 mg/kg

SITE INVESTIGATION ACTIVITIES

Hilcorp retained Ensolum to perform delineation activities between April 11 and April 13, 2023 to identify the horizontal and vertical extent of impacts related to the Site release. Ensolum submitted notice of sampling to the NMOCD and BLM on April 3, 2023 (Appendix C). Drilling was performed by Enviro-Drill, Inc. using a Central Mining Equipment (CME)-75 hollow-stem auger drill rig. Six borings (BH01 through BH06) were advanced to depths ranging from 22 feet to 50 feet bgs during this investigation in the locations 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 calibrated photoionization detector (PID), with results noted on the field boring logs (attached as Appendix D). In general, soil samples were collected from depth intervals indicating the greatest impacts based on field screening and PID measurements. Soil samples were collected directly into laboratory-provided jars and immediately placed on ice. Samples were submitted to Envirotech Laboratory (Envirotech) for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8260B, TPH-GRO, TPH-DRO, TPH-MRO following EPA Method 8015D, and chloride following EPA Method 300.0.

SOIL BORING RESULTS AND CONCLUSIONS

In general, fine to coarse-grained, poorly sorted sand and silty sand were encountered in all borings at the Site. With the exception of boring BH01, all borings met refusal on sandstone bedrock. Field indications of petroleum hydrocarbons, including staining, odors, and/or elevated PID readings, were noted in borings BH01, BH02, BH04, BH05, and BH06. Groundwater was not encountered in any of the borings during drilling.

Concentrations of total BTEX, TPH-GRO+DRO, and Total TPH exceeding the NMOCD Table I Closure Criteria were detected boring BH01 between the ground surface and approximately 10 feet bgs. Based on the release footprint within the secondary berm, field observations during drilling (strong petroleum odors and little to no soil staining), and analytical results, elevated concentrations of TPH and BTEX are likely due to the March 2023 release. Borings BH02, BH03, and BH04, advanced to the south, east, and north of the release area, respectively, did not contain concentrations of Site COCs exceeding Table I Closure Criteria.

Benzene, BTEX, and/or TPH concentrations were detected above the NMOCD Table I Closure Criteria in samples collected from borings BH05 and BH06, located to the west and southwest of the release area, respectively. Based on field observations of moderate to strong soil staining and odors, as well as significantly different ratios of GRO to DRO concentrations as compared to those detected in BH01, it is believed that elevated TPH and BTEX concentrations detected in borings BH05 and BH06 are from a historical release at the Site. A summary of analytical results is presented on Table 1 and depicted on Figure 3. Complete laboratory reports are attached in Appendix E.

Based on the activities and analytical results described above, impacted soil resulting from the release discovered on March 8, 2023 has been successfully delineated. Impacts appear to have largely remained within the footprint of the secondary containment berm and up to depths of 10 feet bgs, resulting in an estimated 200 to 300 cubic yards of impacted soil.

Impacts encountered in borings BH05 and BH06, thought to be from a historical release(s) at the Site, have not been delineated. Additionally, based on the location of and COC concentrations in boring BH06, impacted soil is likely present in off-pad locations. To-date, petroleum hydrocarbons have been detected to a depth of at least 22 feet bgs in this location and the total volume of impacted soil is unknown.

REMEDIATION WORK PLAN

Based on the extent of soil impacts, favorable soil lithology, the proximity of impacted soil to active equipment, and the likelihood of off-pad impacts, Ensolum recommends the use of soil vapor extraction (SVE) techniques to remediate soil at the Site. As described by the EPA, SVE is an in-situ technique 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 removed.

Depending on contaminant concentrations in the removed air, the SVE system may emit the exhaust directly to the atmosphere.

Based on field screening observations during drilling, boring BH01 was completed as nested SVE wells SVE01 and SVE02. Additionally, borings BH02 (SVE03), BH04 (SVE04), BH05 (SVE05), and BH06 (SVE06) were completed as SVE wells to be used for future remediation. Screened casing was installed across the subsurface interval with the highest petroleum hydrocarbon impacts based on PID readings in order to direct the applied vacuum to these depth intervals. Well construction details are included on the boring logs attached as Appendix D. SVE wells were constructed with 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing and 2-inch Schedule 40 PVC 0.010-inch slotted screen. Wells were completed with 10-20 silica sand pack to 2 feet above the screened interval, then hydrated bentonite seal to the ground surface. SVE well locations are indicated on Figure 4.

SVE PILOT TEST

Ensolum recommends performing a SVE pilot test to evaluate the effectiveness of SVE 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 the SVE pilot test will be used to estimate the system's radius-of-influence (ROI) and radius-of-effect (ROE) to determine well spacing and the need for additional SVE wells at the Site.

A vacuum truck will be used to remove air at one SVE well at a time (used as the "extraction" well). Flow and vacuum rates will be measured at the extraction well using an adjustable manifold and vacuum responses will be measured in the other SVE wells at the Site (used as "observation" wells). The pilot-test manifold will be used to control and incrementally increase vacuum being applied to the extraction well to assess the relationship between flow and vacuum. Vacuum measurements collected at the observation wells will be used to assess the ROI and ROE achievable at the Site. The following general procedures will be used to perform the SVE pilot test:

1. Collect initial VOC measurements using a PID from all SVE wells.
2. Attach a flexible hose from the vacuum truck to the SVE pilot test manifold. Connect the manifold to the first extraction well, start the vacuum truck, and slowly open the valve to increase flow and vacuum at the well.
3. During each test, apply a vacuum of approximately 10 inches of water column (IWC) and allow flow/vacuum measurements to stabilize for up to 15 minutes. Collect vacuum measurements and PID readings at each observation well once flow and vacuum have stabilized.
4. Increase the extraction well vacuum by 10 to 20 IWC, allow the vacuum/flow to stabilize, and collect observation well measurements as described below. Continue Steps 3 and 4 until 100 IWC is being applied at the extraction well or the vacuum truck capabilities are reached
5. Close the manifold valve, allow the vacuum to dissipate, and collect PID readings from each observation well.
6. Collect air samples from the extraction wells in 1-liter Tedlar® bags and submit to Hall for analysis of BTEX and total volatile petroleum hydrocarbons (TVPH).

After completion of the SVE 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 SVE system. The report will include the calculations for ROI and ROE, system specifications required

to remediate subsurface impacts, and, if determined feasible, an operation and maintenance (O&M) plan for the system and the proposed remediation schedule and timeline.

ADDITIONAL DELINEATION WORK PLAN

Based on the Site investigation results described above, additional drilling and sampling work is required to fully delineate the vertical and lateral extent of impacts at the Site. Proposed boring locations for the additional investigation are presented on Figure 4. Due to the location of the proposed borings, Hilcorp will need to obtain permission from the BLM prior to conducting any off-pad work.

SCHEDULE

Hilcorp and Ensolum will perform the SVE pilot test within 60 days of BLM and NMOCD approval of this *Site Characterization Report and Remediation Work Plan*. In order to complete the SVE pilot test and determine appropriate SVE well spacing (if applicable), additional drilling and investigation work will commence after the SVE pilot test has been completed. It is anticipated that drilling activities can begin within 90 days of BLM approval of off-pad locations, pending driller availability. An *Updated Site Investigation Report and Remediation Work Plan* will then be prepared summarizing the results of the additional delineation work and SVE pilot test results within 60 days of completion of drilling activities.

REFERENCES

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

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

Sincerely,
Ensolum, LLC

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

Ashley Ager, MS, PG
Program Director, Geologist
(970) 946-1093
aager@ensolum.com

Attachments:

Figure 1: Site Location Map
Figure 2: Borehole Locations
Figure 3: Soil Analytical Results
Figure 4: SVE Wells and Proposed Boring Locations

Table 1: Delineation Soil Sample Analytical Results

Appendix A: Agency Release Notifications
Appendix B: NMOSE Point of Diversion Summary
Appendix C: Agency Sampling Notifications
Appendix D: Boring Logs
Appendix E: Laboratory Analytical Reports

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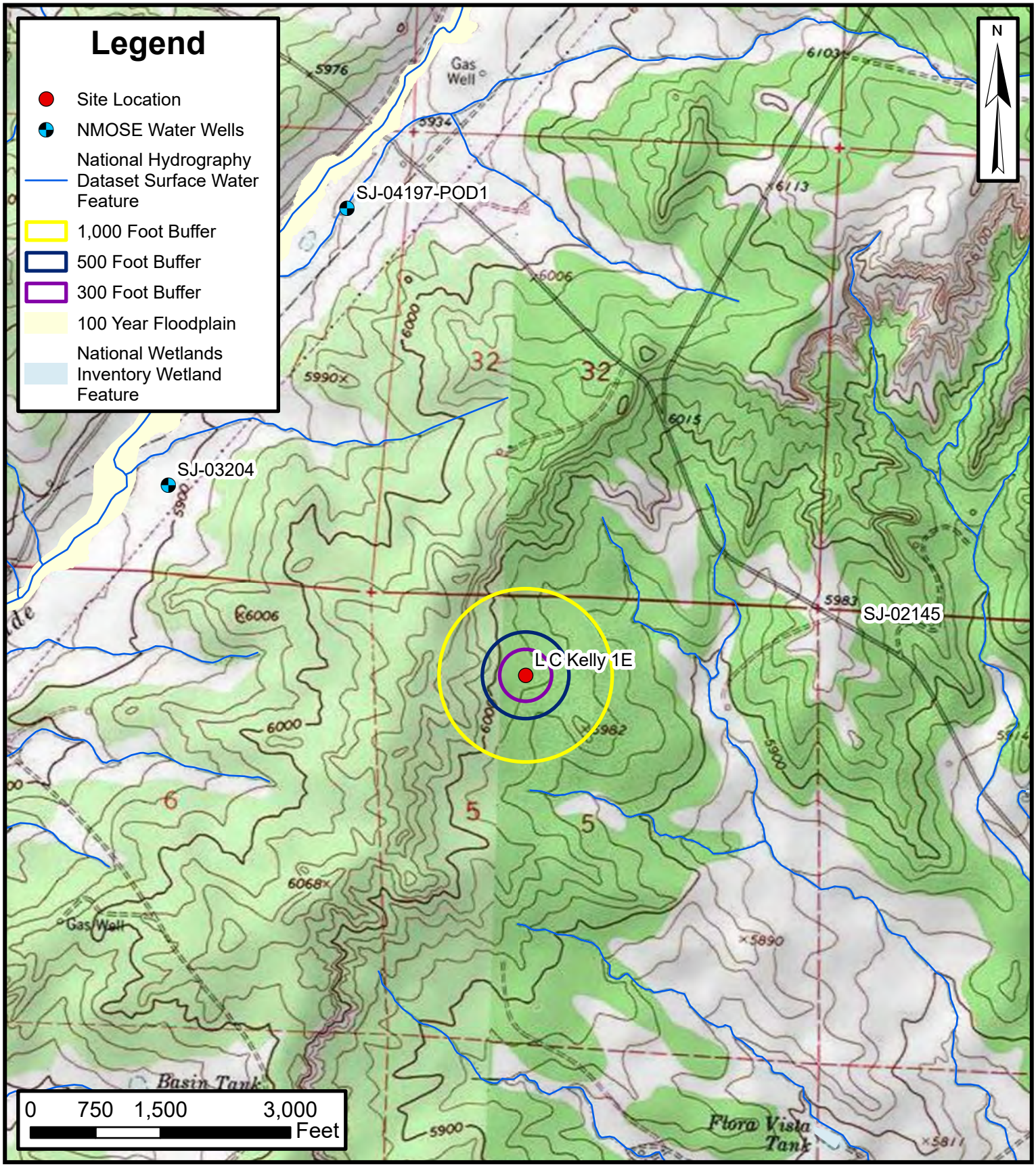
FIGURES



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

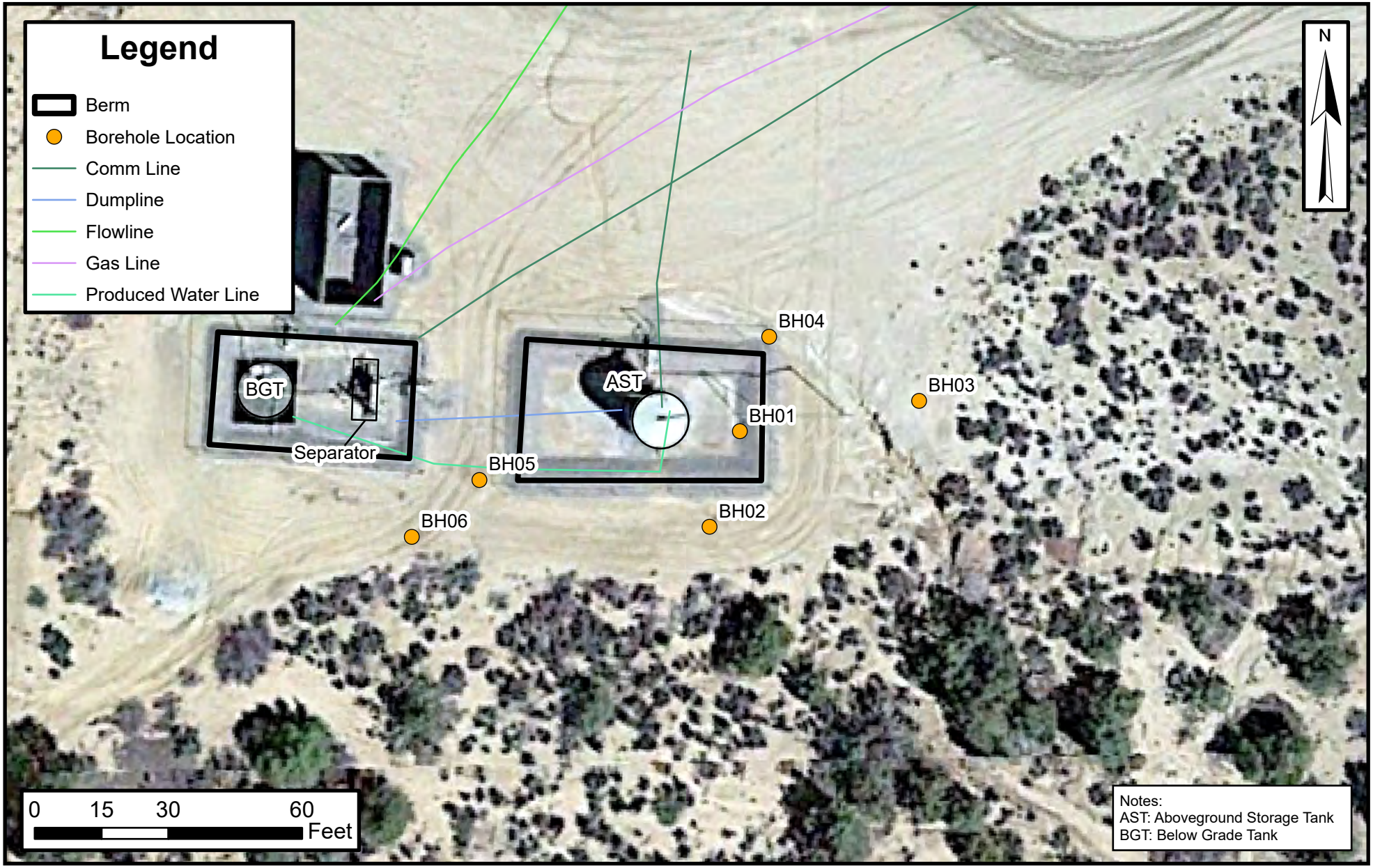
Site Location Map

L C Kelly 1E
Hilcorp Energy Company

36.84600, -108.12450
Unit C, Sec 05, T30N, R12W
San Juan County, New Mexico

FIGURE
1

Sources: Environmental Systems Research Institute (ESRI), National Geographic Society, i-cubed, United States Geologic Survey (USGS), United States Fish and Wildlife Service (USFWS), New Mexico Office of the State Engineer (NMOSE)



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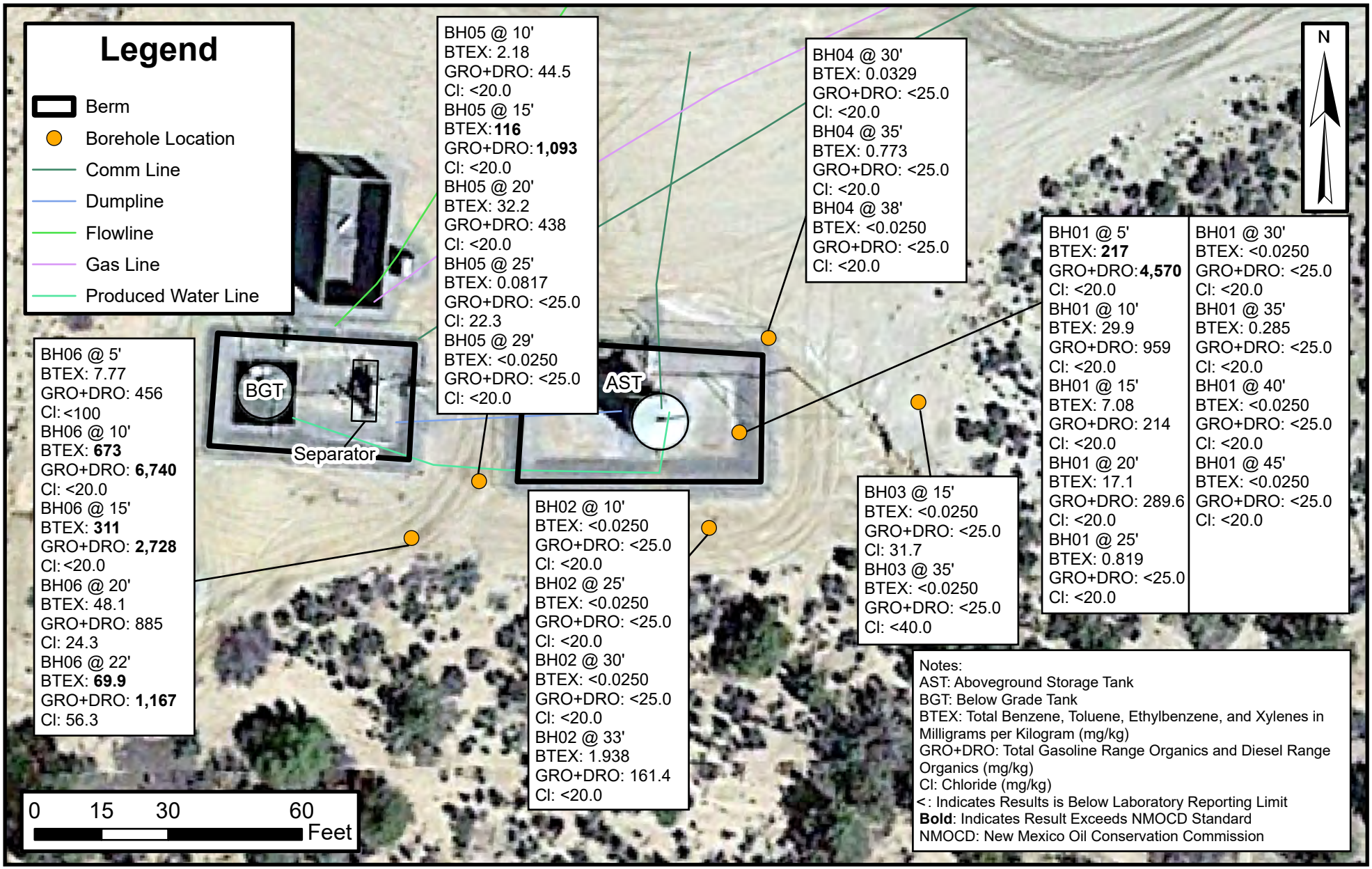
Environmental, Engineering and Hydrogeologic Consultants

Borehole Locations

L C Kelly 1E
Hilcorp Energy Company
36.84600, -108.12450
Unit C, Sec 05, T30N, R12W
San Juan County, New Mexico

FIGURE
2

Sources: Google Earth



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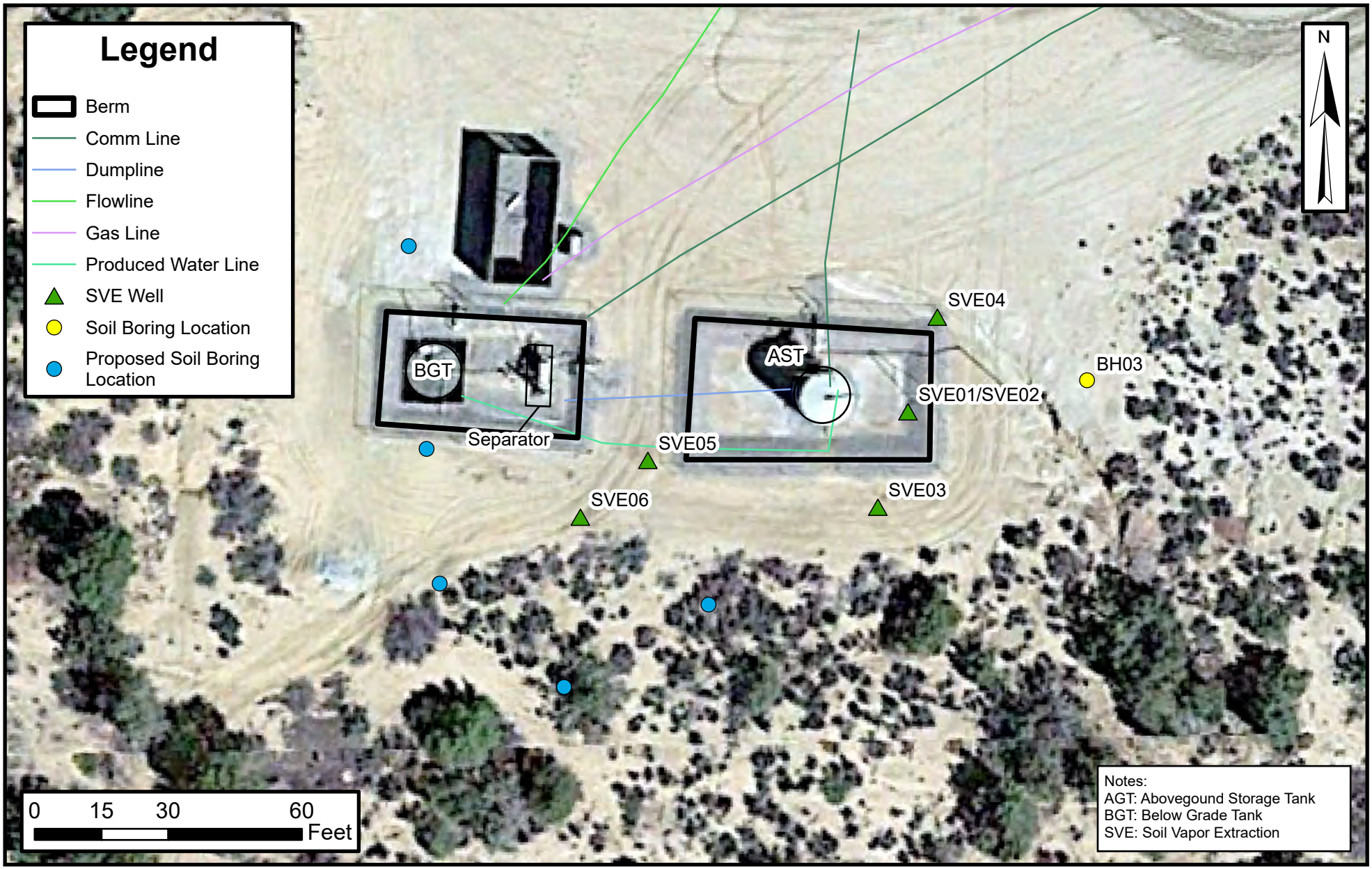
Soil Analytical Results

L C Kelly 1E
Hilcorp Energy Company
36.84600, -108.12450
Unit C, Sec 05, T30N, R12W
San Juan County, New Mexico

FIGURE
3

Sources: Google Earth



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Environmental, Engineering and Hydrogeologic Consultants

SVE Wells and Proposed Boring Locations

L C Kelly 1E
Hilcorp Energy Company
36.84600, -108.12450
Unit C, Sec 05, T30N, R12W
San Juan County, New Mexico

FIGURE
4

Sources: Google Earth

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TABLES

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TABLE 1
DELINEATION SOIL SAMPLE ANALYTICAL RESULTS
L C Kelly 1E
Hilcorp Energy Company
San Juan County, New Mexico

Sample Designation	Date	Depth (feet)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	TPH GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Closure Criteria for Soils Impacted by a Release (Groundwater >100 feet)			**10**	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
BH01 @ 5'	4/11/2023	5	<1.25	**217**	2,130	2,440	50.4	**4,570**	**4,620**	<20.0
BH01 @ 10'	4/11/2023	10	<0.0500	29.9	433	526	<50.0	959	959	<20.0
BH01 @ 15'	4/11/2023	15	<0.0250	7.08	120	94.2	<50.0	214	214	<20.0
BH01 @ 20'	4/11/2023	20	<0.0250	17.1	260	296	<50.0	556	556	<20.0
BH01 @ 25'	4/11/2023	25	<0.0250	0.819	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH01 @ 30'	4/11/2023	30	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH01 @ 35'	4/11/2023	35	<0.025	0.285	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH01 @ 40'	4/11/2023	40	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH01 @ 45'	4/11/2023	45	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH02 @ 10'	4/12/2023	10	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH02 @ 25'	4/12/2023	25	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH02 @ 30'	4/12/2023	30	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH02 @ 33'	4/12/2023	33	<0.0250	1.938	56.4	105	<50.0	161	161	<20.0
BH03 @ 15'	4/12/2023	15	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0	31.7
BH03 @ 35'	4/12/2023	35	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0	<40.0
BH04 @ 30'	4/12/2023	30	<0.0250	0.0329	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH04 @ 35'	4/12/2023	35	0.0455	0.773	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH04 @ 38'	4/12/2023	38	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH05 @ 10'	4/13/2023	10	<0.0250	2.18	44.5	<25.0	<50.0	44.5	44.5	<20.0
BH05 @ 15'	4/13/2023	15	1.22	**116**	937	156	<50.0	**1,093**	1,093	<20.0
BH05 @ 20'	4/13/2023	20	0.974	32.2	202	236	<50.0	438	438	<20.0
BH05 @ 25'	4/13/2023	25	<0.0250	0.0817	<20.0	<25.0	<50.0	<25.0	<50.0	22.3
BH05 @ 29'	4/13/2023	29	<0.0250	<0.0250	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
BH06 @ 5'	4/13/2023	5	<0.0250	8.51	181	275	<50.0	456	456	<100
BH06 @ 10'	4/13/2023	10	**12.2**	**673**	5,360	1,380	<50.0	**6,740**	**6,740**	<20.0
BH06 @ 15'	4/13/2023	15	5.49	**311**	2,280	448	<50.0	**2,728**	**2,728**	<20.0
BH06 @ 20'	4/13/2023	20	0.448	48.1	515	370	<50.0	885	885	24.3
BH06 @ 22'	4/13/2023	22	0.333	**69.9**	651	516	138	**1,167**	1,305	56.3

Notes:

bgs: below ground surface
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
mg/kg: milligrams per kilogram
NA: Not Analyzed
NE: Not Established
NMOCD: New Mexico Oil Conservation Division
': feet
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
MRO: Motor Oil/Lube Oil Range Organics
TPH: Total Petroleum Hydrocarbon
<0.037 : indicates result less than the stated laboratory reporting limit (RL)
*Concentrations in **bold** and shaded exceed the New Mexico Oil Conservation Division Table 1 Closure Criteria for Soils Impacted by a Release*

ENSOLUM

APPENDIX A

Agency Release Notifications

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	nAPP2308124076
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Hilcorp Energy Company	OGRID 372171
Contact Name Mitch Killough	Contact Telephone 713-757-5247
Contact email mkillough@hilcorp.com	Incident # nAPP2308124076
Contact mailing address 1111 Travis Street, Houston, Texas 77002	

Location of Release Source

Latitude 36.8460274 Longitude -108.1248856

(NAD 83 in decimal degrees to 5 decimal places)

Site Name L C Kelly 1E	Site Type Well
Date Release Discovered: 3/8/2023 @ 01:50 pm (MT)	API# 30-045-25349

Unit Letter	Section	Township	Range	County
C	05	30N	12W	San Juan

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private

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) 10.02 bbls	Volume Recovered (bbls) 0 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☒ Condensate	Volume Released (bbls) 35.07 bbls	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 approximately 45.09 bbls fluid (35.07 bbls condensate, 10.02 bbls produced water) was released from a drain valve on a 300-bbl condensate storage tank. Due to freezing temperatures, ice formed inside the drain valve causing a rupture to occur. The released fluids migrated east within the secondary containment area settling into an area measuring approximately 20 ft x 6 ft. Although discharged fluids did not migrate laterally outside secondary containment, no fluids could be recovered due to soaking into the ground surface.

OCD / BLM – FFO will be notified 48 hours prior to sampling. The spill amount was determined by operator's monthly tank gauging data.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2308124076
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? The volume released exceeded 25 bbls, as defined in NMAC 19.15.29.7.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Yes. Following discovery, a 24-hour notification (attached) was submitted via email by Mitch Killough (Hilcorp) to Nelson Velez, Abiodun Adeloye (BLM-FFO), and OCD.Enviro on 3/9/2023 at 10:05 am (MT). MUE filing with the BLM-FFO is attached as well.

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:

In the case of this release, the spilled fluids soaked vertically into the ground surface beneath the storage tank. If any free liquids could have been recovered, Hilcorp would have certainly done so.

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: Mitch Killough Title: Environmental Specialist

Signature: _____ Date: 03/22/2023

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

OCD Only

Received by: Jocelyn Harimon Date: 03/22/2023

Mitch Killough

From:	Mitch Killough
Sent:	Thursday, March 9, 2023 11:05 AM
To:	Velez, Nelson, EMNRD
Cc:	Adeloye, Abiodun A; OCD.Enviro@state.nm.us; Matt Henderson; Christopher Bramwell
Subject:	Hilcorp Energy Company - 24-Hour Release Notification - LC Kelly 1E

Tracking:

Recipient	Delivery
Velez, Nelson, EMNRD	
Adeloye, Abiodun A	
OCD.Enviro@state.nm.us	
Matt Henderson	
Christopher Bramwell	Delivered: 3/9/2023 11:06 AM

Hi Nelson.

On 3/8/2023 at approximately 1:50 pm (MT), Hilcorp Energy Company (Hilcorp) discovered a 45.09-bbl release of condensate/produced water at the LC Kelly 1E (API: 30-045-25349 / Lease No: NMSF081239) in San Juan County, NM (36.846005, -108.124232). Surface owner is BLM. Based on initial assessments conducted by Hilcorp personnel, the cause of the release was determined to be weather-related. Ice formed inside a drain valve on a 300-bbl condensate storage tank causing the valve to split. This event led to the release of product into the secondary containment area surrounding the storage tank. Although the fluids did not migrate horizontally outside of secondary containment, the fluids soaked into the ground surface beneath the bermed area. No fluid could be recovered. At this time, operations has replaced the drain valve on the storage tank. Hilcorp will keep BLM-FFO and NMOCD in the loop on next steps.

An initial C-141 will be submitted to the NMOCD no later than 3/23/2023, along with an Undesirable Report (UE) to the BLM-FFO.

Please contact me if you have any questions. Thanks.

Mitch Killough
Environmental Specialist
Hilcorp Energy Company
1111 Travis Street
Houston, TX 77002
713-757-5247 (office)
281-851-2338 (cell)
mkillough@hilcorp.com

United States Department of Interior
Bureau of Land Management
Major Undesirable Event Report

Report Type: Initial 24-Hour ■ 15-Day/Final ☐ Other/Follow-up ☐					
BLM Field Office: Farmington			State: NM		
BLM Contact: Abiodun Adeloye (Emmanuel)			Date of this Report: 03/09/2023		
Company Official Reporting to BLM: Mitch Killough					
Operator: Hilcorp Energy Company					
Date/Time of Occurrence: 03/08/2023 13:50 pm			Date/Time BLM Notified: 03/09/2023 12:45 pm		
Field/Unit Name: Basin Dakota			Lease Number: NMSF081239		
State: NM	County: San Juan	Twp: 30N	Rng: 12W	Sec: 5	Qtr: NENW
Latitude/ Longitude: 36.8460274, -108.1248856					
Surface Ownership:	Federal: ■		Indian: ☐	State: ☐	FEE ☐

Type and Relevant Details of Event

Oil Spill☐	Oil/Water Spill■	Gas Venting☐	Toxic Fluid Spill☐
Saltwater Spill☐	Other Spill (Specific)☐	Blowout☐	Fire☐
Injury☐	Fatality☐	Property Damage☐	Explosion☐

Nature and Cause of Event: Drain valve on a 300-bbl condensate storage tank split due to ice formation allowing 45.09 bbls of fluid to be released into the secondary containment berm.				
Environmental Impact: Spilled fluids did not migrate horizontally outside secondary containment (unlined). However, the fluids soaked into the ground surface below the secondary containment area and no fluids could be recovered.				
Time Required to Control Event (Hours):	2 minutes			
Volume Discharged or Consumed:	Oil: 35.07 bbls	Water: 10.02 bbls	Gas: _____ mcf	
Volumes Recovered:	Oil: 0 bbls	Water: 0 bbls		
Net Volume Lost:	Oil: 35.07 bbls	Water: 10.02 bbls	Gas: _____ mcf	
Action Taken to Control Event: Upon discovery, Hilcorp personnel took the storage tank out of surface.				
Resulting Damage: The fluids soaked into the ground surface below the secondary containment area and no fluids could be recovered. The drain valve also needed replacement.				
Clean-Up Procedures: The remaining fluids were drained from the storage tank to the pit tank. No fluids could be recovered from the ground surface.				
Cause/Extent of Personal Injury: None				
Actions the operator has taken or will take to prevent a recurrence of the incident: The drain valve was replaced on 3/8/2023 and is working properly.				

Agency Notification List: (Federal/ State/ Local):	Agency Name	Contact Name	Date/Time
	NMOCD	Nelson Velez	03/09/2023 10:05 am
	NMOCD	OCD.Enviro	03/09/2023 10:05 am

Remarks: Include available Major Undesirable Events (MUE) history (attach additional sheet, if needed) for the past 3 years of the same well. Include pictures, if available.

Based on a review of the OCD Permitting Database, the last documented spill at this site occurred on 11/13/2007. No other spills or releases were identified by Hilcorp.

Note 1: Although this release was less than 100 bbls of total fluid, Hilcorp is submitting a MUE due to the site being located within the Glade Run RSA.

Note 2: All times above are reported as MT.

75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

21 March 2023

Kevin Fredrickson
Hilcorp
382 CR 3100
Aztec, NM 87410

RE: North

Enclosed are the results of analyses for samples received by the laboratory on 03/17/23 09:35. The data to follow was performed, in whole or in part, by Green Analytical Laboratories. Any data that was performed by a subcontract laboratory is included within the GAL report, or with an additional report attached.

If you need any further assistance, please feel free to contact me.

Sincerely,

Jeremy D Allen
Laboratory Director

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at http://greenanalytical.com/certifications/

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water. TNI Certificate Number: T104704514-23-17

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8. TNI Certificate Number: T104704398-22-15

jeremy.allen@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303
www.GreenAnalytical.com

Hilcorp	Project: Chloride	
382 CR 3100	Project Name / Number: North	**Reported:**
Aztec NM, 87410	Project Manager: Kevin Fredrickson	03/21/23 13:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
L C Kelly 1E	2303176-01	Water	03/17/23 08:00	03/17/23 09:35	

Green Analytical Laboratories

Jeremy D Allen, Laboratory Director

jeremy.allen@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303
www.GreenAnalytical.com

Hilcorp	Project: Chloride	
382 CR 3100	Project Name / Number: North	**Reported:**
Aztec NM, 87410	Project Manager: Kevin Fredrickson	03/21/23 13:00

L C Kelly 1E
Area 2

2303176-01 (Produced Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Chloride*	**13900**	250	13.9	mg/L	250	03/21/23 02:46	EPA300.0		AES

Green Analytical Laboratories

Jeremy D Allen, Laboratory Director

GREEN Analytical Laboratories
jeremy.allen@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303
www.GreenAnalytical.com

Hilcorp	Project: Chloride	
382 CR 3100	Project Name / Number: North	**Reported:**
Aztec NM, 87410	Project Manager: Kevin Fredrickson	03/21/23 13:00

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B230636 - IC- Ion Chromatograph										
Blank (B230636-BLK1)			Prepared & Analyzed: 03/20/23							
Chloride	ND	1.00	mg/L							
LCS (B230636-BS1)			Prepared & Analyzed: 03/20/23							
Chloride	25.1	1.00	mg/L	25.0		100	90-110			
LCS Dup (B230636-BSD1)			Prepared & Analyzed: 03/20/23							
Chloride	25.1	1.00	mg/L	25.0		100	90-110	0.0398	20	

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
	*Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

Green Analytical Laboratories

Jeremy D Allen, Laboratory Director

Client: **Hilcorp**	Asset: **North**	Phone# **505-634-6059**	Contact **Kevin Fredrickson**
Address: 382 Road 3100, Aztec, NM. 87410		E-Mail Addres kfredrickson@hilcorp.com	

GAL Analytical Laboratories
75 Suttle Street
Durango, CO 81303
Phone:970-247-4220
FAX: 970-247-4227

CHAIN OF CUSTODY RECORD

GAL Work Order # 2303-176
PO#
Project Name:

Sample Location: (1)BumperSpring, (2)CompressorDischarge, (3)Flowline, (4)Meter, (5)Oil Tank (6)PigLauncher, (7)PigReceiver, (8)Pipeline, (9)Pit Tank, (10)PostFilter, (11)PreFilter (12)SeparatorInlet, (13)SeparatorOutlet, (14)SeparatorDump, (15)SWDInlet (16)SWDOutlet, (17)TransferPump, (18)ValveCan, (19)WaterTank, (20)Wellhead (21)Other

Sample Type: (1)Casing, (2)CO2GasTube, (3)Coupon, (4)Water, (5)H2SGasTube, (6)Metals (7)O2GasTube, (8)PipeSection, (9)Residual, (10)Sludge, (11)Solid, (12)Tubing, (13)Other

Chlorides only	Area	Date	Time	Collected By: (Init.)	Sample Location	Sample Type	No. of Containers	Filtered: Y / N	Unpreserved	H2SO4	chlorides	TCLP	BTEX	Full Water API	Corrosivity 9040C (PH)
L C Kelly 1E	2	3/17/2023	8AM	JN	20	4	1	n	x		x				

Relinquished by:	Date:	Time:	Received By:	Date:	Time:
	3-17-23	9:35		3-17-23	9:35A

3 day Rush 23.8°C Laser #2 no ice MRN

Analytical Laboratories

SAMPLE CONDITION RECEIPT FORM

Client Name: Hilcorp Work Order # 2303-176

Courier: ☐Fed Ex ☐UPS ☐USPS ☑Client ☐ Kangaroo

Custody Seals on Box/Cooler Present: ☐ Yes ☑ No Seals Intact: ☐ Yes ☐ No

Thermometer Used: #2 Samples on ice, cooling process has begun: ☐ Yes ☑ No

Type of Ice: ☐ Wet ☐ Blue ☑ None

Cooler Temp: Observed Temp: 23.8 °C Correction Factor: 0 °C Final Temp: 23.8 °C

*Temp should be above freezing to 6°C

Date/Initials of person examining contents: MRN 3/12/23

Labeled by Initials: _____ (if different than above)

Chain of Custody Present:	☑Yes ☐No	1.
Chain of Custody Filled Out:	☑Yes ☐No	2.
Chain of Custody Relinquished:	☑Yes ☐No	3.
Sampler Name and Signature on COC:	☑Yes ☐No	4.
Samples arrived within hold time:	☑Yes ☐No	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☑Yes ☐No	7. 3 day Rush Due 3/22
Sufficient Volume:	☑Yes ☐No	8.
Correct Containers Used:	☑Yes ☐No	9.
Containers Intact:	☑Yes ☐No	10.
Dissolved Testing Needed: Field Filtered: ☐Yes ☐No	☐Yes ☑No	11.
Sample Labels match COC: -Includes Date/Time/ID	☑Yes ☐No	12.
Matrix:	(WT) SL OT	
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present:	☐Yes ☐No ☑N/A	

Client Notification/Resolution:

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FORM-039, Rev 0

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

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 199538
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	3/22/2023

ENSOLUM

APPENDIX B

NMOSE Point of Diversion Summary

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	SJ 02145	1	1	1	04	30N	12W	222547	4082522*

Driller License: 717 **Driller Company:** WESTERN WATER WELLS

Driller Name: HOOD, TERRY

Drill Start Date:	08/17/1987	**Drill Finish Date:**	08/20/1987	**Plug Date:**	
Log File Date:	10/12/1988	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	2 GPM
Casing Size:	4.50	**Depth Well:**	160 feet	**Depth Water:**	110 feet

Water Bearing Stratifications:	Top	Bottom	Description
	130	160	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	110	160

***UTM location was derived from PLSS - see Help**

ENSOLUM

APPENDIX C

Agency Sampling Notifications

From: Stuart Hyde
To: Velez, Nelson, EMNRD; Adeloye, Abiodun A
Cc: Danny Burns; Devin Hencmann; Mitch Killough
Subject: L C Kelly 1E (nAPP2308124076) - Drilling and Sampling Notification
Date: Monday, April 3, 2023 5:15:00 PM
Attachments: image001.png
image002.png
image003.png
image004.png

All,

On behalf of Hilcorp Energy Company, Ensolum is providing this drilling and sampling notification for work at the L C Kelly 1E (nAPP2308124076) site located at coordinates 36.8460274, -108.1248856 in rural San Juan County. Work is scheduled to begin on Tuesday April 11 at 9 AM. Please reach out with any questions or comments. Thanks.

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

ENSOLUM

APPENDIX D

Boring Logs

ENSOLUM

Client: Hilcorp Energy Co.
Project Name: LC Kelly 1E
Project Location: 36.84615° N, 108.12417° W
Project Manager: Stuart Hyde

BORING LOG NUMBER: BH01
Project No.: 07A1988069

Date Sampled: 4-11-23
Drilled By: Enviro-Drill - CME-85 HSA
Driller: Juan
Logged By: Danny Burns

Ground Surface Elevation: 5,990'
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: ~~8~~ 8"
Casing Diameter: 2"
Well Materials: PVC sch 40
Surface Completion: ~~grout~~ stick up
Boring Method: HSA

DEPTH (FEET)	SAMPLE ~~INTERVAL~~ TIME	RECOVERY (%)	FID/PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
0							
2	1/1/1 6"	75%	>5,000		SW	Brown, med-coarse sand No stain, strong hydrocarbon odor. SL. Moist.	
4							
6							
8	25/50 3"	75	>5,000		SW-SM	" " SAA. Dry, no stain strong odor. w/ some fines.	
10							
12	31/50 3"	50	2,950		SW	Brown, coarse sand w/ gravel No stain, strong odor.	
14							
16						Brown med-coarse sand w/silt.	
18	27/50 2"	~~50~~	2,065		SW-SM	No stain, strong-moderate odor.	
20							
22						Brown, med-coarse ~~sand~~ w/ silt	
24	25/50 4"	100	995		SW-SM	No stain, mod. odor. Dry. some compaction.	
26							
28	29/50 5"	100	253		SW-SM	Lt. gray med sand w/ silt. slt. sweet gassy odor.	
30							
32							
34	30/50 2"	100	732		SW-SM	Brown med-coarse sand w/ silt slt. to mod. HC odor, degraded.	
36							
38	50 5"	25	272		SW-SM	Lt-gray med sand w/ silt slt gassy HC odor.	
40							
42							
44	32/50 4"	75	~~220~~		SW-SM	Lt-gray med. fn sand w/ silt. slt. odor.	
46							
48	35/50 2"	25	43		SW	Lt. gray. med sand. No stain/odor.	
50							

20'-5' screen
22-20 cuttings/sand
Hydrated Bentonite 24-22'

sand 41'-24'

40-25' screen

Backfill to 41' with cuttings

ENSOLUM

Client: Hilcorp Energy Co
Project Name: LC Kelly 1E
Project Location: 36 84615° N, 108 12417° W
Project Manager: Stuart Hyde

BORING LOG NUMBER: BH02
Project No.: 07A1988069

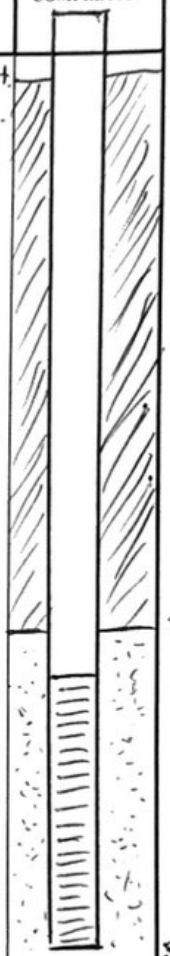
Date Sampled: 4-12-23
Drilled By: Juan
Driller: Enviro-Drill CME 85
Logged By: Danny Burns

Ground Surface Elevation: 5,990'
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 8"
Casing Diameter: 2"
Well Materials: PVC
Surface Completion: Stickup
Boring Method: HSA

DEPTH (FEET)	SAMPLE INTERVAL TIME	RECOVERY (%)	FID/PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION
0–4	1/2/2 6"	100	5.6		SW	Brown, med- coarse sand, some silt. No stain/odor. Dry, unconsolidated.
6–10	27/50 3"	100	23.7		SW	Lt. brown coarse sand ±Brown med-coarse sand. Trace silt. No s/o. Dry.
10–14	0900 25/50 5"	75	17.6		SW	Lt. brown coarse sand. Dry. No s/o.
16–18	39/50 5"	100	3.3		SW-SM	Brown coarse sand w/ gravel and silt. No s/o
20–24	29/50 4"	100	32.1		SW-SM	Lt. Brown med-coarse sand w/ silt. Dry. No stain, slight sweet gassy odor.
0930 26–28	50 6"	100	175		SW-SM	Lt. gray med. sand w/ silt. some cementation. No SH sweet gassy odor.
1000 30–32 Refusal	50 5"		484		SW-SM	SAA + then Lt. Brown med sand w/ silt, SLt. moist. No stain, slight gassy HC odor, sweet.
1010 34						Refusal @ 33', sand stone. Augered down for 5 min. w/ no depth progress.

BORING/WELL COMPLETION



Bentonite 21'-0'
21'-33' sand
23'-33' screen
33' Refusal

ENSOLUM

Client: Hilcorp Energy Co.
Project Name: LC Kelly 1E
Project Location: 36.84615° N, 108.12417° W
Project Manager: Stuart Hyde

BORING LOG NUMBER: BH03
Project No.: 07A1988069

Date Sampled: 4-12-23
Drilled By: ENVIRO-DRILL
Driller: Juan
Logged By: Danny Burns

Ground Surface Elevation: 5,990'
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 8"
Casing Diameter: ~~4"~~
Well Materials: ~~PVC~~
Surface Completion: ~~Flush~~
Boring Method: HSA

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION	BORING/WELL COMPLETION
0–4		100	2.9		SW-SM	Lt. Brown med. well graded sand w/ silt. Dry, no stain/odor. Loose.	
6–10		100	2.1		SW-SM	SAA. No S/O.	No well set.
12–14	1115	75	7.8		SW-SM	Brown med.-coarse sand w/ silt. Dry. No S/O	Borehole open
16–20		50	3.2		SW-SM	SAA. Dry. No S/O.	backfilled w/ clean cuttings
22–24		75	2.5		SW-SM	Lt. Brown med. coarse sand w/ silt. No S/O	
26–28		25	2.3		SW-SM	SAA. No S/O	
32–34	1310	25	2.1		SW-SM	Lt. Brown med sand w/ silt. Semi-cemented. Dry. No S/O. Very hard drilling. Refusal @ 35'	
36–50						- No observed impacts. left hole open. No well set at this time.	

9/14/25 6" 50 6" 50 5" 50 5" 39/50 8" 6" 50 4" ~~50~~ 4"

ENSOLUM

Client: Hilcorp Energy Co
Project Name: LC Kelly 1E
Project Location: 36.84615° N, 108.12417° W
Project Manager: Stuart Hyde

BORING LOG NUMBER BH04
Project No.: 07A1988069

Date Sampled: 4-12-23
Drilled By: Enviro-Drill
Driller: Sean
Logged By: Danny Burns

Ground Surface Elevation: 5,990'
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 8"
Casing Diameter: 2"
Well Materials: PVC
Surface Completion: Stick up
Boring Method: HSA

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION
0						
2		100	1.1		SW -SM	Lt. Brown med sand w/ silt. Dry. No s/o
4						
6						
8		25	3.7		SW	Lt. Brown/tan coarse sand, some gravel. Dry, No s/o
10						
12						
14		100	2.3		SW	SAA. coarse sand w/ gravel No s/o
16						
18		100	1.6		SW	Brown coarse sand, dense, SL. moist. No stain/odor.
20						
22						Brown coarse sand.
24		25	4.3		SW	Dense. Dry - No s/o
26						SAA, w/ gravel.
28		25	8.5		SW	SL. Moist . No s/o
30	1500					
32	1580	25	55.8		SW -SM	Brown. med-coarse sand w/silt. Dry. Dense No stain, slight Degraded HC odor.
34						
36						
38	1540	25'	5.1		SW -SM	Lt. gray med sand w/ silt. Dense, some cementation, Dry, No s/o.
Refusal 40						Refusal w/ HSA @ 38'
42						Well set @ 38'-28' 10' screen
44						
46						
48						
50						

10/18/30
29/50 4"
29/45/50
16/25/50-5"
50-5"
50-4"
50-4"
50-4"

BORING/WELL COMPLETION

ENSOLUM

Client: Hilcorp Energy Co.
Project Name: LC Kelly 1E
Project Location: 36.84615° N, 108.12417° W
Project Manager: Stuart Hyde

BORING LOG NUMBER: BH05
Project No.: 07A1988069

Date Sampled: 4-13-23
Drilled By: Enviro-Drill
Driller: Jason
Logged By: Danny Burns

Ground Surface Elevation: 5,990'
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 8"
Casing Diameter: 2"
Well Materials: PVC
Surface Completion: stick up
Boring Method: HSA

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION
0–4		100	0.1		SW-SM	Brown, med. sand w/ silt. SL. moist, No stain/odor.
1/3/3						
6–8		50	1,226		SW	Gray + brown med-coarse sand. Tr. silt. Dry. Slight stain + odor.
50-5"	0930	~~[illegible]~~				
12–14		50	3,823		SW-SM	Gray med-coarse sand w/ silt. Moderate-strong stain/odor Dry.
50-5"	0950					
16–18		75	4,103		SW-SM	Dark gray and brown interspersed med-course sand. Mod. S/O. Dry.
26/50-4"	1000					
20–22		100	584			Gray fine-med sand w/ silt Mod. S/O. Dry some cementation
39/50-4"	1020					
24–26						
28 Refusal		25	102			Gray, fn-med sand w/ silt Dense, compacted, some cement. Dry, mod stain, slt. odor. Refusal @ 29'
50-4"	1035					
30–50						

Set SVE well 20'-10'
10' screen

BORING/WELL COMPLETION: stickup; Backfill to 20' w/ cuttings; 29' Refusal

ENSOLUM

Client: Hilcorp Energy Co
Project Name: LC Kelly 1E
Project Location: 36.84615° N, 108.12417° W
Project Manager: Stuart Hyde

BORING LOG NUMBER: BH06
Project No.: 07A1988069

Date Sampled: 4-13-23
Drilled By: Enviro-Drill
Driller: Juan
Logged By: Danny Burns

Ground Surface Elevation: 5,990'
Top of Casing Elevation:
North Coordinate:
West Coordinate:

Borehole Diameter: 8"
Casing Diameter: 2"
Well Materials: PVC
Surface Completion: Stick up
Boring Method: HSA

DEPTH (FEET)	SAMPLE INTERVAL	RECOVERY (%)	FID/PID READING (PPM)	POTENTIOMETRIC SURFACE	GEOLOGIC LOG SYMBOL	GEOLOGIC DESCRIPTION
0					SW-SM	Brown med-coarse sand w/ SiH sl. moist.
2						
4	1230	100	1,324			@5' – Lt. gray coarse sand w/ SiH mod. stain + odor.
6						
8		100	2,066		SW	Lt. gray. med. sand. Tr. SiH. Mod. S/O.
10	1245					
12						
14		50	2,936		SW	Lt. gray med.-coarse sand. Mod. S/O.
16	1255					
18		25	3,214		SW	Brown med-coarse sand. No stain, mod. odor.
20	1305	25	2018		SW	Lt. Brown med + med-coarse sand. No stain, mod. odor.
22 Refusal	1325					Refusal @ 22'
24						
26						
28						
30						
32						
34						
36						
38						
40						
42						
44						
46						
48						
50						

BORING/WELL COMPLETION

6/7/13

36/50-4"

50-5"

50-5"

50-5"

Bentonite plug 8'-0'

Sand 8'-22'

Screen 20'-10'

cuttings backfill to 20'

ENSOLUM

APPENDIX E

Laboratory Analytical Reports

Report to:

Mitch Killough

5796 U.S. Hwy 64
Farmington, NM 87401

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

envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Hilcorp Energy Co

Project Name:	LC Kelly #1E
Work Order:	E304056
Job Number:	17051-0002
Received:	4/11/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/18/23

Date Reported: 4/18/23

Mitch Killough
PO Box 61529
Houston, TX 77208

Project Name: LC Kelly #1E
Workorder: E304056
Date Received: 4/11/2023 4:53:00PM

Mitch Killough,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/11/2023 4:53:00PM, under the Project Name: LC Kelly #1E.

The analytical test results summarized in this report with the Project Name: LC Kelly #1E apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
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Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

Table of Contents

Sample Summary

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	04/18/23 11:31

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH01 @ 5'	E304056-01A	Soil	04/11/23	04/11/23	Glass Jar, 4 oz.
BH01 @ 10'	E304056-02A	Soil	04/11/23	04/11/23	Glass Jar, 4 oz.
BH01 @ 15'	E304056-03A	Soil	04/11/23	04/11/23	Glass Jar, 4 oz.
BH01 @ 20'	E304056-04A	Soil	04/11/23	04/11/23	Glass Jar, 4 oz.
BH01 @ 25'	E304056-05A	Soil	04/11/23	04/11/23	Glass Jar, 4 oz.
BH01 @ 30'	E304056-06A	Soil	04/11/23	04/11/23	Glass Jar, 4 oz.
BH01 @ 35'	E304056-07A	Soil	04/11/23	04/11/23	Glass Jar, 4 oz.
BH01 @ 40'	E304056-08A	Soil	04/11/23	04/11/23	Glass Jar, 4 oz.
BH01 @ 45'	E304056-09A	Soil	04/11/23	04/11/23	Glass Jar, 4 oz.
BH01 @ 50'	E304056-10A	Soil	04/11/23	04/11/23	Glass Jar, 4 oz.

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

BH01 @ 5'

E304056-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: IY			Batch: 2315063
Benzene	ND	1.25	50	04/14/23	04/18/23	
Ethylbenzene	**9.65**	1.25	50	04/14/23	04/18/23	
Toluene	**12.8**	1.25	50	04/14/23	04/18/23	
o-Xylene	**43.9**	1.25	50	04/14/23	04/18/23	
p,m-Xylene	**151**	2.50	50	04/14/23	04/18/23	
Total Xylenes	**195**	1.25	50	04/14/23	04/18/23	
Surrogate: Bromofluorobenzene		*101 %*	*70-130*	*04/14/23*	*04/18/23*	
Surrogate: 1,2-Dichloroethane-d4		*96.9 %*	*70-130*	*04/14/23*	*04/18/23*	
Surrogate: Toluene-d8		*104 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY			Batch: 2315063
Gasoline Range Organics (C6-C10)	**2130**	1000	50	04/14/23	04/18/23	
Surrogate: Bromofluorobenzene		*101 %*	*70-130*	*04/14/23*	*04/18/23*	
Surrogate: 1,2-Dichloroethane-d4		*96.9 %*	*70-130*	*04/14/23*	*04/18/23*	
Surrogate: Toluene-d8		*104 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315070
Diesel Range Organics (C10-C28)	**2440**	25.0	1	04/13/23	04/14/23	
Oil Range Organics (C28-C36)	**50.4**	50.0	1	04/13/23	04/14/23	
Surrogate: n-Nonane		*88.2 %*	*50-200*	*04/13/23*	*04/14/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315078
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

BH01 @ 10'

E304056-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: IY			Batch: 2315063
Benzene	ND	0.0500	2	04/14/23	04/18/23	
Ethylbenzene	**1.74**	0.0500	2	04/14/23	04/18/23	
Toluene	**2.81**	0.0500	2	04/14/23	04/18/23	
o-Xylene	**5.46**	0.0500	2	04/14/23	04/18/23	
p,m-Xylene	**19.8**	0.100	2	04/14/23	04/18/23	
Total Xylenes	**25.3**	0.0500	2	04/14/23	04/18/23	
Surrogate: Bromofluorobenzene		*129 %*	*70-130*	*04/14/23*	*04/18/23*	
Surrogate: 1,2-Dichloroethane-d4		*97.8 %*	*70-130*	*04/14/23*	*04/18/23*	
Surrogate: Toluene-d8		*116 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY			Batch: 2315063
Gasoline Range Organics (C6-C10)	**433**	40.0	2	04/14/23	04/18/23	
Surrogate: Bromofluorobenzene		*129 %*	*70-130*	*04/14/23*	*04/18/23*	
Surrogate: 1,2-Dichloroethane-d4		*97.8 %*	*70-130*	*04/14/23*	*04/18/23*	
Surrogate: Toluene-d8		*116 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315070
Diesel Range Organics (C10-C28)	**526**	25.0	1	04/13/23	04/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/13/23	04/14/23	
Surrogate: n-Nonane		*159 %*	*50-200*	*04/13/23*	*04/14/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315078
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

BH01 @ 15'

E304056-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: IY			Batch: 2315063
Benzene	ND	0.0250	1	04/14/23	04/14/23	
Ethylbenzene	**0.400**	0.0250	1	04/14/23	04/14/23	
Toluene	**0.737**	0.0250	1	04/14/23	04/14/23	
o-Xylene	**1.13**	0.0250	1	04/14/23	04/14/23	
p,m-Xylene	**4.81**	0.0500	1	04/14/23	04/14/23	
Total Xylenes	**5.94**	0.0250	1	04/14/23	04/14/23	
Surrogate: Bromofluorobenzene		*109 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: 1,2-Dichloroethane-d4		*98.0 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: Toluene-d8		*110 %*	*70-130*	*04/14/23*	*04/14/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY			Batch: 2315063
Gasoline Range Organics (C6-C10)	**120**	20.0	1	04/14/23	04/14/23	
Surrogate: Bromofluorobenzene		*109 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: 1,2-Dichloroethane-d4		*98.0 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: Toluene-d8		*110 %*	*70-130*	*04/14/23*	*04/14/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315070
Diesel Range Organics (C10-C28)	**94.2**	25.0	1	04/13/23	04/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/13/23	04/14/23	
Surrogate: n-Nonane		*111 %*	*50-200*	*04/13/23*	*04/14/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315078
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

BH01 @ 20'

E304056-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: IY			Batch: 2315063
Benzene	ND	0.0250	1	04/14/23	04/14/23	
Ethylbenzene	**1.15**	0.0250	1	04/14/23	04/14/23	
Toluene	**2.01**	0.0250	1	04/14/23	04/14/23	
o-Xylene	**2.68**	0.0250	1	04/14/23	04/14/23	
p,m-Xylene	**11.2**	0.0500	1	04/14/23	04/14/23	
Total Xylenes	**13.9**	0.0250	1	04/14/23	04/14/23	
Surrogate: Bromofluorobenzene		*130 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: 1,2-Dichloroethane-d4		*100 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: Toluene-d8		*118 %*	*70-130*	*04/14/23*	*04/14/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY			Batch: 2315063
Gasoline Range Organics (C6-C10)	**260**	20.0	1	04/14/23	04/14/23	
Surrogate: Bromofluorobenzene		*130 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: 1,2-Dichloroethane-d4		*100 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: Toluene-d8		*118 %*	*70-130*	*04/14/23*	*04/14/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315070
Diesel Range Organics (C10-C28)	**29.6**	25.0	1	04/13/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/13/23	04/15/23	
Surrogate: n-Nonane		*102 %*	*50-200*	*04/13/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315078
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

BH01 @ 25'

E304056-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: IY			Batch: 2315063
Benzene	ND	0.0250	1	04/14/23	04/14/23	
Ethylbenzene	**0.0480**	0.0250	1	04/14/23	04/14/23	
Toluene	**0.129**	0.0250	1	04/14/23	04/14/23	
o-Xylene	**0.136**	0.0250	1	04/14/23	04/14/23	
p,m-Xylene	**0.506**	0.0500	1	04/14/23	04/14/23	
Total Xylenes	**0.642**	0.0250	1	04/14/23	04/14/23	
Surrogate: Bromofluorobenzene		*97.6 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: 1,2-Dichloroethane-d4		*96.5 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: Toluene-d8		*102 %*	*70-130*	*04/14/23*	*04/14/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY			Batch: 2315063
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/14/23	04/14/23	
Surrogate: Bromofluorobenzene		*97.6 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: 1,2-Dichloroethane-d4		*96.5 %*	*70-130*	*04/14/23*	*04/14/23*	
Surrogate: Toluene-d8		*102 %*	*70-130*	*04/14/23*	*04/14/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315070
Diesel Range Organics (C10-C28)	ND	25.0	1	04/13/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/13/23	04/15/23	
Surrogate: n-Nonane		*101 %*	*50-200*	*04/13/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315078
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

BH01 @ 30'

E304056-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: SL			Batch: 2315059
Benzene	ND	0.0250	1	04/12/23	04/12/23	
Ethylbenzene	ND	0.0250	1	04/12/23	04/12/23	
Toluene	ND	0.0250	1	04/12/23	04/12/23	
o-Xylene	ND	0.0250	1	04/12/23	04/12/23	
p,m-Xylene	ND	0.0500	1	04/12/23	04/12/23	
Total Xylenes	ND	0.0250	1	04/12/23	04/12/23	
Surrogate: Bromofluorobenzene		*97.8 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: Toluene-d8		*101 %*	*70-130*	*04/12/23*	*04/12/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315059
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/12/23	04/12/23	
Surrogate: Bromofluorobenzene		*97.8 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: Toluene-d8		*101 %*	*70-130*	*04/12/23*	*04/12/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315061
Diesel Range Organics (C10-C28)	ND	25.0	1	04/12/23	04/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/12/23	04/12/23	
Surrogate: n-Nonane		*93.4 %*	*50-200*	*04/12/23*	*04/12/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: RAS			Batch: 2315057
Chloride	ND	20.0	1	04/12/23	04/12/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

BH01 @ 35'

E304056-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: SL			Batch: 2315059
Benzene	ND	0.0250	1	04/12/23	04/12/23	
Ethylbenzene	ND	0.0250	1	04/12/23	04/12/23	
Toluene	**0.0270**	0.0250	1	04/12/23	04/12/23	
o-Xylene	**0.0505**	0.0250	1	04/12/23	04/12/23	
p,m-Xylene	**0.207**	0.0500	1	04/12/23	04/12/23	
Total Xylenes	**0.258**	0.0250	1	04/12/23	04/12/23	
Surrogate: Bromofluorobenzene		*100 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: Toluene-d8		*107 %*	*70-130*	*04/12/23*	*04/12/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315059
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/12/23	04/12/23	
Surrogate: Bromofluorobenzene		*100 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: Toluene-d8		*107 %*	*70-130*	*04/12/23*	*04/12/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315061
Diesel Range Organics (C10-C28)	ND	25.0	1	04/12/23	04/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/12/23	04/12/23	
Surrogate: n-Nonane		*101 %*	*50-200*	*04/12/23*	*04/12/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: RAS			Batch: 2315057
Chloride	ND	20.0	1	04/12/23	04/12/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

BH01 @ 40'

E304056-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: SL			Batch: 2315059
Benzene	ND	0.0250	1	04/12/23	04/12/23	
Ethylbenzene	ND	0.0250	1	04/12/23	04/12/23	
Toluene	ND	0.0250	1	04/12/23	04/12/23	
o-Xylene	ND	0.0250	1	04/12/23	04/12/23	
p,m-Xylene	ND	0.0500	1	04/12/23	04/12/23	
Total Xylenes	ND	0.0250	1	04/12/23	04/12/23	
Surrogate: Bromofluorobenzene		*99.1 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: 1,2-Dichloroethane-d4		*99.8 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: Toluene-d8		*103 %*	*70-130*	*04/12/23*	*04/12/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315059
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/12/23	04/12/23	
Surrogate: Bromofluorobenzene		*99.1 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: 1,2-Dichloroethane-d4		*99.8 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: Toluene-d8		*103 %*	*70-130*	*04/12/23*	*04/12/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315061
Diesel Range Organics (C10-C28)	ND	25.0	1	04/12/23	04/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/12/23	04/12/23	
Surrogate: n-Nonane		*98.9 %*	*50-200*	*04/12/23*	*04/12/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: RAS			Batch: 2315057
Chloride	ND	20.0	1	04/12/23	04/12/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

BH01 @ 45'

E304056-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: SL			Batch: 2315059
Benzene	ND	0.0250	1	04/12/23	04/12/23	
Ethylbenzene	ND	0.0250	1	04/12/23	04/12/23	
Toluene	ND	0.0250	1	04/12/23	04/12/23	
o-Xylene	ND	0.0250	1	04/12/23	04/12/23	
p,m-Xylene	ND	0.0500	1	04/12/23	04/12/23	
Total Xylenes	ND	0.0250	1	04/12/23	04/12/23	
Surrogate: Bromofluorobenzene		*102 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: 1,2-Dichloroethane-d4		*97.4 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: Toluene-d8		*103 %*	*70-130*	*04/12/23*	*04/12/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315059
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/12/23	04/12/23	
Surrogate: Bromofluorobenzene		*102 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: 1,2-Dichloroethane-d4		*97.4 %*	*70-130*	*04/12/23*	*04/12/23*	
Surrogate: Toluene-d8		*103 %*	*70-130*	*04/12/23*	*04/12/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315061
Diesel Range Organics (C10-C28)	ND	25.0	1	04/12/23	04/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/12/23	04/12/23	
Surrogate: n-Nonane		*102 %*	*50-200*	*04/12/23*	*04/12/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: RAS			Batch: 2315057
Chloride	ND	20.0	1	04/12/23	04/12/23	

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

Volatile Organic Compounds by EPA 8260B

Analyst: SL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315059-BLK1)									Prepared: 04/12/23 Analyzed: 04/12/23
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	*0.492*		*0.500*		*98.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.480*		*0.500*		*96.0*	*70-130*			
Surrogate: Toluene-d8	*0.519*		*0.500*		*104*	*70-130*			
LCS (2315059-BS1)									Prepared: 04/12/23 Analyzed: 04/13/23
Benzene	2.49	0.0250	2.50		99.4	70-130			
Ethylbenzene	2.38	0.0250	2.50		95.3	70-130			
Toluene	2.43	0.0250	2.50		97.3	70-130			
o-Xylene	2.46	0.0250	2.50		98.4	70-130			
p,m-Xylene	4.85	0.0500	5.00		96.9	70-130			
Total Xylenes	7.31	0.0250	7.50		97.4	70-130			
Surrogate: Bromofluorobenzene	*0.488*		*0.500*		*97.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.505*		*0.500*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.509*		*0.500*		*102*	*70-130*			
Matrix Spike (2315059-MS1)				**Source: E304052-05**					Prepared: 04/12/23 Analyzed: 04/12/23
Benzene	2.58	0.0250	2.50	ND	103	48-131			
Ethylbenzene	2.48	0.0250	2.50	ND	99.2	45-135			
Toluene	2.55	0.0250	2.50	ND	102	48-130			
o-Xylene	2.38	0.0250	2.50	ND	95.4	43-135			
p,m-Xylene	4.69	0.0500	5.00	ND	93.8	43-135			
Total Xylenes	7.07	0.0250	7.50	ND	94.3	43-135			
Surrogate: Bromofluorobenzene	*0.476*		*0.500*		*95.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.486*		*0.500*		*97.1*	*70-130*			
Surrogate: Toluene-d8	*0.524*		*0.500*		*105*	*70-130*			
Matrix Spike Dup (2315059-MSD1)				**Source: E304052-05**					Prepared: 04/12/23 Analyzed: 04/12/23
Benzene	2.58	0.0250	2.50	ND	103	48-131	0.0388	23	
Ethylbenzene	2.49	0.0250	2.50	ND	99.6	45-135	0.382	27	
Toluene	2.57	0.0250	2.50	ND	103	48-130	0.644	24	
o-Xylene	2.50	0.0250	2.50	ND	99.9	43-135	4.63	27	
p,m-Xylene	4.93	0.0500	5.00	ND	98.6	43-135	4.99	27	
Total Xylenes	7.43	0.0250	7.50	ND	99.0	43-135	4.87	27	
Surrogate: Bromofluorobenzene	*0.484*		*0.500*		*96.7*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.518*		*0.500*		*104*	*70-130*			
Surrogate: Toluene-d8	*0.522*		*0.500*		*104*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

Volatile Organic Compounds by EPA 8260B

Analyst: SL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315063-BLK1)									Prepared: 04/13/23 Analyzed: 04/13/23
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	*0.508*		*0.500*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.483*		*0.500*		*96.6*	*70-130*			
Surrogate: Toluene-d8	*0.507*		*0.500*		*101*	*70-130*			
LCS (2315063-BS1)									Prepared: 04/13/23 Analyzed: 04/13/23
Benzene	2.37	0.0250	2.50		94.8	70-130			
Ethylbenzene	2.32	0.0250	2.50		93.0	70-130			
Toluene	2.31	0.0250	2.50		92.3	70-130			
o-Xylene	2.41	0.0250	2.50		96.6	70-130			
p,m-Xylene	4.77	0.0500	5.00		95.3	70-130			
Total Xylenes	7.18	0.0250	7.50		95.8	70-130			
Surrogate: Bromofluorobenzene	*0.493*		*0.500*		*98.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.498*		*0.500*		*99.6*	*70-130*			
Surrogate: Toluene-d8	*0.498*		*0.500*		*99.5*	*70-130*			
Matrix Spike (2315063-MS1)				**Source: E304065-04**					Prepared: 04/13/23 Analyzed: 04/13/23
Benzene	2.44	0.0250	2.50	ND	97.7	48-131			
Ethylbenzene	2.38	0.0250	2.50	ND	95.1	45-135			
Toluene	2.40	0.0250	2.50	ND	95.9	48-130			
o-Xylene	2.48	0.0250	2.50	ND	99.3	43-135			
p,m-Xylene	4.89	0.0500	5.00	ND	97.8	43-135			
Total Xylenes	7.37	0.0250	7.50	ND	98.3	43-135			
Surrogate: Bromofluorobenzene	*0.491*		*0.500*		*98.1*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.492*		*0.500*		*98.3*	*70-130*			
Surrogate: Toluene-d8	*0.504*		*0.500*		*101*	*70-130*			
Matrix Spike Dup (2315063-MSD1)				**Source: E304065-04**					Prepared: 04/13/23 Analyzed: 04/13/23
Benzene	2.44	0.0250	2.50	ND	97.6	48-131	0.164	23	
Ethylbenzene	2.42	0.0250	2.50	ND	96.8	45-135	1.73	27	
Toluene	2.43	0.0250	2.50	ND	97.2	48-130	1.31	24	
o-Xylene	2.50	0.0250	2.50	ND	100	43-135	0.762	27	
p,m-Xylene	4.92	0.0500	5.00	ND	98.5	43-135	0.662	27	
Total Xylenes	7.43	0.0250	7.50	ND	99.0	43-135	0.696	27	
Surrogate: Bromofluorobenzene	*0.497*		*0.500*		*99.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.499*		*0.500*		*99.7*	*70-130*			
Surrogate: Toluene-d8	*0.507*		*0.500*		*101*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315059-BLK1)									Prepared: 04/12/23 Analyzed: 04/12/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	*0.492*		*0.500*		*98.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.480*		*0.500*		*96.0*	*70-130*			
Surrogate: Toluene-d8	*0.519*		*0.500*		*104*	*70-130*			
LCS (2315059-BS2)									Prepared: 04/12/23 Analyzed: 04/12/23
Gasoline Range Organics (C6-C10)	47.1	20.0	50.0		94.3	70-130			
Surrogate: Bromofluorobenzene	*0.492*		*0.500*		*98.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.498*		*0.500*		*99.5*	*70-130*			
Surrogate: Toluene-d8	*0.523*		*0.500*		*105*	*70-130*			
Matrix Spike (2315059-MS2)				**Source: E304052-05**					Prepared: 04/12/23 Analyzed: 04/12/23
Gasoline Range Organics (C6-C10)	50.1	20.0	50.0	ND	100	70-130			
Surrogate: Bromofluorobenzene	*0.494*		*0.500*		*98.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.491*		*0.500*		*98.2*	*70-130*			
Surrogate: Toluene-d8	*0.523*		*0.500*		*105*	*70-130*			
Matrix Spike Dup (2315059-MSD2)				**Source: E304052-05**					Prepared: 04/12/23 Analyzed: 04/12/23
Gasoline Range Organics (C6-C10)	47.2	20.0	50.0	ND	94.4	70-130	5.90	20	
Surrogate: Bromofluorobenzene	*0.482*		*0.500*		*96.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.509*		*0.500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.511*		*0.500*		*102*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315063-BLK1)									Prepared: 04/13/23 Analyzed: 04/13/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	*0.508*		*0.500*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.483*		*0.500*		*96.6*	*70-130*			
Surrogate: Toluene-d8	*0.507*		*0.500*		*101*	*70-130*			
LCS (2315063-BS2)									Prepared: 04/13/23 Analyzed: 04/13/23
Gasoline Range Organics (C6-C10)	47.6	20.0	50.0		95.2	70-130			
Surrogate: Bromofluorobenzene	*0.509*		*0.500*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.494*		*0.500*		*98.7*	*70-130*			
Surrogate: Toluene-d8	*0.515*		*0.500*		*103*	*70-130*			
Matrix Spike (2315063-MS2)				**Source: E304065-04**					Prepared: 04/13/23 Analyzed: 04/13/23
Gasoline Range Organics (C6-C10)	49.2	20.0	50.0	ND	98.3	70-130			
Surrogate: Bromofluorobenzene	*0.510*		*0.500*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.499*		*0.500*		*99.7*	*70-130*			
Surrogate: Toluene-d8	*0.503*		*0.500*		*101*	*70-130*			
Matrix Spike Dup (2315063-MSD2)				**Source: E304065-04**					Prepared: 04/13/23 Analyzed: 04/13/23
Gasoline Range Organics (C6-C10)	47.3	20.0	50.0	ND	94.6	70-130	3.85	20	
Surrogate: Bromofluorobenzene	*0.505*		*0.500*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.486*		*0.500*		*97.1*	*70-130*			
Surrogate: Toluene-d8	*0.521*		*0.500*		*104*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315061-BLK1)									Prepared: 04/12/23 Analyzed: 04/12/23
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*52.8*		*50.0*		*106*	*50-200*			
LCS (2315061-BS1)									Prepared: 04/12/23 Analyzed: 04/12/23
Diesel Range Organics (C10-C28)	254	25.0	250		102	38-132			
Surrogate: n-Nonane	*50.9*		*50.0*		*102*	*50-200*			
Matrix Spike (2315061-MS1)				**Source: E304053-01**					Prepared: 04/12/23 Analyzed: 04/12/23
Diesel Range Organics (C10-C28)	266	25.0	250	ND	107	38-132			
Surrogate: n-Nonane	*52.1*		*50.0*		*104*	*50-200*			
Matrix Spike Dup (2315061-MSD1)				**Source: E304053-01**					Prepared: 04/12/23 Analyzed: 04/12/23
Diesel Range Organics (C10-C28)	262	25.0	250	ND	105	38-132	1.73	20	
Surrogate: n-Nonane	*51.2*		*50.0*		*102*	*50-200*			

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315070-BLK1)									Prepared: 04/13/23 Analyzed: 04/14/23
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*49.7*		*50.0*		*99.4*	*50-200*			
LCS (2315070-BS1)									Prepared: 04/13/23 Analyzed: 04/14/23
Diesel Range Organics (C10-C28)	256	25.0	250		103	38-132			
Surrogate: n-Nonane	*47.6*		*50.0*		*95.1*	*50-200*			
Matrix Spike (2315070-MS1)				**Source: E304071-01**					Prepared: 04/13/23 Analyzed: 04/14/23
Diesel Range Organics (C10-C28)	261	25.0	250	ND	105	38-132			
Surrogate: n-Nonane	*49.1*		*50.0*		*98.1*	*50-200*			
Matrix Spike Dup (2315070-MSD1)				**Source: E304071-01**					Prepared: 04/13/23 Analyzed: 04/14/23
Diesel Range Organics (C10-C28)	273	25.0	250	ND	109	38-132	4.46	20	
Surrogate: n-Nonane	*49.4*		*50.0*		*98.8*	*50-200*			

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

Anions by EPA 300.0/9056A

Analyst: RAS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315057-BLK1)									Prepared: 04/12/23 Analyzed: 04/12/23
Chloride	ND	20.0							
LCS (2315057-BS1)									Prepared: 04/12/23 Analyzed: 04/12/23
Chloride	266	20.0	250		107	90-110			
Matrix Spike (2315057-MS1)				**Source: E304051-02**					Prepared: 04/12/23 Analyzed: 04/12/23
Chloride	2770	40.0	250	2750	9.00	80-120			M4
Matrix Spike Dup (2315057-MSD1)				**Source: E304051-02**					Prepared: 04/12/23 Analyzed: 04/12/23
Chloride	2780	40.0	250	2750	13.3	80-120	0.386	20	M4

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/18/2023 11:31:44AM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315078-BLK1)									Prepared: 04/14/23 Analyzed: 04/14/23
Chloride	ND	20.0							
LCS (2315078-BS1)									Prepared: 04/14/23 Analyzed: 04/14/23
Chloride	240	20.0	250		96.0	90-110			
Matrix Spike (2315078-MS1)				**Source: E304071-01**					Prepared: 04/14/23 Analyzed: 04/14/23
Chloride	240	20.0	250	ND	96.1	80-120			
Matrix Spike Dup (2315078-MSD1)				**Source: E304071-01**					Prepared: 04/14/23 Analyzed: 04/14/23
Chloride	239	20.0	250	ND	95.5	80-120	0.625	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Definitions and Notes

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	04/18/23 11:31

M4	Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Project Information | Chain of Custody | Page 1 of 1

Client:	Hilcorp
Project:	LC Kelly #1E
Project Manager:	Mitch Killough
Address:	
City, State, Zip	
Phone:	
Email:	mKillough@hilcorp.com
Report due by:	

Bill To

Attention:	Mitch Killough
Address:	
City, State, Zip	
Phone:	
Email:	mKillough@hilcorp.com

Lab Use Only

Lab WO# E3040560 | Job Number 17051-0002

TAT: 1D X | 2D | 3D | Standard

EPA Program: CWA | SDWA | RCRA

State: NM X | CO | UT | AZ | TX

Analysis and Method: DRO/ORO by 8015 | GRO/DRO by 8015 | BTEX by 8021 | VOC by 8260 | Metals 6010 | Chloride 300.0

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	Remarks
1105	4-11-23	soil	1	BH01 @ 5'	1	Hold
1110				BH01 @ 10'	2	Hold
1120				BH01 @ 15'	3	Hold
1130				BH01 @ 20'	4	Hold
1145				BH01 @ 25'	5	Hold
1200				BH01 @ 30'	6	same day
1230				BH01 @ 35'	7	same day
1300				BH01 @ 40'	8	same day
1330				BH01 @ 45'	9	same day
1420				BH01 @ 50'	10	Hold

Additional Instructions: cc results to shyde@ensolum.com + dburns@ensolum.com

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Danny Burns

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	4-11-23	16:51		4.11.23	16:53
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only — Received on ice: Y / N

T1 19.8 | T2 16.5 | T3 19.9 4/11/23

AVG Temp °C 4

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other _____

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

Envirotech Analytical Laboratory

Printed: 4/12/2023 8:14:31AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Hilcorp Energy Co	Date Received:	04/11/23 16:53	Work Order ID:	E304056
Phone:	-	Date Logged In:	04/11/23 17:06	Logged In By:	Alexa Michaels
Email:	mkillough@hilcorp.com	Due Date:	04/12/23 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: Danny Burns
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?	Yes	

Sample Cooler

7. Was a sample cooler received?	Yes	
8. If yes, was cooler received in good condition?	Yes	
9. Was the sample(s) received intact, i.e., not broken?	Yes	
10. Were custody/security seals present?	No	
11. If yes, were custody/security seals intact?	NA	
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes	
13. If no visible ice, record the temperature. Actual sample temperature: 4°C		

Sample Container

14. Are aqueous VOC samples present?	No	
15. Are VOC samples collected in VOA Vials?	NA	
16. Is the head space less than 6-8 mm (pea sized or less)?	NA	
17. Was a trip blank (TB) included for VOC analyses?	NA	
18. Are non-VOC samples collected in the correct containers?	Yes	
19. Is the appropriate volume/weight or number of sample containers collected?	Yes	

Field Label

20. Were field sample labels filled out with the minimum information:		
Sample ID?	Yes	
Date/Time Collected?	Yes	
Collectors name?	Yes	

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved?	No	
22. Are sample(s) correctly preserved?	NA	
24. Is lab filteration required and/or requested for dissolved metals?	No	

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase?	No	
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA	

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA

Comments/Resolution

COC remarks: Samples 1-5 and sample 10 are on hold until further client instruction.

Client Instruction

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

Date

envirotech Inc.

Report to:

Mitch Killough

5796 U.S. Hwy 64
Farmington, NM 87401

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

envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Hilcorp Energy Co

Project Name:	LC Kelly #1E
Work Order:	E304073
Job Number:	17051-0002
Received:	4/13/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/20/23

Date Reported: 4/20/23

Mitch Killough
PO Box 61529
Houston, TX 77208

Project Name: LC Kelly #1E
Workorder: E304073
Date Received: 4/13/2023 2:57:00PM

Mitch Killough,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/13/2023 2:57:00PM, under the Project Name: LC Kelly #1E.

The analytical test results summarized in this report with the Project Name: LC Kelly #1E apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Field Offices:

Southern New Mexico Area
Lynn Jarboe
Technical Representative/Client Services
Office: 505-421-LABS(5227)
Cell: 505-320-4759
ljarboe@envirotech-inc.com

West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

Table of Contents

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Sample Summary

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	04/20/23 15:16

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH02 @ 10'	E304073-01A	Soil	04/12/23	04/13/23	Glass Jar, 4 oz.
BH02 @ 25'	E304073-02A	Soil	04/12/23	04/13/23	Glass Jar, 4 oz.
BH02 @ 30'	E304073-03A	Soil	04/12/23	04/13/23	Glass Jar, 4 oz.
BH02 @ 33'	E304073-04A	Soil	04/12/23	04/13/23	Glass Jar, 4 oz.
BH03 @ 15'	E304073-05A	Soil	04/12/23	04/13/23	Glass Jar, 4 oz.
BH03 @ 35'	E304073-06A	Soil	04/12/23	04/13/23	Glass Jar, 4 oz.
BH04 @ 30'	E304073-07A	Soil	04/12/23	04/13/23	Glass Jar, 4 oz.
BH04 @ 35'	E304073-08A	Soil	04/12/23	04/13/23	Glass Jar, 4 oz.
BH04 @ 38'	E304073-09A	Soil	04/12/23	04/13/23	Glass Jar, 4 oz.
BH05 @ 10'	E304073-10A	Soil	04/13/23	04/13/23	Glass Jar, 4 oz.
BH05 @ 15'	E304073-11A	Soil	04/13/23	04/13/23	Glass Jar, 4 oz.
BH05 @ 20'	E304073-12A	Soil	04/13/23	04/13/23	Glass Jar, 4 oz.
BH05 @ 25'	E304073-13A	Soil	04/13/23	04/13/23	Glass Jar, 4 oz.
BH05 @ 29'	E304073-14A	Soil	04/13/23	04/13/23	Glass Jar, 4 oz.
BH06 @ 5'	E304073-15A	Soil	04/13/23	04/13/23	Glass Jar, 4 oz.
BH06 @ 10'	E304073-16A	Soil	04/13/23	04/13/23	Glass Jar, 4 oz.
BH06 @ 15'	E304073-17A	Soil	04/13/23	04/13/23	Glass Jar, 4 oz.
BH06 @ 20'	E304073-18A	Soil	04/13/23	04/13/23	Glass Jar, 4 oz.
BH06 @ 22'	E304073-19A	Soil	04/13/23	04/13/23	Glass Jar, 4 oz.

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH02 @ 10'

E304073-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/15/23	
Ethylbenzene	ND	0.0250	1	04/14/23	04/15/23	
Toluene	ND	0.0250	1	04/14/23	04/15/23	
o-Xylene	ND	0.0250	1	04/14/23	04/15/23	
p,m-Xylene	ND	0.0500	1	04/14/23	04/15/23	
Total Xylenes	ND	0.0250	1	04/14/23	04/15/23	
Surrogate: 4-Bromochlorobenzene-PID		*91.6 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/14/23	04/15/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*92.5 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	ND	25.0	1	04/14/23	04/19/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/19/23	
Surrogate: n-Nonane		*109 %*	*50-200*	*04/14/23*	*04/19/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH02 @ 25'

E304073-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/15/23	
Ethylbenzene	ND	0.0250	1	04/14/23	04/15/23	
Toluene	ND	0.0250	1	04/14/23	04/15/23	
o-Xylene	ND	0.0250	1	04/14/23	04/15/23	
p,m-Xylene	ND	0.0500	1	04/14/23	04/15/23	
Total Xylenes	ND	0.0250	1	04/14/23	04/15/23	
Surrogate: 4-Bromochlorobenzene-PID		*91.8 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/14/23	04/15/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*98.9 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	ND	25.0	1	04/14/23	04/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/14/23	
Surrogate: n-Nonane		*109 %*	*50-200*	*04/14/23*	*04/14/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH02 @ 30'

E304073-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/15/23	
Ethylbenzene	ND	0.0250	1	04/14/23	04/15/23	
Toluene	ND	0.0250	1	04/14/23	04/15/23	
o-Xylene	ND	0.0250	1	04/14/23	04/15/23	
p,m-Xylene	ND	0.0500	1	04/14/23	04/15/23	
Total Xylenes	ND	0.0250	1	04/14/23	04/15/23	
Surrogate: 4-Bromochlorobenzene-PID		*91.5 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/14/23	04/15/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*98.7 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	ND	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*109 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH02 @ 33'

E304073-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/15/23	
Ethylbenzene	**0.143**	0.0250	1	04/14/23	04/15/23	
Toluene	**0.105**	0.0250	1	04/14/23	04/15/23	
o-Xylene	**0.320**	0.0250	1	04/14/23	04/15/23	
p,m-Xylene	**1.37**	0.0500	1	04/14/23	04/15/23	
Total Xylenes	**1.69**	0.0250	1	04/14/23	04/15/23	
Surrogate: 4-Bromochlorobenzene-PID		*90.7 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	**56.4**	20.0	1	04/14/23	04/15/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*113 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	**105**	25.0	1	04/14/23	04/19/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/19/23	
Surrogate: n-Nonane		*134 %*	*50-200*	*04/14/23*	*04/19/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH03 @ 15'

E304073-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/15/23	
Ethylbenzene	ND	0.0250	1	04/14/23	04/15/23	
Toluene	ND	0.0250	1	04/14/23	04/15/23	
o-Xylene	ND	0.0250	1	04/14/23	04/15/23	
p,m-Xylene	ND	0.0500	1	04/14/23	04/15/23	
Total Xylenes	ND	0.0250	1	04/14/23	04/15/23	
Surrogate: 4-Bromochlorobenzene-PID		*91.5 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/14/23	04/15/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*99.3 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	ND	25.0	1	04/14/23	04/19/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/19/23	
Surrogate: n-Nonane		*104 %*	*50-200*	*04/14/23*	*04/19/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	**31.7**	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH03 @ 35'

E304073-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/15/23	
Ethylbenzene	ND	0.0250	1	04/14/23	04/15/23	
Toluene	ND	0.0250	1	04/14/23	04/15/23	
o-Xylene	ND	0.0250	1	04/14/23	04/15/23	
p,m-Xylene	ND	0.0500	1	04/14/23	04/15/23	
Total Xylenes	ND	0.0250	1	04/14/23	04/15/23	
Surrogate: 4-Bromochlorobenzene-PID		*91.7 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/14/23	04/15/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*98.4 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	ND	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*107 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	40.0	2	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH04 @ 30'

E304073-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/15/23	
Ethylbenzene	**0.0329**	0.0250	1	04/14/23	04/15/23	
Toluene	ND	0.0250	1	04/14/23	04/15/23	
o-Xylene	ND	0.0250	1	04/14/23	04/15/23	
p,m-Xylene	ND	0.0500	1	04/14/23	04/15/23	
Total Xylenes	ND	0.0250	1	04/14/23	04/15/23	
Surrogate: 4-Bromochlorobenzene-PID		*92.2 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/14/23	04/15/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*97.8 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	ND	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*107 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH04 @ 35'

E304073-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	**0.0455**	0.0250	1	04/14/23	04/15/23	
Ethylbenzene	**0.0414**	0.0250	1	04/14/23	04/15/23	
Toluene	**0.171**	0.0250	1	04/14/23	04/15/23	
o-Xylene	**0.0423**	0.0250	1	04/14/23	04/15/23	
p,m-Xylene	**0.473**	0.0500	1	04/14/23	04/15/23	
Total Xylenes	**0.515**	0.0250	1	04/14/23	04/15/23	
Surrogate: 4-Bromochlorobenzene-PID		*91.4 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/14/23	04/15/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*96.2 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	ND	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*107 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH04 @ 38'

E304073-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/15/23	
Ethylbenzene	ND	0.0250	1	04/14/23	04/15/23	
Toluene	ND	0.0250	1	04/14/23	04/15/23	
o-Xylene	ND	0.0250	1	04/14/23	04/15/23	
p,m-Xylene	ND	0.0500	1	04/14/23	04/15/23	
Total Xylenes	ND	0.0250	1	04/14/23	04/15/23	
Surrogate: 4-Bromochlorobenzene-PID		*92.0 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/14/23	04/15/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*94.3 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	ND	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*108 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH05 @ 10'

E304073-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/15/23	
Ethylbenzene	**0.186**	0.0250	1	04/14/23	04/15/23	
Toluene	**0.127**	0.0250	1	04/14/23	04/15/23	
o-Xylene	**0.311**	0.0250	1	04/14/23	04/15/23	
p,m-Xylene	**1.56**	0.0500	1	04/14/23	04/15/23	
Total Xylenes	**1.87**	0.0250	1	04/14/23	04/15/23	
Surrogate: 4-Bromochlorobenzene-PID		*92.4 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	**44.5**	20.0	1	04/14/23	04/15/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*105 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	ND	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*112 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH05 @ 15'

E304073-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	**1.22**	0.250	10	04/14/23	04/19/23	
Ethylbenzene	**8.04**	0.250	10	04/14/23	04/19/23	
Toluene	**29.0**	0.250	10	04/14/23	04/19/23	
o-Xylene	**13.4**	0.250	10	04/14/23	04/19/23	
p,m-Xylene	**64.8**	0.500	10	04/14/23	04/19/23	
Total Xylenes	**78.1**	0.250	10	04/14/23	04/19/23	
Surrogate: 4-Bromochlorobenzene-PID		*88.4 %*	*70-130*	*04/14/23*	*04/19/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	**937**	200	10	04/14/23	04/19/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*113 %*	*70-130*	*04/14/23*	*04/19/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	**156**	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*144 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH05 @ 20'

E304073-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	**0.974**	0.0500	2	04/14/23	04/18/23	
Ethylbenzene	**2.93**	0.0500	2	04/14/23	04/18/23	
Toluene	**0.312**	0.0500	2	04/14/23	04/18/23	
o-Xylene	**1.22**	0.0500	2	04/14/23	04/18/23	
p,m-Xylene	**26.8**	0.100	2	04/14/23	04/18/23	
Total Xylenes	**28.0**	0.0500	2	04/14/23	04/18/23	
Surrogate: 4-Bromochlorobenzene-PID		*98.5 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	**202**	40.0	2	04/14/23	04/18/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*108 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	**236**	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*115 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH05 @ 25'

E304073-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/18/23	
Ethylbenzene	ND	0.0250	1	04/14/23	04/18/23	
Toluene	ND	0.0250	1	04/14/23	04/18/23	
o-Xylene	ND	0.0250	1	04/14/23	04/18/23	
p,m-Xylene	**0.0817**	0.0500	1	04/14/23	04/18/23	
Total Xylenes	**0.0817**	0.0250	1	04/14/23	04/18/23	
Surrogate: 4-Bromochlorobenzene-PID		*95.9 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/14/23	04/18/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*94.1 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	ND	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*104 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	**22.3**	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH05 @ 29'

E304073-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/18/23	
Ethylbenzene	ND	0.0250	1	04/14/23	04/18/23	
Toluene	ND	0.0250	1	04/14/23	04/18/23	
o-Xylene	ND	0.0250	1	04/14/23	04/18/23	
p,m-Xylene	ND	0.0500	1	04/14/23	04/18/23	
Total Xylenes	ND	0.0250	1	04/14/23	04/18/23	
Surrogate: 4-Bromochlorobenzene-PID		*96.8 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/14/23	04/18/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*96.4 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	ND	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*108 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH06 @ 5'

E304073-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	ND	0.0250	1	04/14/23	04/15/23	
Ethylbenzene	**0.529**	0.0250	1	04/14/23	04/15/23	
Toluene	**0.412**	0.0250	1	04/14/23	04/15/23	
o-Xylene	**0.740**	0.0250	1	04/14/23	04/15/23	
p,m-Xylene	**6.09**	0.0500	1	04/14/23	04/15/23	
Total Xylenes	**6.83**	0.0250	1	04/14/23	04/15/23	
Surrogate: 4-Bromochlorobenzene-PID		*93.6 %*	*70-130*	*04/14/23*	*04/15/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	**181**	20.0	1	04/14/23	04/15/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*132 %*	*70-130*	*04/14/23*	*04/15/23*	*S3*
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	**275**	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*119 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	100	5	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH06 @ 10'

E304073-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	**12.2**	0.500	20	04/14/23	04/19/23	
Ethylbenzene	**39.7**	0.500	20	04/14/23	04/19/23	
Toluene	**191**	0.500	20	04/14/23	04/19/23	
o-Xylene	**76.6**	0.500	20	04/14/23	04/19/23	
p,m-Xylene	**353**	1.00	20	04/14/23	04/19/23	
Total Xylenes	**430**	0.500	20	04/14/23	04/19/23	
Surrogate: 4-Bromochlorobenzene-PID		*94.5 %*	*70-130*	*04/14/23*	*04/19/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	**5360**	400	20	04/14/23	04/19/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*131 %*	*70-130*	*04/14/23*	*04/19/23*	*S3*
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	**1380**	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*291 %*	*50-200*	*04/14/23*	*04/15/23*	*S5*
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH06 @ 15'

E304073-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	**5.49**	1.25	50	04/14/23	04/18/23	
Ethylbenzene	**16.9**	1.25	50	04/14/23	04/18/23	
Toluene	**85.2**	1.25	50	04/14/23	04/18/23	
o-Xylene	**32.9**	1.25	50	04/14/23	04/18/23	
p,m-Xylene	**170**	2.50	50	04/14/23	04/18/23	
Total Xylenes	**203**	1.25	50	04/14/23	04/18/23	
Surrogate: 4-Bromochlorobenzene-PID		*96.4 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	**2280**	1000	50	04/14/23	04/18/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*101 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	**448**	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*254 %*	*50-200*	*04/14/23*	*04/15/23*	*S5*
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	ND	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH06 @ 20'

E304073-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	**0.448**	0.250	10	04/14/23	04/18/23	
Ethylbenzene	**3.59**	0.250	10	04/14/23	04/18/23	
Toluene	**3.62**	0.250	10	04/14/23	04/18/23	
o-Xylene	**3.72**	0.250	10	04/14/23	04/18/23	
p,m-Xylene	**37.5**	0.500	10	04/14/23	04/18/23	
Total Xylenes	**41.3**	0.250	10	04/14/23	04/18/23	
Surrogate: 4-Bromochlorobenzene-PID		*97.3 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	**515**	200	10	04/14/23	04/18/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*104 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	**370**	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*189 %*	*50-200*	*04/14/23*	*04/15/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	**24.3**	20.0	1	04/14/23	04/14/23	

Sample Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

BH06 @ 22'

E304073-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Benzene	**0.333**	0.250	10	04/14/23	04/18/23	
Ethylbenzene	**4.84**	0.250	10	04/14/23	04/18/23	
Toluene	**6.55**	0.250	10	04/14/23	04/18/23	
o-Xylene	**9.86**	0.250	10	04/14/23	04/18/23	
p,m-Xylene	**48.3**	0.500	10	04/14/23	04/18/23	
Total Xylenes	**58.2**	0.250	10	04/14/23	04/18/23	
Surrogate: 4-Bromochlorobenzene-PID		*97.7 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2315071
Gasoline Range Organics (C6-C10)	**651**	200	10	04/14/23	04/18/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*107 %*	*70-130*	*04/14/23*	*04/18/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2315069
Diesel Range Organics (C10-C28)	**516**	25.0	1	04/14/23	04/15/23	
Oil Range Organics (C28-C36)	**138**	50.0	1	04/14/23	04/15/23	
Surrogate: n-Nonane		*211 %*	*50-200*	*04/14/23*	*04/15/23*	*S5*
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2315079
Chloride	**56.3**	20.0	1	04/14/23	04/14/23	

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315071-BLK1)									Prepared: 04/14/23 Analyzed: 04/15/23
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	*7.34*		*8.00*		*91.8*	*70-130*			
LCS (2315071-BS1)									Prepared: 04/14/23 Analyzed: 04/18/23
Benzene	5.12	0.0250	5.00		102	70-130			
Ethylbenzene	5.10	0.0250	5.00		102	70-130			
Toluene	5.24	0.0250	5.00		105	70-130			
o-Xylene	5.22	0.0250	5.00		104	70-130			
p,m-Xylene	10.4	0.0500	10.0		104	70-130			
Total Xylenes	15.6	0.0250	15.0		104	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*7.81*		*8.00*		*97.7*	*70-130*			
Matrix Spike (2315071-MS1)				**Source: E304073-02**					Prepared: 04/14/23 Analyzed: 04/18/23
Benzene	4.11	0.0250	5.00	ND	82.3	54-133			
Ethylbenzene	4.11	0.0250	5.00	ND	82.2	61-133			
Toluene	4.23	0.0250	5.00	ND	84.7	61-130			
o-Xylene	4.21	0.0250	5.00	ND	84.1	63-131			
p,m-Xylene	8.42	0.0500	10.0	ND	84.2	63-131			
Total Xylenes	12.6	0.0250	15.0	ND	84.2	63-131			
Surrogate: 4-Bromochlorobenzene-PID	*7.70*		*8.00*		*96.3*	*70-130*			
Matrix Spike Dup (2315071-MSD1)				**Source: E304073-02**					Prepared: 04/14/23 Analyzed: 04/15/23
Benzene	4.41	0.0250	5.00	ND	88.1	54-133	6.85	20	
Ethylbenzene	4.35	0.0250	5.00	ND	87.0	61-133	5.61	20	
Toluene	4.50	0.0250	5.00	ND	90.1	61-130	6.15	20	
o-Xylene	4.44	0.0250	5.00	ND	88.9	63-131	5.48	20	
p,m-Xylene	8.84	0.0500	10.0	ND	88.4	63-131	4.88	20	
Total Xylenes	13.3	0.0250	15.0	ND	88.6	63-131	5.08	20	
Surrogate: 4-Bromochlorobenzene-PID	*7.30*		*8.00*		*91.2*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315071-BLK1)									Prepared: 04/14/23 Analyzed: 04/15/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.60*		*8.00*		*95.0*	*70-130*			
LCS (2315071-BS2)									Prepared: 04/14/23 Analyzed: 04/15/23
Gasoline Range Organics (C6-C10)	42.7	20.0	50.0		85.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*8.01*		*8.00*		*100*	*70-130*			
Matrix Spike (2315071-MS2)				**Source: E304073-02**					Prepared: 04/14/23 Analyzed: 04/15/23
Gasoline Range Organics (C6-C10)	43.8	20.0	50.0	ND	87.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.76*		*8.00*		*96.9*	*70-130*			
Matrix Spike Dup (2315071-MSD2)				**Source: E304073-02**					Prepared: 04/14/23 Analyzed: 04/15/23
Gasoline Range Organics (C6-C10)	45.2	20.0	50.0	ND	90.4	70-130	3.13	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.90*		*8.00*		*98.7*	*70-130*			

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315069-BLK1)									Prepared: 04/14/23 Analyzed: 04/14/23
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*56.3*		*50.0*		*113*	*50-200*			
LCS (2315069-BS1)									Prepared: 04/14/23 Analyzed: 04/14/23
Diesel Range Organics (C10-C28)	276	25.0	250		110	38-132			
Surrogate: n-Nonane	*54.5*		*50.0*		*109*	*50-200*			
Matrix Spike (2315069-MS1)				**Source: E304073-07**					Prepared: 04/14/23 Analyzed: 04/14/23
Diesel Range Organics (C10-C28)	274	25.0	250	ND	110	38-132			
Surrogate: n-Nonane	*52.3*		*50.0*		*105*	*50-200*			
Matrix Spike Dup (2315069-MSD1)				**Source: E304073-07**					Prepared: 04/14/23 Analyzed: 04/14/23
Diesel Range Organics (C10-C28)	283	25.0	250	ND	113	38-132	3.14	20	
Surrogate: n-Nonane	*52.0*		*50.0*		*104*	*50-200*			

QC Summary Data

Hilcorp Energy Co	Project Name:	LC Kelly #1E	**Reported:**
PO Box 61529	Project Number:	17051-0002	
Houston TX, 77208	Project Manager:	Mitch Killough	4/20/2023 3:16:48PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2315079-BLK1)									Prepared: 04/14/23 Analyzed: 04/14/23
Chloride	ND	20.0							
LCS (2315079-BS1)									Prepared: 04/14/23 Analyzed: 04/17/23
Chloride	268	20.0	250		107	90-110			
Matrix Spike (2315079-MS1)				**Source: E304073-01**					Prepared: 04/14/23 Analyzed: 04/14/23
Chloride	251	20.0	250	ND	100	80-120			
Matrix Spike Dup (2315079-MSD1)				**Source: E304073-01**					Prepared: 04/14/23 Analyzed: 04/14/23
Chloride	263	20.0	250	ND	105	80-120	4.52	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Definitions and Notes

Hilcorp Energy Co	Project Name:	LC Kelly #1E	
PO Box 61529	Project Number:	17051-0002	**Reported:**
Houston TX, 77208	Project Manager:	Mitch Killough	04/20/23 15:16

S3	Surrogate spike recovery was outside acceptance limits. LCS spike recovery was acceptable.
S5	Surrogate spike recovery exceeded acceptance limits due to interfering target and/or non-target analytes.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Project Information | Chain of Custody | Page 1 of 2

Client: Hilcorp	Bill To
Project: LC Kelly #1E	Attention: Mitch Killough
Project Manager: Mitch Killough	Address:
Address:	City, State, Zip
City, State, Zip	Phone:
Phone:	Email:
Email: mKillough@hilcorp.com	
Report due by:	

Lab Use Only: Lab WO# E304073 | Job Number 17051-0002

TAT: 1D | 2D | 3D | Standard (circled)

EPA Program: CWA | SDWA | RCRA

State: NM (X) | CO | UT | AZ | TX

Analysis and Method: DRO/ORO by 8015 | GRO/DRO by 8015 | BTEX by 8021 | VOC by 8260 | Metals 6010 | Chloride 300.0

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	Remarks
0900	4-12-23	Soil	1	BH02 @ 10'	1	X	X	X			X	
0930				BH02 @ 25'	2	↓	↓	↓			↓	
1000				BH02 @ 30'	3							
1010				BH02 @ 33'	4							
1115				BH03 @ 15'	5							
1310				BH03 @ 35'	6							
1500				BH04 @ 30'	7							
1510				BH04 @ 35'	8							
1540	↓			BH04 @ 38'	9							
0930	4-13-23			BH05 @ 10'	10	↓	↓	↓			↓	

Additional Instructions: cc: shyde@ensolum.com, dburns@ensolum.com

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Danny Burns

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
DB	4-13-23	14:57		4/13/23	14:57
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only: Received on ice: (Y) / N

T1 _____ T2 _____ T3 _____

AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

Project Information | Chain of Custody | Page 2 of 2

Client:	Hilcorp
Project:	LC Kelly AIE
Project Manager:	Mitch Killough
Address:	
City, State, Zip	
Phone:	
Email:	
Report due by:	

Bill To

Attention:	
Address:	
City, State, Zip	
Phone:	
Email:	

Lab Use Only

Lab WO#	Job Number
E804073	17051-0002

TAT: 1D | 2D | 3D | Standard

EPA Program: CWA | SDWA | RCRA

State: NM | CO | UT | AZ | TX

Analysis and Method

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	Remarks
0950	4-13-23	Soil	1	BH05 @ 15'	11							
1000				BH05 @ 20'	12							
1020				BH05 @ 25'	13							
1035				BH05 @ 29'	14							
1230				BH06 @ 5'	15							
1245				BH06 @ 10'	16							
1255				BH06 @ 15'	17							
1305				BH06 @ 20'	18							
1325				BH06 @ 22'	19							

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Danny Burns

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	4-13-23	14:57		4/13/23	14:57
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only
Received on ice: Y / N
T1 T2 T3
AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

Envirotech Analytical Laboratory

Printed: 4/13/2023 3:32:01PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Hilcorp Energy Co	Date Received:	04/13/23 14:57	Work Order ID:	E304073
Phone:	-	Date Logged In:	04/13/23 15:08	Logged In By:	Caitlin Christian
Email:	mkillough@hilcorp.com	Due Date:	04/20/23 17:00 (5 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: Danny Burns
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

Comments/Resolution

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?	Yes

Sample Cooler

7. Was a sample cooler received?	Yes
8. If yes, was cooler received in good condition?	Yes
9. Was the sample(s) received intact, i.e., not broken?	Yes
10. Were custody/security seals present?	No
11. If yes, were custody/security seals intact?	NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes
13. If no visible ice, record the temperature. Actual sample temperature: 4°C	

Sample Container

14. Are aqueous VOC samples present?	No
15. Are VOC samples collected in VOA Vials?	NA
16. Is the head space less than 6-8 mm (pea sized or less)?	NA
17. Was a trip blank (TB) included for VOC analyses?	NA
18. Are non-VOC samples collected in the correct containers?	Yes
19. Is the appropriate volume/weight or number of sample containers collected?	Yes

Field Label

20. Were field sample labels filled out with the minimum information:	
Sample ID?	Yes
Date/Time Collected?	Yes
Collectors name?	Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved?	No
22. Are sample(s) correctly preserved?	NA
24. Is lab filteration required and/or requested for dissolved metals?	No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase?	No
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA

Client Instruction

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

Date

envirotech Inc.

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

COMMENTS

Action 214738

COMMENTS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 214738
	Action Type: [C-141] Release Corrective Action (C-141)

COMMENTS

Created By	Comment	Comment Date
jharimon	missing C-141 pages. I will let you decide if you want to reject this or request the pages.	5/8/2023

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

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 214738
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	1. OCD approves SVE Pilot Test. 2. Hilcorp to perform the SVE pilot test within 60-days of BLM and NMOCD (July 14, 2023) approval of this Site Characterization Report and Remediation Work Plan. 3. Submittal of a SVE Pilot Test Report along with a Final Remediation Plan are due by September 12, 2023.	5/15/2023