

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

NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141
Revised August 8, 2011

SEP 18 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

RECEIVED

Release Notification and Corrective Action

NAB 126335399 **OPERATOR** ☒ Initial Report ☐ Final Report

Name of Company: XTO Energy / BOPEC 260737	Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: BEU Hackberry 34 Federal Battery #1	Facility Type: Exploration and Production
Surface Owner: Federal	Mineral Owner: Federal
API No. 30-015-40288	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	34	19S	31E	815	North	950	East	Eddy

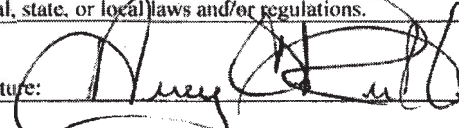
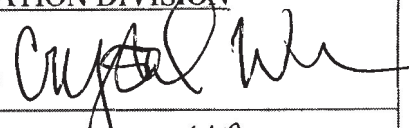
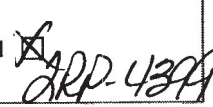
Past Due - Initial C-141 Latitude 32.621936° Longitude -103.851602°

NATURE OF RELEASE

Type of Release	Crude Oil and Produced Water	Volume of Release	18.79 BO 1.1 BPW	Volume Recovered	17 BO 1 BPW
Source of Release	Victaulic Connection	Date and Hour of Occurrence	8/6/2017 time unknown	Date and Hour of Discovery	8/6/2017 6 pm
Was Immediate Notice Given?	☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	N/A		
By Whom?	N/A	Date and Hour	N/A		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	N/A		
If a Watercourse was Impacted, Describe Fully.* N/A					
Describe Cause of Problem and Remedial Action Taken.* A Victaulic connection on the separator dump line failed. The failed connection was replaced.					
Describe Area Affected and Cleanup Action Taken.* The leak affected approximately 400 square feet of caliche pad within the earthen containment area. Free standing fluids were recovered.					

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

OIL CONSERVATION DIVISION

Signature: 	Approved by Environmental Specialist: 	
Printed Name: Amy C. Ruth	Approval Date: 9/19/17	Expiration Date: N/A
Title: Environmental Coordinator	Conditions of Approval: see attached	
E-mail Address: Amy_Ruth@xtoenergy.com	Attached ☒ 	
Date: 9/18/2017	Phone: 432-661-0571	

* Attach Additional Sheets If Necessary Please refer to the New Mexico Oil Conservation Division Website for updated form(s) at:
<http://www.emnrd.state.nm.us/OCD/forms.html>
Thank you

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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	NAB1726335399
District RP	2RP-4399
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Garrett Green	Contact Telephone: 575-200-0929
Contact email: garrett.green@exxonmobil.com	Incident #: 2RP-4399
Contact mailing address 3104 E. Greene Street, Carlsbad, New Mexico, 88220	

Location of Release Source

Latitude 32.621936 Longitude -103.851602
(NAD 83 in decimal degrees to 5 decimal places)

Site Name BEU Hackberry 34 Federal Battery #1	Site Type Exploration and Production
Date Release Discovered 8/6/2017	API# (if applicable) 30-015-40288

Unit Letter	Section	Township	Range	County
A	34	19S	31E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 18.79	Volume Recovered (bbls) 17
☒ Produced Water	Volume Released (bbls) 1.1	Volume Recovered (bbls) 1
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (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 Victaulic connection on the separator dump line failed. The failed connection was replaced. The release affected approximately 400 square feet of caliche pad within the earthen containment area. Free standing fluids were recovered.

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Oil Conservation Division

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Incident ID	NAB1726335399
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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?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? 	

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 <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Garrett Green</u>	Title: <u>SSHE Coordinator</u>
Signature: <u></u>	Date: <u>5/25/2023</u>
email: <u>garrett.green@exxonmobil.com</u>	Telephone: <u>575-200-0729</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

Form C-141

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State of New Mexico
Oil Conservation Division

Incident ID	NAB1726335399
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Facility ID	
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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?	>110 (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.

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Oil Conservation Division

Incident ID	NAB1726335399
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Printed Name: Garrett GreenTitle: SSHE CoordinatorSignature: Date: 5-25-2023email: garrett.green@exxonmobil.comTelephone: 575-200-0729**OCD Only**

Received by: _____

Date: _____

Form C-141

State of New Mexico
Oil Conservation Division

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Incident ID	NAB1726335399
District RP	2RP-4399
Facility ID	
Application ID	

Remediation Plan

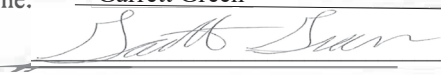
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ 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: Garrett GreenTitle: SSHE CoordinatorSignature: Date: 5-25-2023email: garrett.green@exxonmobil.comTelephone: 575-200-0729**OCD Only**

Received by: _____ Date: _____

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

Signature: _____

Date: _____

Incident ID	NAB1726335399
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

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

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Garrett Green

Title: Environmental Coordinator

Signature: 

Date: 08/02/2023

email: garrett.green@exxonmobil.com

Telephone: 575-200-0729

OCD Only

Received by: _____

Date: _____

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

Closure Approved by: 

Date: 9/6/2023

Printed Name: Brittany Hall

Title: Environmental Specialist



May 25, 2023

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**Re: Remediation Work Plan
BEU Hackberry 34 Federal Battery #1
Incident Number NAB1726335399
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Remediation Work Plan (Work Plan)* as a follow up to the *Deferral Request* dated January 3, 2019. This *Work Plan* proposes to complete additional remediation activities at the BEU Hackberry 34 Federal Battery #1 (Site) based on relocation of the production equipment from the deferral request area, as detailed in the January 3, 2019 *Deferral Request*. The following *Work Plan* proposes lateral delineation of the historical release and excavation of impacted soil.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit A, Section 34, Township 19 South, Range 31 East, in Eddy County, New Mexico (32.621936°, -103.851602°) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On August 6, 2017, a Victaulic connection on the separator dump line failed and 18.79 barrels (bbls) of crude oil and 1.1 bbls of produced water were released within an unlined earthen containment berm. The failed connection was replaced. Approximately 17 bbls of crude oil and 1 bbl of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on September 18, 2017. The release was assigned Remediation Permit Number (RP) Number 2RP-4399 and Incident Number NAB1726335399.

The release was included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018. The purpose of the Compliance Agreement was to ensure that reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with 19.15.29 of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

XTO Energy, Inc
Remediation Work Plan
BEU Hackberry 34 Federal Battery #1

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well is New Mexico Office of the State Engineer (NMOSE) well C-01864, located approximately 0.42 miles west of the Site. The well was drilled to a depth of 110 feet in February 2021, and no groundwater was encountered. The well record is provided in Appendix A. All wells used for depth to groundwater determination are depicted on Figure 1.

The closest continuously flowing or significant watercourse to the Site is an unnamed dry wash located approximately 5,443 feet south southeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

BACKGROUND

During October and December 2018, delineation and excavation activities were conducted at the Site to address the impacted soil resulting from the August 6, 2017, crude oil and produced water release. Impacted soil was excavated to the extent possible; however, an estimated 250 cubic yards of impacted soil were left in place for compliance with XTO safety policy regarding earth-moving activities within two feet of active production equipment and pipelines in the areas of initial soil samples SS02, SS03, and SS04. The initial soil sample locations are presented on the attached Figure 2 (2018). The impacted soil left in place was laterally and vertically delineated to below the Site Closure Criteria. The delineation soil sample locations are presented on the attached Figure 3 (2018). Excavation activities were conducted around initial soil sample SS01. The excavation extent and excavation soil sample locations are presented on the attached Figure 4 (2018). The laboratory analytical results are summarized in Table 1. Additional details regarding the 2018 delineation and excavation activities can be referenced in the original *Deferral Request*, submitted to NMOCD on January 3, 2019.

On February 27, 2023, NMOCD denied the Deferral Request for the following reasons:

- *Horizontal delineation submitted was incomplete for a release that occurred where depth to groundwater is greater than 50 feet. The values for determination of horizontal impact are derived by either approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less for the upper 4 feet of the impacted area. Soils below 4 feet should be delineated based on the Table I Closure Criteria for the site-specific groundwater depths. This is especially important to ensure the release did not extend to areas that are not reasonably needed for production operations or for subsequent drilling operations/pasture areas. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts.*

XTO Energy, Inc
Remediation Work Plan
BEU Hackberry 34 Federal Battery #1

It should be noted that the *Deferral Request* was submitted four years ago, prior to the publication of NMOCD's guidance, Procedures for Implementation of the Spill Rule, on September 6, 2019. In addition, horizontal delineation of the top four feet of the subsurface as described above was not enforced, nor practiced, until it became more frequently required by NMOCD through denial language throughout 2021.

While reviewing the Site following the NMOCD denial of the *Deferral Request*, XTO noted that the production equipment in the deferral area was relocated to the southern boundary of the well pad, which allows access to excavate the impacted soil that was left in place in 2018.

PROPOSED REMEDIATION WORKPLAN

Based on the relocation of production equipment, XTO proposes to excavate the impacted soil that was left in-place as described in the January 3, 2019, *Deferral Request* and complete the horizontal delineation as requested in the NMOCD denial language.

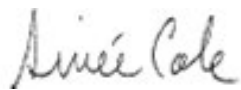
- Excavation will proceed laterally and vertically in the areas around initial soil samples SS02, SS03, and SS04 until sidewall and floor samples indicate that benzene, BTEX, TPH, TPH-GRO/TPH-DRO, and chloride concentrations are compliant with the Site Closure Criteria. The proposed excavation extent is depicted on Figure 5.
- Confirmation samples will be collected from the floor and sidewalls of the final excavation extent. The excavation floor and sidewall samples will be collected at a frequency of every 200 square feet. The 5-point composite samples will be collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Additionally, soil samples will be collected from a depth 0.5 feet bgs around the historical release extent to confirm the lateral extent.
- The soil samples will be analyzed for BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.
- The excavation will be backfilled and recontoured to match pre-existing conditions. The excavated soil will be transported to an approved disposal facility for disposal.

XTO will complete the excavation and soil sampling activities within 90 days of the date of approval of this Work Plan by the NMOCD. XTO believes this Work Plan is protective of human health, the environment, and groundwater and respectfully requests approval of this Work Plan for Incident Number NAB1726335399.

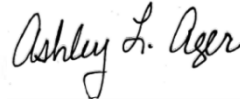
XTO Energy, Inc
Remediation Work Plan
BEU Hackberry 34 Federal Battery #1

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC



Aimee Cole
Senior Managing Scientist



Ashley Ager, P.G.
Program Director

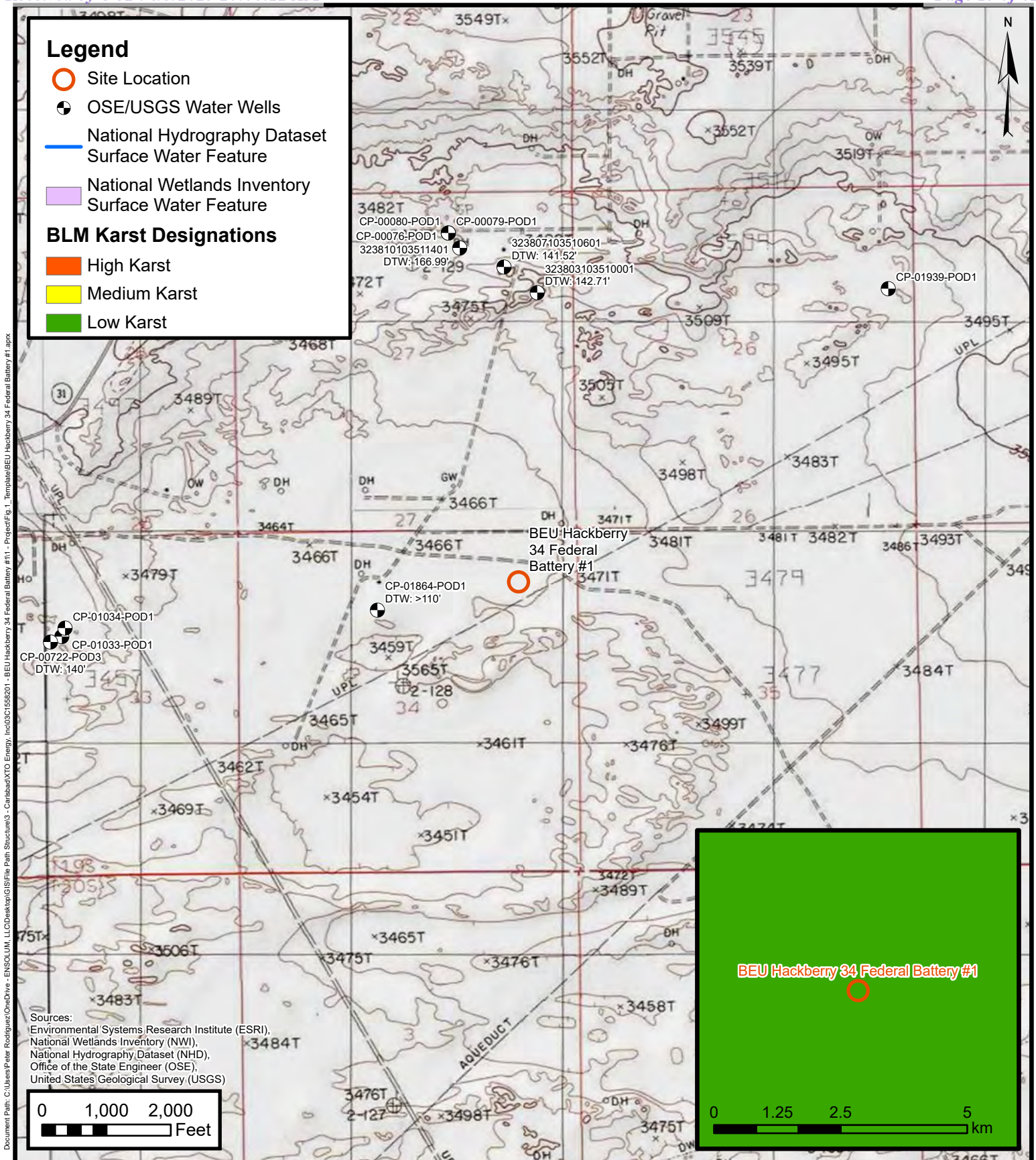
cc: Garrett Green, XTO
Shelby Pennington, XTO
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map (2023)
Figure 2	Initial Soil Sample Locations (2018)
Figure 3	Delineation Soil Sample Locations (2018)
Figure 4	Excavation Soil Sample Locations (2018)
Figure 5	Proposed Excavation Extent (2023)
Table 1	Soil Sample Analytical Results (2018)
Appendix A	Referenced Well Records
Appendix B	Photographic Log (2023)
Appendix C	Laboratory Analytical Reports & Chain-of-Custody Documentation (2018)



FIGURES



Site Receptor Map

XTO Energy, Inc.

BEU Hackberry 34 Federal Battery #1

Incident Number: NAB1726335399

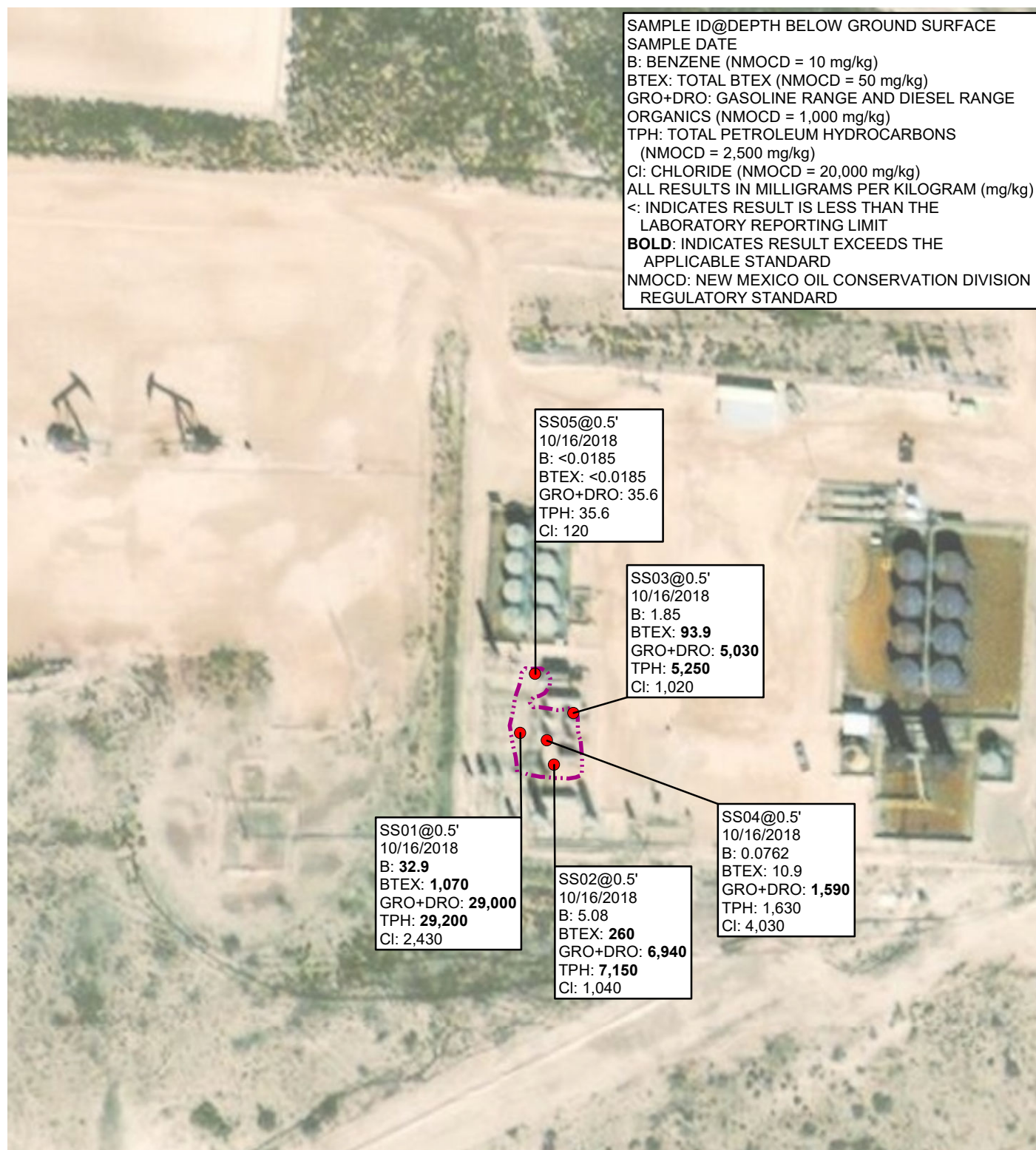
Unit A, Sec 34, T19S, R31E
Eddy County, New Mexico

FIGURE

1



SAMPLE ID@DEPTH BELOW GROUND SURFACE
 SAMPLE DATE
 B: BENZENE (NMOCD = 10 mg/kg)
 BTEX: TOTAL BTEX (NMOCD = 50 mg/kg)
 GRO+DRO: GASOLINE RANGE AND DIESEL RANGE
 ORGANICS (NMOCD = 1,000 mg/kg)
 TPH: TOTAL PETROLEUM HYDROCARBONS
 (NMOCD = 2,500 mg/kg)
 Cl: CHLORIDE (NMOCD = 20,000 mg/kg)
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT
BOLD: INDICATES RESULT EXCEEDS THE
 APPLICABLE STANDARD
 NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
 REGULATORY STANDARD

**LEGEND**

INITIAL SOIL SAMPLE



2RP-4399 RELEASE EXTENT

IMAGE COURTESY OF ESRI

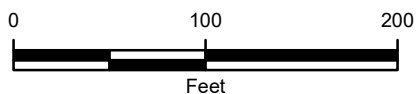
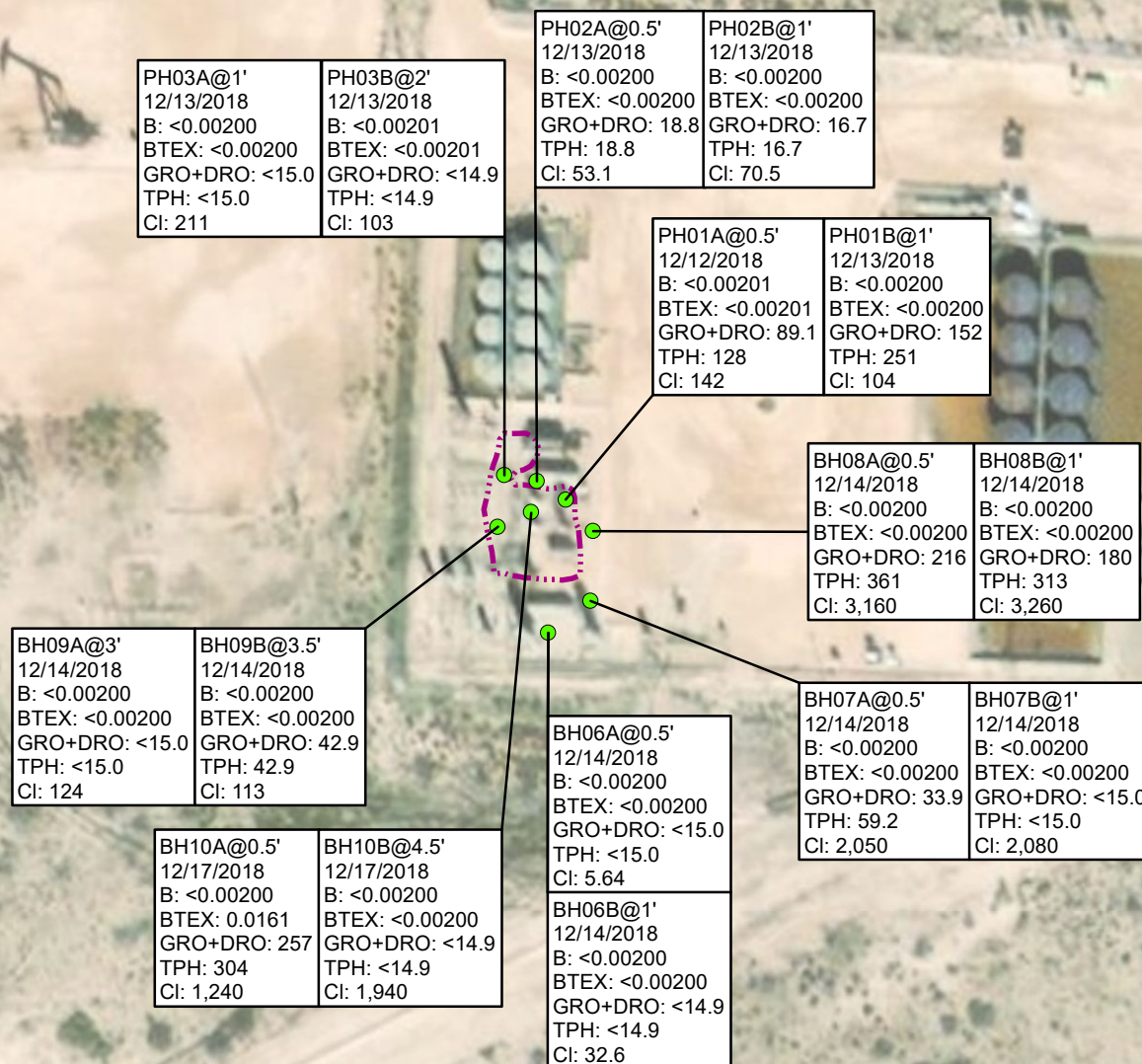


FIGURE 2
 INITIAL SOIL SAMPLE LOCATIONS
 BEU HACKBERRY 34 FEDERAL BATTERY #1
 UNIT A SEC 34 T19S R31E
 EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



NOTE: REMEDIATION PERMIT NUMBER 2RP-4399

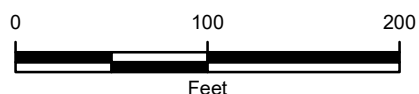
SAMPLE ID@DEPTH BELOW GROUND SURFACE
 SAMPLE DATE
 B: BENZENE (NMOCD = 10 mg/kg)
 BTEX: TOTAL BTEX (NMOCD = 50 mg/kg)
 GRO+DRO: GASOLINE RANGE AND DIESEL RANGE
 ORGANICS (NMOCD = 1,000 mg/kg)
 TPH: TOTAL PETROLEUM HYDROCARBONS
 (NMOCD = 2,500 mg/kg)
 Cl: CHLORIDE (NMOCD = 20,000 mg/kg)
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT
 NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
 REGULATORY STANDARD



LEGEND

- DELINEATION SOIL SAMPLE
- 2RP-4399 RELEASE EXTENT

IMAGE COURTESY OF ESRI

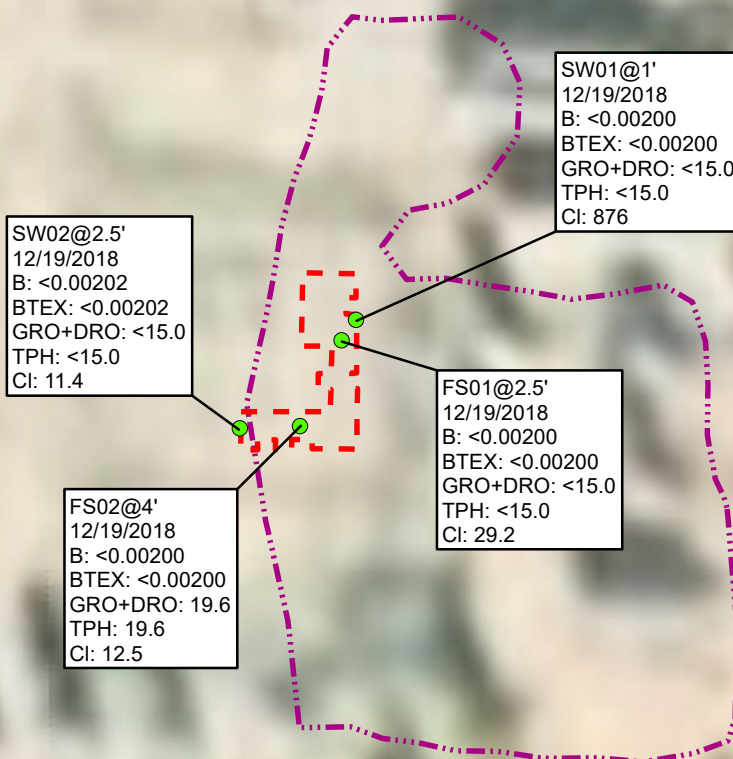


NOTE: REMEDIATION PERMIT NUMBER 2RP-4399

FIGURE 3
 DELINEATION SOIL SAMPLE LOCATIONS
 BEU HACKBERRY 34 FEDERAL BATTERY #1
 UNIT A SEC 34 T19S R31E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.



SAMPLE ID@DEPTH BELOW GROUND SURFACE
 SAMPLE DATE
 B: BENZENE (NMOCD = 10 mg/kg)
 BTEX: TOTAL BTEX (NMOCD = 50 mg/kg)
 GRO+DRO: GASOLINE RANGE AND DIESEL RANGE
 ORGANICS (NMOCD = 1,000 mg/kg)
 TPH: TOTAL PETROLEUM HYDROCARBONS
 (NMOCD = 2,500 mg/kg)
 Cl: CHLORIDE (NMOCD = 20,000 mg/kg)
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT
 NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
 REGULATORY STANDARD

**LEGEND**

- FINAL CONFIRMATION SOIL SAMPLE
- EXCAVATION EXTENT
- 2RP-4399 RELEASE EXTENT

IMAGE COURTESY OF ESRI

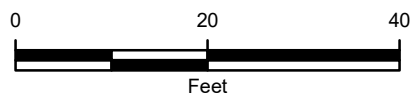
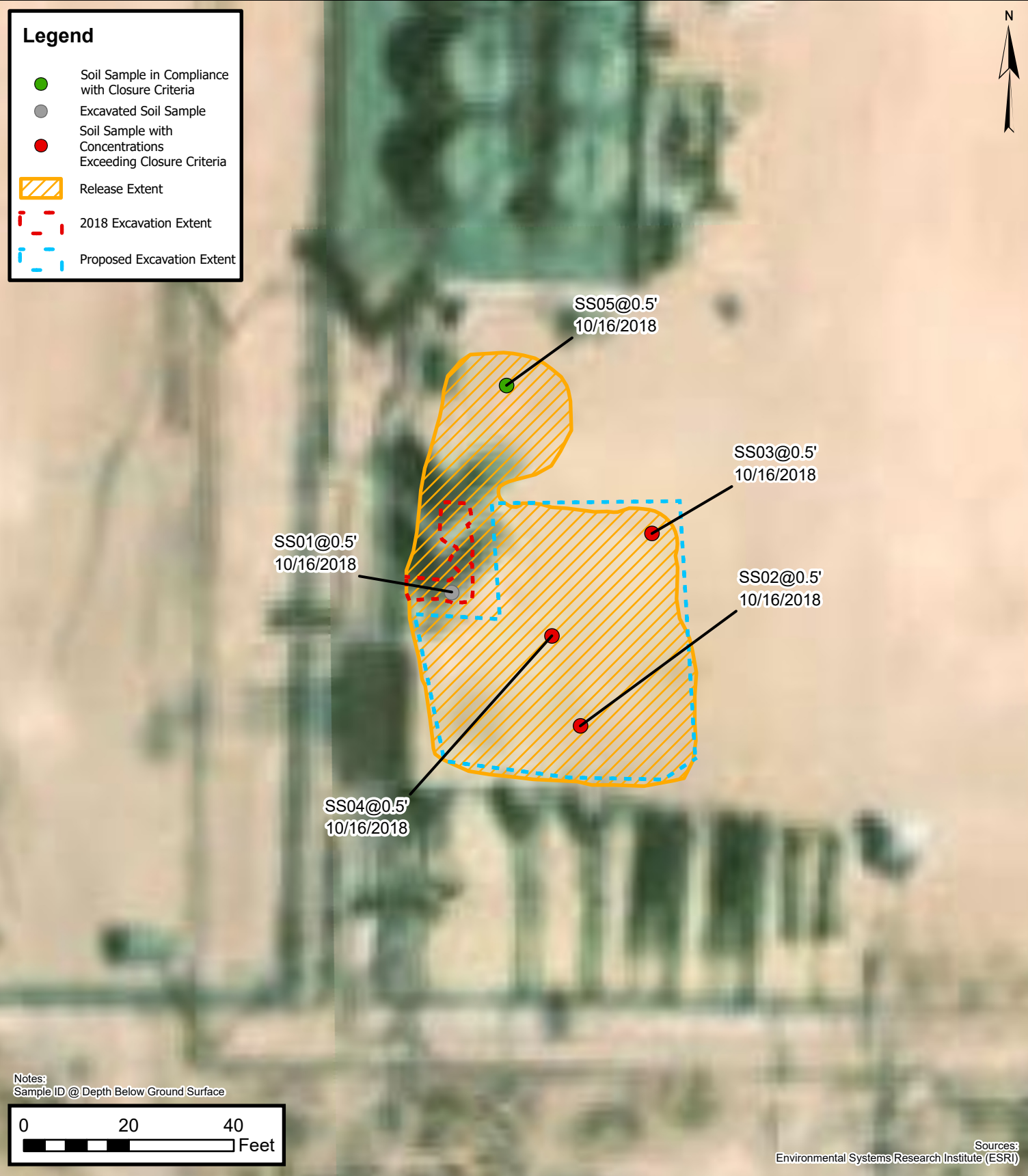


FIGURE 4
 EXCAVATION SOIL SAMPLE LOCATIONS
 BEU HACKBERRY 34 FEDERAL BATTERY #1
 UNIT A SEC 34 T19S R31E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.



NOTE: REMEDIATION PERMIT NUMBER 2RP-4399

Document Path: C:\Users\Peter.Rodriguez\OneDrive - ENSOLUM.LLC\Desktop\GIS\File Path Structure3 - Carlsbad\XTO Energy, Inc\03C1556201 - BEU Hackberry 34 Federal Battery #1.aprx



Proposed Excavation Extent

XTO Energy, Inc.
BEU Hackberry 34 Federal Battery #1
Incident Number: NAB1726335399
Unit A, Sec 34, T19S, R31E
Eddy County, New Mexico

FIGURE
5



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 BEU Hackberry 34 Federal Battery #1
 XTO Energy, Inc.
 Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Initial Assessment Soil Samples										
SS01	10/16/2018	0.5	32.9	1,070	8,660	20,300	197	29,000	29,200	2,430
SS02	10/16/2018	0.5	5.08	260	1,560	5,380	211	6,940	7,150	1,040
SS03	10/16/2018	0.5	1.85	93.9	973	4,060	212	5,030	5,250	1,020
SS04	10/16/2018	0.5	0.08	10.9	223	1,370	41.9	1,590	1,630	4,030
SS05	10/16/2018	0.5	<0.0185	<0.0185	<14.9	35.6	<14.9	35.6	35.6	120
Delineation Soil Samples										
PH01A	12/12/2018	0.5	<0.00201	<0.00201	<15.0	89.1	39.0	89.1	128	142
PH01B	12/13/2018	1.0	<0.00200	<0.00200	<15.0	152	98.9	152	251	104
PH02A	12/13/2018	0.5	<0.00200	<0.00200	<15.0	18.8	<15.0	18.8	18.8	53.1
PH02B	12/13/2018	1.0	<0.00200	<0.00200	<15.0	16.7	<15.0	16.7	16.7	70.5
PH03A	12/13/2018	1.0	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	211
PH03B	12/13/2018	2.0	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	103
BH06A	12/14/2018	0.5	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	5.64
BH06B	12/14/2018	1.0	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	32.6
BH07A	12/14/2018	0.5	<0.00200	<0.00200	<15.0	33.9	25.3	33.9	59.2	2,050
BH07B	12/14/2018	1.0	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	2,080
BH08A	12/14/2018	0.5	<0.00200	<0.00200	21.1	195	145	216	361	3,160
BH08B	12/14/2018	1.0	<0.00200	<0.00200	<15.0	180	133	180	313	3,260
BH09A	12/14/2018	3.0	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	124
BH09B	12/14/2018	3.5	<0.00200	<0.00200	<15.0	42.9	<15.0	42.9	42.9	113
BH10A	12/17/2018	0.5	<0.00200	0.01610	<15.0	257	46.6	257	304	1,240
BH10B	12/17/2018	4.5	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	1,940



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
BEU Hackberry 34 Federal Battery #1
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Excavation Soil Samples										
FS01	12/19/2018	2.5	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	29.2
FS02	12/19/2018	4.0	<0.00200	<0.00200	<15.0	19.6	<15.0	19.6	19.6	12.5
SW01	12/19/2018	1.0	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	876
SW02	12/19/2018	2.5	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	11.4

Notes:

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

GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
NMAC: New Mexico Administrative Code
Grey text indicates soil sample removed during excavation activities



APPENDIX A

Referenced Well Records



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
NA	CP 01864 POD1	4	2	1	34	19S	31E	607068	3609824

x

Driller License: 1249 **Driller Company:** ATKINS ENGINEERING ASSOC. INC.

Driller Name: JACKIE D ATKINS

Drill Start Date: 02/26/2021 **Drill Finish Date:** 02/26/2021 **Plug Date:**

Log File Date: 03/11/2021 **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 0 GPM

Casing Size: **Depth Well:** 110 feet **Depth Water:**

x

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

5/11/23 10:47 AM

POINT OF DIVERSION SUMMARY



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (BH-01)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-1864 CP 1864			
	WELL OWNER NAME(S) XTO Energy (Kyle Littrell)				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 6401 Holiday Hill Dr.				CITY Midland	STATE TX	ZIP 79707	
	WELL LOCATION (FROM GPS)	LATITUDE 32° 37' 14.58" N	DEGREES 32°	MINUTES 37'	SECONDS 14.58"	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
		LONGITUDE -103° 51' 31.48" W				* DATUM REQUIRED: WGS 84		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SW SE Sec. 15 T24S R31E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 02/26/2021		DRILLING ENDED 02/26/2021		DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 110	DEPTH WATER FIRST ENCOUNTERED (FT) n/a	
	COMPLETED WELL IS: ☐ ARTESIAN ☒ DRY HOLE ☐ SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a		
	DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☒ OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	110	±6.5	Boring- HSA	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. CP-1864	POD NO. 1	TRN NO. 686596
LOCATION 214 T19S R31E Sec 34	WELL TAG ID NO. NA	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	1.5	1.5	Caliche w/ sand, no odor, no stain, tan, off white, dry	Y ✓ N	
	1.5	13	11.5	Sand, no odor, no stain, m-f, well sorted, gray, trace silt, some caliche, dry	Y ✓ N	
	13	24	11	Sandstone, m-f, low consolidation, gray, little coarse gravel, dry	Y ✓ N	
	24	34	10	Sand w/ caliche, gray, tan, moist, m-f, well sorted	Y ✓ N	
	34	41	7	Caliche /Sand, m-f, well sorted, tan, offwhite, mod. consolidation, moist	Y ✓ N	
	41	50	9	Clayey sand, gray, fine grain, well sorted, med. plasticity, cohesive, moist, w/ cal	Y ✓ N	
	50	69	19	Caliche w/ sandy clay, m-f, no cohesion, no plasticity, dry	Y ✓ N	
	69	79	10	Sandstone, tan, m-f, , high consolidation, dry	Y ✓ N	
	79	92	13	Clayey sand, medium plasticity, cohesive, fine grained sand, brown, moist	Y ✓ N	
	92	110	18	Claystone, brown, high plasticity, cohesive, no odor, no stain, moist	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	
☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER - SPECIFY:						
5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.				
	MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface. Logs adapted from WSP on-site geologist.					
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Shane Eldridge OSE DJI MAR 11 2021 PM 4:27						
6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:					
	 Jackie D. Atkins				03/09/2021	
SIGNATURE OF DRILLER / PRINT SIGNEE NAME				DATE		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. CP-1864	POD NO. 1	TRN NO. 686596
LOCATION 214 T19S R31E Sec 34	WELL TAG ID NO. NA	PAGE 2 OF 2



APPENDIX B

Photographic Log

**Photographic Log**

XTO Energy, Inc.

BEU Hackberry 34 Federal Battery #1

Incident Number NAB1726335399



Photograph: 1 Date: 3/21/2023
Description: View of historical release area.
Facing East



Photograph: 2 Date: 3/21/2023
Description: View of historical release area.
Facing Northeast



Photograph: 3 Date: 3/21/2023
Description: View of historical release area.
Facing South



Photograph: 4 Date: 3/21/2023
Description: View of historical release area.
Facing West



APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

Analytical Report 602718

for
LT Environmental, Inc.

Project Manager: Adrian Baker
BEU Hackeberry 34 Battery

25-OCT-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



25-OCT-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **602718**

BEU Hackeberry 34 Battery

Project Address: Eddy County 2RP4399

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 602718. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 602718 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 602718****LT Environmental, Inc., Arvada, CO**

BEU Hackberry 34 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	10-16-18 10:45	6 In	602718-001
SS02	S	10-16-18 10:50	6 In	602718-002
SS03	S	10-16-18 11:02	6 In	602718-003
SS04	S	10-16-18 15:10	6 In	602718-004
SS05	S	10-16-18 15:55	6 In	602718-005



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU Hackeberry 34 Battery

Project ID:

Work Order Number(s): 602718

Report Date: 25-OCT-18

Date Received: 10/18/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3067020 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3067092 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 602718-001,602718-003,602718-002.

Batch: LBA-3067339 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 602718-001.



Certificate of Analysis Summary 602718

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery



Project Id:

Contact: Adrian Baker

Project Location: Eddy County 2RP4399

Date Received in Lab: Thu Oct-18-18 10:40 am

Report Date: 25-OCT-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	602718-001	602718-002	602718-003	602718-004	602718-005	
	Field Id:	SS01	SS02	SS03	SS04	SS05	
	Depth:	6- In	6- In	6- In	6- In	6- In	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Oct-16-18 10:45	Oct-16-18 10:50	Oct-16-18 11:02	Oct-16-18 15:10	Oct-16-18 15:55	
BTEX by EPA 8021B SUB: T104704219-18-18	Extracted:	Oct-23-18 10:30	Oct-19-18 12:30	Oct-19-18 12:30	Oct-19-18 12:30	Oct-19-18 12:30	
	Analyzed:	Oct-24-18 05:35	Oct-19-18 22:10	Oct-19-18 22:37	Oct-19-18 23:04	Oct-19-18 19:56	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		32.9 1.96	5.08 0.391	1.85 0.0923	0.0762 0.0381	<0.0185 0.0185	
Toluene		350 1.96	65.5 0.391	21.9 0.0923	1.55 0.0381	<0.0185 0.0185	
Ethylbenzene		248 1.96	55.5 0.391	21.7 0.0923	2.66 0.0381	<0.0185 0.0185	
m,p-Xylenes		302 3.91	87.7 0.781	35.4 0.185	4.90 0.0762	<0.0370 0.0370	
o-Xylene		137 1.96	46.7 0.391	13.0 0.0923	1.69 0.0381	<0.0185 0.0185	
Total Xylenes		439 1.96	134 0.391	48.4 0.0923	6.59 0.0381	<0.0185 0.0185	
Total BTEX		1070 1.96	260 0.391	93.9 0.0923	10.9 0.0381	<0.0185 0.0185	
Inorganic Anions by EPA 300 SUB: T104704219-18-18	Extracted:	Oct-19-18 11:00	Oct-19-18 11:00	Oct-19-18 11:00	Oct-19-18 11:00	Oct-19-18 11:00	
	Analyzed:	Oct-19-18 18:59	Oct-19-18 19:12	Oct-19-18 19:24	Oct-19-18 19:49	Oct-19-18 20:02	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		2430 250	1040 125	1020 125	4030 250	120 25.0	
TPH by SW8015 Mod	Extracted:	Oct-19-18 16:00	Oct-19-18 16:00	Oct-19-18 16:00	Oct-19-18 16:00	Oct-19-18 16:00	
	Analyzed:	Oct-20-18 02:29	Oct-20-18 02:50	Oct-20-18 03:10	Oct-20-18 03:31	Oct-20-18 03:52	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		8660 74.9	1560 74.8	973 74.9	223 15.0	<14.9 14.9	
Diesel Range Organics (DRO)		20300 74.9	5380 74.8	4060 74.9	1370 15.0	35.6 14.9	
Motor Oil Range Hydrocarbons (MRO)		197 74.9	211 74.8	212 74.9	41.9 15.0	<14.9 14.9	
Total TPH		29200 74.9	7150 74.8	5250 74.9	1630 15.0	35.6 14.9	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 602718

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SS01** Matrix: Soil Date Received: 10.18.18 10.40
 Lab Sample Id: 602718-001 Date Collected: 10.16.18 10.45 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: RNL % Moisture:
 Analyst: RNL Date Prep: 10.19.18 11.00 Basis: Wet Weight
 Seq Number: 3067028 SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2430	250	mg/kg	10.19.18 18.59		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 10.19.18 16.00 Basis: Wet Weight
 Seq Number: 3067092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	8660	74.9	mg/kg	10.20.18 02.29		5
Diesel Range Organics (DRO)	C10C28DRO	20300	74.9	mg/kg	10.20.18 02.29		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	197	74.9	mg/kg	10.20.18 02.29		5
Total TPH	PHC635	29200	74.9	mg/kg	10.20.18 02.29		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	10.20.18 02.29	
o-Terphenyl	84-15-1	440	%	70-135	10.20.18 02.29	**



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackeberry 34 Battery

Sample Id: **SS01**
Lab Sample Id: 602718-001

Matrix: Soil
Date Collected: 10.16.18 10.45

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3067339

Date Prep: 10.23.18 10.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	32.9	1.96	mg/kg	10.24.18 05.35		100
Toluene	108-88-3	350	1.96	mg/kg	10.24.18 05.35		100
Ethylbenzene	100-41-4	248	1.96	mg/kg	10.24.18 05.35		100
m,p-Xylenes	179601-23-1	302	3.91	mg/kg	10.24.18 05.35		100
o-Xylene	95-47-6	137	1.96	mg/kg	10.24.18 05.35		100
Total Xylenes	1330-20-7	439	1.96	mg/kg	10.24.18 05.35		100
Total BTEX		1070	1.96	mg/kg	10.24.18 05.35		100
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	161	%	68-120	10.24.18 05.35	**	
a,a,a-Trifluorotoluene	98-08-8	101	%	71-121	10.24.18 05.35		



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: SS02
Lab Sample Id: 602718-002

Matrix: Soil
Date Collected: 10.16.18 10.50

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3067028

Date Prep: 10.19.18 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1040	125	mg/kg	10.19.18 19.12		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3067092

Date Prep: 10.19.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	1560	74.8	mg/kg	10.20.18 02.50		5
Diesel Range Organics (DRO)	C10C28DRO	5380	74.8	mg/kg	10.20.18 02.50		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	211	74.8	mg/kg	10.20.18 02.50		5
Total TPH	PHC635	7150	74.8	mg/kg	10.20.18 02.50		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	10.20.18 02.50	
o-Terphenyl	84-15-1	178	%	70-135	10.20.18 02.50	**



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackeberry 34 Battery

Sample Id: SS02
Lab Sample Id: 602718-002

Matrix: Soil
Date Collected: 10.16.18 10.50

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.19.18 12.30

Basis: Wet Weight

Seq Number: 3067020

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	5.08	0.391	mg/kg	10.19.18 22.10		20
Toluene	108-88-3	65.5	0.391	mg/kg	10.19.18 22.10		20
Ethylbenzene	100-41-4	55.5	0.391	mg/kg	10.19.18 22.10		20
m,p-Xylenes	179601-23-1	87.7	0.781	mg/kg	10.19.18 22.10		20
o-Xylene	95-47-6	46.7	0.391	mg/kg	10.19.18 22.10		20
Total Xylenes	1330-20-7	134	0.391	mg/kg	10.19.18 22.10		20
Total BTEX		260	0.391	mg/kg	10.19.18 22.10		20
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89		%	68-120	10.19.18 22.10	
a,a,a-Trifluorotoluene	98-08-8	94		%	71-121	10.19.18 22.10	



Certificate of Analytical Results 602718

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: SS03
Lab Sample Id: 602718-003

Matrix: Soil
Date Collected: 10.16.18 11.02

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3067028

Date Prep: 10.19.18 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1020	125	mg/kg	10.19.18 19.24		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3067092

Date Prep: 10.19.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	973	74.9	mg/kg	10.20.18 03.10		5
Diesel Range Organics (DRO)	C10C28DRO	4060	74.9	mg/kg	10.20.18 03.10		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	212	74.9	mg/kg	10.20.18 03.10		5
Total TPH	PHC635	5250	74.9	mg/kg	10.20.18 03.10		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	10.20.18 03.10	
o-Terphenyl	84-15-1	159	%	70-135	10.20.18 03.10	**



Certificate of Analytical Results 602718

LT Environmental, Inc., Arvada, CO

BEU Hackeberry 34 Battery

Sample Id: SS03
Lab Sample Id: 602718-003

Matrix: Soil
Date Collected: 10.16.18 11.02

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.19.18 12.30

Basis: Wet Weight

Seq Number: 3067020

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	1.85	0.0923	mg/kg	10.19.18 22.37		5
Toluene	108-88-3	21.9	0.0923	mg/kg	10.19.18 22.37		5
Ethylbenzene	100-41-4	21.7	0.0923	mg/kg	10.19.18 22.37		5
m,p-Xylenes	179601-23-1	35.4	0.185	mg/kg	10.19.18 22.37		5
o-Xylene	95-47-6	13.0	0.0923	mg/kg	10.19.18 22.37		5
Total Xylenes	1330-20-7	48.4	0.0923	mg/kg	10.19.18 22.37		5
Total BTEX		93.9	0.0923	mg/kg	10.19.18 22.37		5
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.19.18 22.37		
a,a,a-Trifluorotoluene	98-08-8	114	%	71-121	10.19.18 22.37		



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SS04**
Lab Sample Id: 602718-004

Matrix: Soil
Date Collected: 10.16.18 15.10

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3067028

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4030	250	mg/kg	10.19.18 19.49		10

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3067092

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	223	15.0	mg/kg	10.20.18 03.31		1
Diesel Range Organics (DRO)	C10C28DRO	1370	15.0	mg/kg	10.20.18 03.31		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	41.9	15.0	mg/kg	10.20.18 03.31		1
Total TPH	PHC635	1630	15.0	mg/kg	10.20.18 03.31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	10.20.18 03.31	
o-Terphenyl	84-15-1	116	%	70-135	10.20.18 03.31	



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackeberry 34 Battery

Sample Id: **SS04**
Lab Sample Id: 602718-004

Matrix: Soil
Date Collected: 10.16.18 15.10

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.19.18 12.30

Basis: Wet Weight

Seq Number: 3067020

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0762	0.0381	mg/kg	10.19.18 23.04		2
Toluene	108-88-3	1.55	0.0381	mg/kg	10.19.18 23.04		2
Ethylbenzene	100-41-4	2.66	0.0381	mg/kg	10.19.18 23.04		2
m,p-Xylenes	179601-23-1	4.90	0.0762	mg/kg	10.19.18 23.04		2
o-Xylene	95-47-6	1.69	0.0381	mg/kg	10.19.18 23.04		2
Total Xylenes	1330-20-7	6.59	0.0381	mg/kg	10.19.18 23.04		2
Total BTEX		10.9	0.0381	mg/kg	10.19.18 23.04		2
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	90	%	68-120	10.19.18 23.04		
a,a,a-Trifluorotoluene	98-08-8	84	%	71-121	10.19.18 23.04		



Certificate of Analytical Results 602718

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: SS05
Lab Sample Id: 602718-005

Matrix: Soil
Date Collected: 10.16.18 15.55

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3067028

Date Prep: 10.19.18 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	120	25.0	mg/kg	10.19.18 20.02		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3067092

Date Prep: 10.19.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.20.18 03.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	35.6	14.9	mg/kg	10.20.18 03.52		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.20.18 03.52	U	1
Total TPH	PHC635	35.6	14.9	mg/kg	10.20.18 03.52		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.20.18 03.52	
o-Terphenyl	84-15-1	100	%	70-135	10.20.18 03.52	



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackeberry 34 Battery

Sample Id: SS05
Lab Sample Id: 602718-005

Matrix: Soil
Date Collected: 10.16.18 15.55

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.19.18 12.30

Basis: Wet Weight

Seq Number: 3067020

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
Toluene	108-88-3	<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
Ethylbenzene	100-41-4	<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
m,p-Xylenes	179601-23-1	<0.0370	0.0370	mg/kg	10.19.18 19.56	U	1
o-Xylene	95-47-6	<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
Total Xylenes	1330-20-7	<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
Total BTEX		<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	68-120	10.19.18 19.56		
a,a,a-Trifluorotoluene	98-08-8	84	%	71-121	10.19.18 19.56		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.
BEU Hackeberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067028

MB Sample Id: 7664554-1-BLK

Matrix: Solid

LCS Sample Id: 7664554-1-BKS

Prep Method: E300P

Date Prep: 10.19.18

LCSD Sample Id: 7664554-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.26	250	246	98	239	96	90-110	3	20	mg/kg	10.19.18 16:43	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067028

Parent Sample Id: 602716-012

Matrix: Soil

MS Sample Id: 602716-012 S

Prep Method: E300P

Date Prep: 10.19.18

MSD Sample Id: 602716-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	383	250	628	98	648	106	80-120	3	20	mg/kg	10.19.18 17:33	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067028

Parent Sample Id: 602719-002

Matrix: Soil

MS Sample Id: 602719-002 S

Prep Method: E300P

Date Prep: 10.19.18

MSD Sample Id: 602719-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	36.9	250	277	96	275	95	80-120	1	20	mg/kg	10.19.18 20:39	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3067092

MB Sample Id: 7664522-1-BLK

Matrix: Solid

LCS Sample Id: 7664522-1-BKS

Prep Method: TX1005P

Date Prep: 10.19.18

LCSD Sample Id: 7664522-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.13	1000	932	93	947	95	70-135	2	20	mg/kg	10.19.18 09:21	
Diesel Range Organics (DRO)	<8.13	1000	932	93	948	95	70-135	2	20	mg/kg	10.19.18 09:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		126		127		70-135	%	10.19.18 09:21
o-Terphenyl	98		103		103		70-135	%	10.19.18 09:21

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.

BEU Hackeberry 34 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3067092

Parent Sample Id: 602722-001

Matrix: Soil

MS Sample Id: 602722-001 S

Prep Method: TX1005P

Date Prep: 10.19.18

MSD Sample Id: 602722-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	14.2	999	918	90	941	93	70-135	2	20	mg/kg	10.19.18 20:12	
Diesel Range Organics (DRO)	<8.12	999	918	92	940	94	70-135	2	20	mg/kg	10.19.18 20:12	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		126		70-135	%	10.19.18 20:12
o-Terphenyl	103		99		70-135	%	10.19.18 20:12

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067020

MB Sample Id: 7664514-1-BLK

Matrix: Solid

LCS Sample Id: 7664514-1-BKS

Prep Method: SW5030B

Date Prep: 10.19.18

LCSD Sample Id: 7664514-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.96	98	1.94	97	55-120	1	20	mg/kg	10.19.18 18:09	
Toluene	<0.0200	2.00	1.84	92	1.76	88	77-120	4	20	mg/kg	10.19.18 18:09	
Ethylbenzene	<0.0200	2.00	1.76	88	1.69	85	77-120	4	20	mg/kg	10.19.18 18:09	
m,p-Xylenes	<0.00682	4.00	3.59	90	3.48	87	78-120	3	20	mg/kg	10.19.18 18:09	
o-Xylene	<0.0200	2.00	1.81	91	1.77	89	78-120	2	20	mg/kg	10.19.18 18:09	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	83		85		89		68-120	%	10.19.18 18:09
a,a,a-Trifluorotoluene	80		86		87		71-121	%	10.19.18 18:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067339

MB Sample Id: 7664683-1-BLK

Matrix: Solid

LCS Sample Id: 7664683-1-BKS

Prep Method: SW5030B

Date Prep: 10.23.18

LCSD Sample Id: 7664683-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.81	91	1.78	89	55-120	2	20	mg/kg	10.23.18 17:53	
Toluene	<0.0200	2.00	1.78	89	1.87	94	77-120	5	20	mg/kg	10.23.18 17:53	
Ethylbenzene	<0.0200	2.00	1.89	95	2.00	100	77-120	6	20	mg/kg	10.23.18 17:53	
m,p-Xylenes	<0.0400	4.00	3.74	94	4.04	101	78-120	8	20	mg/kg	10.23.18 17:53	
o-Xylene	<0.0200	2.00	1.86	93	1.97	99	78-120	6	20	mg/kg	10.23.18 17:53	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	77		106		97		68-120	%	10.23.18 17:53
a,a,a-Trifluorotoluene	77		107		92		71-121	%	10.23.18 17:53

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



LT Environmental, Inc.

BEU Hackeberry 34 Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067020

Parent Sample Id: 602718-005

Matrix: Soil

MS Sample Id: 602718-005 S

Prep Method: SW5030B

Date Prep: 10.19.18

MSD Sample Id: 602718-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0198	1.98	1.74	88	1.69	91	54-120	3	25	mg/kg	10.19.18 20:23	
Toluene	<0.00462	1.98	1.74	88	1.68	91	57-120	4	25	mg/kg	10.19.18 20:23	
Ethylbenzene	<0.0198	1.98	1.76	89	1.70	92	58-131	3	25	mg/kg	10.19.18 20:23	
m,p-Xylenes	<0.00674	3.95	3.62	92	3.49	95	62-124	4	25	mg/kg	10.19.18 20:23	
o-Xylene	<0.0198	1.98	1.81	91	1.71	92	62-124	6	25	mg/kg	10.19.18 20:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	92		94		68-120	%	10.19.18 20:23
a,a,a-Trifluorotoluene	91		90		71-121	%	10.19.18 20:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067339

Parent Sample Id: 602977-001

Matrix: Soil

MS Sample Id: 602977-001 S

Prep Method: SW5030B

Date Prep: 10.23.18

MSD Sample Id: 602977-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0192	1.92	1.65	86	1.60	84	54-120	3	25	mg/kg	10.23.18 20:19	
Toluene	<0.0192	1.92	1.68	88	1.63	86	57-120	3	25	mg/kg	10.23.18 20:19	
Ethylbenzene	0.0138	1.92	1.77	91	1.73	90	58-131	2	25	mg/kg	10.23.18 20:19	
m,p-Xylenes	0.00986	3.85	3.54	92	3.42	90	62-124	3	25	mg/kg	10.23.18 20:19	
o-Xylene	<0.0192	1.92	1.80	94	1.71	90	62-124	5	25	mg/kg	10.23.18 20:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		99		68-120	%	10.23.18 20:19
a,a,a-Trifluorotoluene	107		105		71-121	%	10.23.18 20:19

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = $\text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

CHAIN OF C STUDY

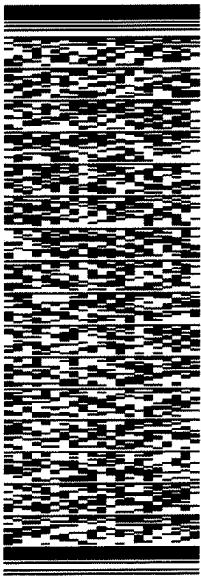
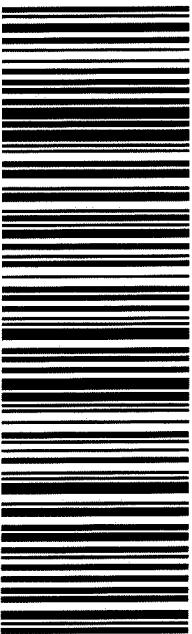
Page 1 Of 1

**San Antonio, Texas (210-509-3334,
Midland, Texas (432-704-5251))**

Phoenix, Arizona (480-355-0900)

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes
Company Name / Branch: <i>L.T. Farrant et al., Inc.</i>		Project Name/Number: BEU Hackberry 34 Battery				W = Water S = Soil/Sediment GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water O = Oil WW = Waste Water A = Air
Company Address: <i>3300 N.H. St. Building 1 Unit 103 Midland, TX 79702</i>		Project Location: Eddy County ARPN399				
Email: <i>abaker@lft.com</i>		Invoice To: XTO: Kyle Littrell				
Project Contact: <i>Adrian Baker</i>		PO Number:				
Sampler's Name: <i>Anna Byers</i>						
No.	Field ID / Point of Collection	Collection		Number of Containers/Bottles		
	Sample Depth	Date	Time	Matrix	# of bottles	HCI
1	SSØ1	6"	10/16	1045	S 1	
2	SSØ2	6"	10/16	1050	S 1	
3	SSØ3	6"	10/16	1102	S 1	
4	SSØ4	6"	10/16	1510	S 1	
5	SSØ5	6"	10/16	1555	S 1	
6						
7						
8						
9						
10						
Turnaround Time (Business days)				Data Deliverable Information		Notes:
☐ Same Day TAT		☒ 5 Day TAT		☐ Level II Std QC		☐ Level IV (Full Data Pkg /raw data)
☐ Next Day EMERGENCY		☐ 7 Day TAT		☐ Level III Std QC+ Forms		☐ TRRP Level IV
☐ 2 Day EMERGENCY		☐ Contract TAT		☐ Level 3 (CLP Forms)		☐ UST / RG -411
☐ 3 Day EMERGENCY				☐ TRRP Checklist		
TAT Starts Day received by Lab, if received by 5:00 pm						
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY						
Relinquished by Sampler: <i>Anna Byers</i>		Date Time: 10/17/18		Received By: <i>[Signature]</i>		Relinquished By: <i>[Signature]</i>
Relinquished by:		Date Time:		Received By:		Relinquished By:
Relinquished by:		Date Time:		Received By:		Relinquished By:
Relinquished by:		Date Time:		Received By:		Relinquished By:
Custody Seal #		Preserved where applicable		FED-EX / UPS: Tracking #		Cn Log
Cooler Temp.		Thermo. Corr. Factor				

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

ORIGIN ID:CAOA (575) 887-6245 XENCO P.O. BOX 111 910 W PIERCE ST CARLSBAD NM 88220 UNITED STATES US		SHIP DATE: 17/OCT/18 ACTWGT: 56.00 LB CAD: 101813706/NET4040 DIMS: 26x14x14 IN BILL RECIPIENT
TO HOLD FOR XENCO FEDEX EXPRESS SHIP CENTER FEDEX SHIP CENTER 3600 COUNTY RD 1276 S MIDLAND TX 79711 (806) 794-1296 INV: REF: DEPT:		
 		
TRK# 7735 0392 4628 0201 THU - 18 OCT HOLD STANDARD OVERNIGHT HLD MAFA TX-US LBB		

552J1/88FB/DC/5

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Inter-Office Shipment

Page 1 of 1

IOS Number **115737**

Date/Time: 10/18/18 14:20

Created by: Brianna Teel

Please send report to: Jessica Kramer

Lab# From: **Midland**

Delivery Priority:

Address: 1211 W. Florida Ave, Midland TX 79701

Lab# To: **Lubbock**

Air Bill No.: 773515268264

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
602718-001	S	SS01	10/16/18 10:45	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602718-001	S	SS01	10/16/18 10:45	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602718-002	S	SS02	10/16/18 10:50	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602718-002	S	SS02	10/16/18 10:50	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602718-003	S	SS03	10/16/18 11:02	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602718-003	S	SS03	10/16/18 11:02	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602718-004	S	SS04	10/16/18 15:10	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602718-004	S	SS04	10/16/18 15:10	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602718-005	S	SS05	10/16/18 15:55	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602718-005	S	SS05	10/16/18 15:55	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By:

Brianna Teel

Received By:

Brenda Ward

Date Relinquished: 10/18/2018

Date Received: 10/19/2018 10:44

Cooler Temperature: 2.9



XENCO Laboratories



Inter Office Report- Sample Receipt Checklist

Sent To: Lubbock

IOS #: 115737

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-3

Sent By: Brianna Teel

Date Sent: 10/18/2018 02:20 PM

Received By: Brenda Ward

Date Received: 10/19/2018 10:44 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.9	
#2 *Shipping container in good condition?	Yes	0
#3 *Samples received with appropriate temperature?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 *Custody Seals Signed and dated for Containers/coolers	Yes	
#6 *IOS present?	No	
#7 Any missing/extra samples?	No	
#8 IOS agrees with sample label(s)/matrix?	Yes	
#9 Sample matrix/ properties agree with IOS?	Yes	
#10 Samples in proper container/ bottle?	Yes	
#11 Samples properly preserved?	Yes	
#12 Sample container(s) intact?	Yes	
#13 Sufficient sample amount for indicated test(s)?	Yes	
#14 All samples received within hold time?	Yes	

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brenda Ward

Date: 10/19/2018



Client: LT Environmental, Inc.

Date/ Time Received: 10/18/2018 10:40:00 AM

Work Order #: 602718

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.2	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	Yes	Lubbock-BTEX/Chlorides
#18 Water VOC samples have zero headspace?	N/A	

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 10/18/2018

Checklist reviewed by:

Jessica Kramer

Date: 10/18/2018

Analytical Report 608832

for
LT Environmental, Inc.

Project Manager: Adrian Baker
BEU Hackberry 34 Battery

20-DEC-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



20-DEC-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **608832**

BEU Hackberry 34 Battery

Project Address: Eddy County

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 608832. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 608832 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 608832****LT Environmental, Inc., Arvada, CO**

BEU Hackberry 34 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01A	S	12-12-18 10:45	.5 ft	608832-001
PH01B	S	12-13-18 10:46	1 ft	608832-002
PH02A	S	12-13-18 10:15	.5 ft	608832-003
PH02B	S	12-13-18 10:20	1 ft	608832-004
PH03A	S	12-13-18 12:15	1 ft	608832-005
PH03B	S	12-13-18 12:20	2 ft	608832-006

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: BEU Hackberry 34 Battery**Project ID:
Work Order Number(s): 608832Report Date: 20-DEC-18
Date Received: 12/15/2018**Sample receipt non conformances and comments:**

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3073325 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3073331 BTEX by EPA 8021B

Lab Sample ID 608832-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene recovered below QC limits in the Matrix Spike. Benzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 608832-003, -004, -005, -006.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 608832

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery



Project Id:

Contact: Adrian Baker

Project Location: Eddy County

Date Received in Lab: Sat Dec-15-18 09:30 am

Report Date: 20-DEC-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	608832-001	608832-002	608832-003	608832-004	608832-005	608832-006
	<i>Field Id:</i>	PH01A	PH01B	PH02A	PH02B	PH03A	PH03B
	<i>Depth:</i>	.5- ft	1- ft	.5- ft	1- ft	1- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-12-18 10:45	Dec-13-18 10:46	Dec-13-18 10:15	Dec-13-18 10:20	Dec-13-18 12:15	Dec-13-18 12:20
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-18-18 16:00	Dec-18-18 16:00	Dec-18-18 16:30	Dec-18-18 16:30	Dec-18-18 16:30	Dec-18-18 16:30
	<i>Analyzed:</i>	Dec-18-18 20:48	Dec-18-18 21:07	Dec-19-18 05:54	Dec-19-18 06:13	Dec-19-18 06:32	Dec-19-18 06:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00402 0.00402	<0.00400 0.00400	<0.00400 0.00400	<0.00401 0.00401	<0.00399 0.00399	<0.00402 0.00402
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Inorganic Anions by EPA 300	<i>Extracted:</i>	Dec-17-18 16:00	Dec-17-18 16:00	Dec-17-18 16:00	Dec-17-18 16:00	Dec-17-18 16:00	Dec-17-18 16:00
	<i>Analyzed:</i>	Dec-18-18 02:55	Dec-18-18 03:01	Dec-18-18 03:14	Dec-18-18 03:08	Dec-18-18 03:32	Dec-18-18 03:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		142 5.00	104 5.00	53.1 5.00	70.5 4.95	211 5.00	103 4.95
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-19-18 18:00	Dec-19-18 18:00	Dec-19-18 18:00	Dec-19-18 18:00	Dec-19-18 18:00	Dec-19-18 18:00
	<i>Analyzed:</i>	Dec-19-18 21:59	Dec-19-18 23:00	Dec-19-18 23:21	Dec-19-18 23:42	Dec-20-18 00:03	Dec-20-18 00:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		89.1 15.0	152 15.0	18.8 15.0	16.7 15.0	<15.0 15.0	<14.9 14.9
Motor Oil Range Hydrocarbons (MRO)		39.0 15.0	98.9 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		128 15.0	251 15.0	18.8 15.0	16.7 15.0	<15.0 15.0	<14.9 14.9

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Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH01A**
 Lab Sample Id: 608832-001

Matrix: Soil
 Date Collected: 12.12.18 10.45

Date Received: 12.15.18 09.30
 Sample Depth: .5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073190

Date Prep: 12.17.18 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	142	5.00	mg/kg	12.18.18 02.55		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073493

Date Prep: 12.19.18 18.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.19.18 21.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	89.1	15.0	mg/kg	12.19.18 21.59		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	39.0	15.0	mg/kg	12.19.18 21.59		1
Total TPH	PHC635	128	15.0	mg/kg	12.19.18 21.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	12.19.18 21.59	
o-Terphenyl	84-15-1	90	%	70-135	12.19.18 21.59	



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH01A**
 Lab Sample Id: 608832-001

Matrix: Soil
 Date Collected: 12.12.18 10.45

Date Received: 12.15.18 09.30
 Sample Depth: .5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.18.18 16.00

Basis: Wet Weight

Seq Number: 3073325

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.18.18 20.48	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	12.18.18 20.48		
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.18.18 20.48		



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH01B**
 Lab Sample Id: 608832-002

Matrix: Soil
 Date Collected: 12.13.18 10.46

Date Received: 12.15.18 09.30
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073190

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 12.17.18 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	104	5.00	mg/kg	12.18.18 03.01		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073493

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 12.19.18 18.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.19.18 23.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	152	15.0	mg/kg	12.19.18 23.00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	98.9	15.0	mg/kg	12.19.18 23.00		1
Total TPH	PHC635	251	15.0	mg/kg	12.19.18 23.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.19.18 23.00	
o-Terphenyl	84-15-1	90	%	70-135	12.19.18 23.00	



Certificate of Analytical Results 608832



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH01B**
Lab Sample Id: 608832-002

Matrix: Soil
Date Collected: 12.13.18 10.46

Date Received: 12.15.18 09.30
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.18.18 16.00

Basis: Wet Weight

Seq Number: 3073325

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.18.18 21.07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	12.18.18 21.07		
4-Bromofluorobenzene	460-00-4	98	%	70-130	12.18.18 21.07		



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH02A**
 Lab Sample Id: 608832-003

Matrix: Soil
 Date Collected: 12.13.18 10.15

Date Received: 12.15.18 09.30
 Sample Depth: .5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073190

Date Prep: 12.17.18 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	53.1	5.00	mg/kg	12.18.18 03.14		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073493

Date Prep: 12.19.18 18.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.19.18 23.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	18.8	15.0	mg/kg	12.19.18 23.21		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.19.18 23.21	U	1
Total TPH	PHC635	18.8	15.0	mg/kg	12.19.18 23.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	12.19.18 23.21	
o-Terphenyl	84-15-1	90	%	70-135	12.19.18 23.21	



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH02A**
 Lab Sample Id: 608832-003

Matrix: Soil
 Date Collected: 12.13.18 10.15

Date Received: 12.15.18 09.30
 Sample Depth: .5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.18.18 16.30

Basis: Wet Weight

Seq Number: 3073331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.19.18 05.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.19.18 05.54		
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.19.18 05.54		



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH02B**
 Lab Sample Id: 608832-004

Matrix: Soil
 Date Collected: 12.13.18 10.20

Date Received: 12.15.18 09.30
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 12.17.18 16.00

Basis: Wet Weight

Seq Number: 3073190

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	70.5	4.95	mg/kg	12.18.18 03.08		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 12.19.18 18.00

Basis: Wet Weight

Seq Number: 3073493

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.19.18 23.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	16.7	15.0	mg/kg	12.19.18 23.42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.19.18 23.42	U	1
Total TPH	PHC635	16.7	15.0	mg/kg	12.19.18 23.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	12.19.18 23.42	
o-Terphenyl	84-15-1	89	%	70-135	12.19.18 23.42	



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH02B**
 Lab Sample Id: 608832-004

Matrix: Soil
 Date Collected: 12.13.18 10.20

Date Received: 12.15.18 09.30
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073331

Date Prep: 12.18.18 16.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.19.18 06.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.19.18 06.13		
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.19.18 06.13		



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH03A**
 Lab Sample Id: 608832-005

Matrix: Soil
 Date Collected: 12.13.18 12.15

Date Received: 12.15.18 09.30
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 12.17.18 16.00

Basis: Wet Weight

Seq Number: 3073190

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	211	5.00	mg/kg	12.18.18 03.32		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 12.19.18 18.00

Basis: Wet Weight

Seq Number: 3073493

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.20.18 00.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.20.18 00.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.20.18 00.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.20.18 00.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	12.20.18 00.03	
o-Terphenyl	84-15-1	88	%	70-135	12.20.18 00.03	



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH03A**
 Lab Sample Id: 608832-005

Matrix: Soil
 Date Collected: 12.13.18 12.15

Date Received: 12.15.18 09.30
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.18.18 16.30

Basis: Wet Weight

Seq Number: 3073331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.19.18 06.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	12.19.18 06.32		
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.19.18 06.32		



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH03B**
 Lab Sample Id: 608832-006

Matrix: Soil
 Date Collected: 12.13.18 12.20

Date Received: 12.15.18 09.30
 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073190

Date Prep: 12.17.18 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	103	4.95	mg/kg	12.18.18 03.39		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073493

Date Prep: 12.19.18 18.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.20.18 00.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	12.20.18 00.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.20.18 00.24	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	12.20.18 00.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.20.18 00.24	
o-Terphenyl	84-15-1	91	%	70-135	12.20.18 00.24	



Certificate of Analytical Results 608832



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH03B**
Lab Sample Id: 608832-006

Matrix: Soil
Date Collected: 12.13.18 12.20

Date Received: 12.15.18 09.30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.18.18 16.30

Basis: Wet Weight

Seq Number: 3073331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.19.18 06.51	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.19.18 06.51		
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.19.18 06.51		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073190

MB Sample Id: 7668220-1-BLK

Matrix: Solid

LCS Sample Id: 7668220-1-BKS

Prep Method: E300P

Date Prep: 12.17.18

LCSD Sample Id: 7668220-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	274	110	274	110	90-110	0	20	mg/kg	12.18.18 01:30	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073190

Parent Sample Id: 608832-003

Matrix: Soil

MS Sample Id: 608832-003 S

Prep Method: E300P

Date Prep: 12.17.18

MSD Sample Id: 608832-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	53.1	250	289	94	291	95	90-110	1	20	mg/kg	12.18.18 03:20	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073190

Parent Sample Id: 608888-004

Matrix: Soil

MS Sample Id: 608888-004 S

Prep Method: E300P

Date Prep: 12.17.18

MSD Sample Id: 608888-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.850	248	248	100	254	102	90-110	2	20	mg/kg	12.18.18 01:48	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073493

MB Sample Id: 7668405-1-BLK

Matrix: Solid

LCS Sample Id: 7668405-1-BKS

Prep Method: TX1005P

Date Prep: 12.19.18

LCSD Sample Id: 7668405-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	932	93	921	92	70-135	1	20	mg/kg	12.19.18 21:18	
Diesel Range Organics (DRO)	<8.13	1000	973	97	965	97	70-135	1	20	mg/kg	12.19.18 21:18	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		125		121		70-135	%	12.19.18 21:18
o-Terphenyl	109		106		106		70-135	%	12.19.18 21:18

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073493

Parent Sample Id: 608832-001

Matrix: Soil

MS Sample Id: 608832-001 S

Prep Method: TX1005P

Date Prep: 12.19.18

MSD Sample Id: 608832-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.97	996	853	86	868	87	70-135	2	20	mg/kg	12.19.18 22:19	
Diesel Range Organics (DRO)	89.1	996	940	85	954	87	70-135	1	20	mg/kg	12.19.18 22:19	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		107		70-135	%	12.19.18 22:19
o-Terphenyl	96		95		70-135	%	12.19.18 22:19

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073325

MB Sample Id: 7668314-1-BLK

Matrix: Solid

LCS Sample Id: 7668314-1-BKS

Prep Method: SW5030B

Date Prep: 12.18.18

LCSD Sample Id: 7668314-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.104	104	0.0983	98	70-130	6	35	mg/kg	12.18.18 18:17	
Toluene	<0.000457	0.100	0.0939	94	0.0896	90	70-130	5	35	mg/kg	12.18.18 18:17	
Ethylbenzene	<0.000566	0.100	0.102	102	0.0979	98	70-130	4	35	mg/kg	12.18.18 18:17	
m,p-Xylenes	<0.00102	0.200	0.186	93	0.178	89	70-130	4	35	mg/kg	12.18.18 18:17	
o-Xylene	<0.000345	0.100	0.0905	91	0.0865	87	70-130	5	35	mg/kg	12.18.18 18:17	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		104		104		70-130	%	12.18.18 18:17
4-Bromofluorobenzene	82		88		88		70-130	%	12.18.18 18:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073331

MB Sample Id: 7668320-1-BLK

Matrix: Solid

LCS Sample Id: 7668320-1-BKS

Prep Method: SW5030B

Date Prep: 12.18.18

LCSD Sample Id: 7668320-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.0887	89	0.0848	85	70-130	4	35	mg/kg	12.19.18 04:02	
Toluene	<0.000455	0.0998	0.0839	84	0.0803	80	70-130	4	35	mg/kg	12.19.18 04:02	
Ethylbenzene	<0.000564	0.0998	0.0897	90	0.0857	86	70-130	5	35	mg/kg	12.19.18 04:02	
m,p-Xylenes	<0.00101	0.200	0.162	81	0.155	78	70-130	4	35	mg/kg	12.19.18 04:02	
o-Xylene	<0.00200	0.0998	0.0811	81	0.0775	78	70-130	5	35	mg/kg	12.19.18 04:02	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		101		101		70-130	%	12.19.18 04:02
4-Bromofluorobenzene	81		86		86		70-130	%	12.19.18 04:02

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073325

Parent Sample Id: 608779-001

Matrix: Soil

MS Sample Id: 608779-001 S

Prep Method: SW5030B

Date Prep: 12.18.18

MSD Sample Id: 608779-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000388	0.101	0.0904	90	0.0798	80	70-130	12	35	mg/kg	12.18.18 18:55	
Toluene	<0.000459	0.101	0.0781	77	0.0668	67	70-130	16	35	mg/kg	12.18.18 18:55	X
Ethylbenzene	<0.000569	0.101	0.0816	81	0.0672	67	70-130	19	35	mg/kg	12.18.18 18:55	X
m,p-Xylenes	<0.00102	0.202	0.150	74	0.125	63	70-130	18	35	mg/kg	12.18.18 18:55	X
o-Xylene	<0.000347	0.101	0.0748	74	0.0637	64	70-130	16	35	mg/kg	12.18.18 18:55	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		70-130	%	12.18.18 18:55
4-Bromofluorobenzene	89		89		70-130	%	12.18.18 18:55

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073331

Parent Sample Id: 608832-003

Matrix: Soil

MS Sample Id: 608832-003 S

Prep Method: SW5030B

Date Prep: 12.18.18

MSD Sample Id: 608832-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0523	52	0.0615	61	70-130	16	35	mg/kg	12.19.18 04:40	X
Toluene	<0.000456	0.100	0.0541	54	0.0634	63	70-130	16	35	mg/kg	12.19.18 04:40	X
Ethylbenzene	<0.000565	0.100	0.0620	62	0.0708	70	70-130	13	35	mg/kg	12.19.18 04:40	X
m,p-Xylenes	<0.00101	0.200	0.123	62	0.137	68	70-130	11	35	mg/kg	12.19.18 04:40	X
o-Xylene	<0.000344	0.100	0.0626	63	0.0700	69	70-130	11	35	mg/kg	12.19.18 04:40	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		100		70-130	%	12.19.18 04:40
4-Bromofluorobenzene	85		87		70-130	%	12.19.18 04:40

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



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CHAIN OF C STUDY

Page 1 of 1

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

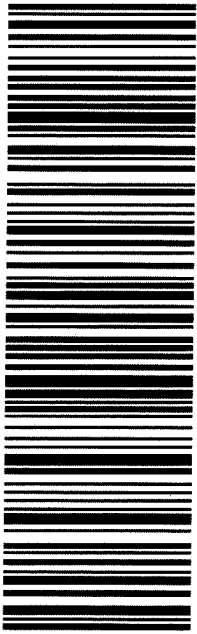
Phoenix, Arizona (480-355-0900)

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Client / Reporting Information							Project Information						Analytical Information								Matrix Codes					
Company Name / Branch: L.T. Environmental, Inc.							Project Name/Number BGU Hackberry 34 Battery														W = Water					
Company Address: 3300 NW St. Building 1 Unit 103 Midway TX 79702							Project Location: Eddy County														S = Soil/Sediment					
Email: abaker@ltenv.com (432) 704-5178							Invoice To: Kyle Littrell														GW = Ground Water					
Project Contact: Adrian Baker							PO Number:														DW = Drinking Water					
Sampler's Name Anne Byers																					P = Product					
No. Field ID / Point of Collection																					SW = Surface water					
																					SL = Sludge					
1 PH01 A							Sample Depth 0.5'		Date 12/12	Time 1045	Matrix S	# of bottles 1	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH by SW8015 Mod					
2 PH01 B							1.0'		12/13	1046	S	1									X	BTEX by EPA 8021 B				
3 PH02 A							0.5'			1015	S	1									X	Chloride by EPA 300.00				
4 PH02 B							1.0'			1020	S	1									X					
5 PH03 A							1.0'			1215	S	1									X					
6 PH03 B							2.0'			1220	S	1									X					
7																										
8																										
9																										
10																										
Turnaround Time (Business days)									Date Deliverable Information														Notes:			
☐ Same Day TAT									☒ 6 Day TAT														☐ Level II Std QC		☐ Level IV (Full Data Pkg / raw data)	
☐ Next Day EMERGENCY									☐ 7 Day TAT														☐ Level III Std QC+ Forms		☐ TRRP Level IV	
☐ 2 Day EMERGENCY									☐ Contract TAT														☐ Level 3 (CLP Forms)		☐ UST / RG -411	
☐ 3 Day EMERGENCY																							☐ TRRP Checklist			
TAT Starts Day received by Lab, if received by 5:00 pm																										
Reinquisitioned by Sampler:									SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING CARRIER DELIVERY														FED-EX / UPS: Tracking #			
1 Reinquisitioned by:							Anne Byers		Date Time: 12/14/18		Received By: [Signature]		Relinquished By: [Signature]		Date Time: 12/14/18		Received By: [Signature]		Date Time: 12/14/18		Received By: [Signature]		On Ice Cooler Temp. Thermo. Corr. Factor			
3 Relinquished by:									Date Time: 12/18/18		Received By: [Signature]		Relinquished By: [Signature]		Date Time: 12/18/18		Received By: [Signature]		Date Time: 12/18/18		Received By: [Signature]		Cooler Temp. Thermo. Corr. Factor			
5 Relinquished by:									Date Time: 12/18/18		Received By: [Signature]		Relinquished By: [Signature]		Date Time: 12/18/18		Received By: [Signature]		Date Time: 12/18/18		Received By: [Signature]		Cooler Temp. Thermo. Corr. Factor			

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☒ 3813.7 ☐ R8-0
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ORIGIN ID:CAOA (575) 887-6245 XENCO SATURDAY PAC N MAIL 910 W PIERCE ST CARLSBAD, NM 88220 UNITED STATES US		SHIP DATE: 14DEC18 ACTWGT: 35.00 LB CAD: 101813706INNET 4040 DIMS: 19x13x16 IN BILL RECIPIENT	
TO HOLD FOR XENCO FEDEX OFFICE PRINT & SHIP CENTER FEDEX OFFICE PRINT & SHIP CENTER 200 W INTERSTATE 20 MIDLAND TX 79701 (806) 674-0639 INV/ REF: XENCO PO. DEPT:			
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Client: LT Environmental, Inc.

Date/ Time Received: 12/15/2018 09:30:00 AM

Work Order #: 608832

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.7
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 12/17/2018

Checklist reviewed by:

Jessica Kramer

Date: 12/18/2018

Analytical Report 609034

for
LT Environmental, Inc.

Project Manager: Adrian Baker

BEU Hackberry 34 Battery

2RP5026

27-DEC-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



27-DEC-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **609034**

BEU Hackberry 34 Battery

Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 609034. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 609034 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

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Sample Cross Reference 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01A	S	12-14-18 09:35	0.5 ft	609034-001
BH01B	S	12-14-18 09:40	1 ft	609034-002
BH02A	S	12-14-18 10:40	0.5 ft	609034-003
BH02B	S	12-14-18 10:45	1 ft	609034-004
BH03A	S	12-14-18 12:00	0.5 ft	609034-005
BH03B	S	12-14-18 12:15	1 ft	609034-006
BH04A	S	12-14-18 12:25	0.5 ft	609034-007
BH04B	S	12-14-18 12:35	1 ft	609034-008
BH05A	S	12-14-18 12:45	0.5 ft	609034-009
BH05B	S	12-14-18 12:55	1 ft	609034-010
BH06A	S	12-14-18 14:00	0.5 ft	609034-011
BH06B	S	12-14-18 14:05	1 ft	609034-012
BH07A	S	12-14-18 14:15	0.5 ft	609034-013
BH07B	S	12-14-18 14:25	1 ft	609034-014
BH08A	S	12-14-18 14:30	0.5 ft	609034-015
BH08B	S	12-14-18 14:40	1 ft	609034-016
PH04A	S	12-14-18 14:50	0.5 ft	609034-017
PH04B	S	12-14-18 15:05	1 ft	609034-018
BH09A	S	12-14-18 16:00	3 ft	609034-019
BH09B	S	12-14-18 16:15	3.5 ft	609034-020

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: BEU Hackberry 34 Battery**Project ID: 2RP5026
Work Order Number(s): 609034Report Date: 27-DEC-18
Date Received: 12/18/2018**Sample receipt non conformances and comments:**

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3073519 Inorganic Anions by EPA 300

Chloride recovered above QC limits in the laboratory control sample. Samples in the analytical batch are: 609034-001.

Compound(s) reported above QC limits for the Blank Spike and Blank Spike Duplicate. Batch passes in accordance to Marginal Exceedence (NELAC Quality Systems, Appendix D). Daily CCV and ICV are within QC Limits. Sample data reported as valid.

Batch: LBA-3073556 Inorganic Anions by EPA 300

Lab Sample ID 609034-019 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 609034-002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3073646 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3073659 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3074107 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 609034

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery



Project Id: 2RP5026
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Tue Dec-18-18 12:15 pm
Report Date: 27-DEC-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	609034-001	609034-002	609034-003	609034-004	609034-005	609034-006
	<i>Field Id:</i>	BH01A	BH01B	BH02A	BH02B	BH03A	BH03B
	<i>Depth:</i>	0.5- ft	1- ft	0.5- ft	1- ft	0.5- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-14-18 09:35	Dec-14-18 09:40	Dec-14-18 10:40	Dec-14-18 10:45	Dec-14-18 12:00	Dec-14-18 12:15
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00
	<i>Analyzed:</i>	Dec-20-18 14:09	Dec-20-18 14:30	Dec-20-18 15:57	Dec-20-18 19:43	Dec-20-18 16:40	Dec-20-18 17:01
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Inorganic Anions by EPA 300	<i>Extracted:</i>	Dec-19-18 16:30	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00
	<i>Analyzed:</i>	Dec-20-18 04:37	Dec-20-18 09:15	Dec-20-18 09:33	Dec-20-18 09:39	Dec-20-18 09:45	Dec-20-18 09:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		681 4.98	879 4.96	28.1 4.97	7.91 4.98	80.4 5.00	118 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00
	<i>Analyzed:</i>	Dec-24-18 12:39	Dec-24-18 13:41	Dec-24-18 14:02	Dec-24-18 14:23	Dec-24-18 14:44	Dec-24-18 15:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<14.9 14.9
Diesel Range Organics (DRO)		<15.0 15.0	34.9 15.0	<15.0 15.0	<15.0 15.0	20.9 14.9	72.4 14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	15.1 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<14.9 14.9
Total TPH		<15.0 15.0	50.0 15.0	<15.0 15.0	<15.0 15.0	20.9 14.9	72.4 14.9

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 609034

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery



Project Id: 2RP5026
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Tue Dec-18-18 12:15 pm
Report Date: 27-DEC-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	609034-007	609034-008	609034-009	609034-010	609034-011	609034-012
	<i>Field Id:</i>	BH04A	BH04B	BH05A	BH05B	BH06A	BH06B
	<i>Depth:</i>	0.5- ft	1- ft	0.5- ft	1- ft	0.5- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-14-18 12:25	Dec-14-18 12:35	Dec-14-18 12:45	Dec-14-18 12:55	Dec-14-18 14:00	Dec-14-18 14:05
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00
	<i>Analyzed:</i>	Dec-20-18 17:23	Dec-20-18 17:44	Dec-20-18 18:05	Dec-20-18 18:38	Dec-20-18 19:00	Dec-20-18 19:21
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Inorganic Anions by EPA 300	<i>Extracted:</i>	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00
	<i>Analyzed:</i>	Dec-20-18 10:24	Dec-20-18 10:30	Dec-20-18 10:36	Dec-20-18 10:42	Dec-20-18 10:49	Dec-20-18 11:15
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		18.0 5.00	21.8 4.95	10.4 4.98	7.14 4.97	5.64 5.00	32.6 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00
	<i>Analyzed:</i>	Dec-24-18 15:27	Dec-24-18 15:49	Dec-24-18 16:10	Dec-24-18 16:31	Dec-24-18 17:34	Dec-24-18 17:54
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		21.2 15.0	17.9 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		21.2 15.0	17.9 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 609034

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery



Project Id: 2RP5026
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Tue Dec-18-18 12:15 pm
Report Date: 27-DEC-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	609034-013	609034-014	609034-015	609034-016	609034-017	609034-018
	<i>Field Id:</i>	BH07A	BH07B	BH08A	BH08B	PH04A	PH04B
	<i>Depth:</i>	0.5- ft	1- ft	0.5- ft	1- ft	0.5- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-14-18 14:15	Dec-14-18 14:25	Dec-14-18 14:30	Dec-14-18 14:40	Dec-14-18 14:50	Dec-14-18 15:05
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-20-18 17:15	Dec-20-18 17:15	Dec-20-18 17:15	Dec-20-18 17:15	Dec-20-18 17:15	Dec-20-18 17:15
	<i>Analyzed:</i>	Dec-21-18 08:24	Dec-21-18 08:46	Dec-21-18 09:09	Dec-21-18 09:30	Dec-21-18 09:51	Dec-21-18 10:14
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Inorganic Anions by EPA 300	<i>Extracted:</i>	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00
	<i>Analyzed:</i>	Dec-20-18 11:36	Dec-20-18 11:42	Dec-20-18 11:49	Dec-20-18 11:55	Dec-20-18 12:01	Dec-20-18 12:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2050 25.0	2080 24.9	3160 24.9	3260 50.0	34.0 4.96	29.8 4.99
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00
	<i>Analyzed:</i>	Dec-24-18 18:15	Dec-24-18 18:35	Dec-24-18 18:56	Dec-24-18 19:17	Dec-24-18 19:38	Dec-24-18 19:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	21.1 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Diesel Range Organics (DRO)		33.9 15.0	<15.0 15.0	195 15.0	180 15.0	25.8 14.9	15.1 15.0
Motor Oil Range Hydrocarbons (MRO)		25.3 15.0	<15.0 15.0	145 15.0	133 15.0	<14.9 14.9	<15.0 15.0
Total TPH		59.2 15.0	<15.0 15.0	361 15.0	313 15.0	25.8 14.9	15.1 15.0

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 609034

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery



Project Id: 2RP5026
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Tue Dec-18-18 12:15 pm
Report Date: 27-DEC-18
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	609034-019	609034-020				
	Field Id:	BH09A	BH09B				
	Depth:	3- ft	3.5- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Dec-14-18 16:00	Dec-14-18 16:15				
BTEX by EPA 8021B	Extracted:	Dec-20-18 17:15	Dec-26-18 15:00				
	Analyzed:	Dec-21-18 10:35	Dec-27-18 11:20				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00200 0.00200	<0.00200 0.00200				
	Toluene	<0.00200 0.00200	<0.00200 0.00200				
	Ethylbenzene	<0.00200 0.00200	<0.00200 0.00200				
	m,p-Xylenes	<0.00400 0.00400	<0.00400 0.00400				
	o-Xylene	<0.00200 0.00200	<0.00200 0.00200				
	Total Xylenes	<0.00200 0.00200	<0.00200 0.00200				
	Total BTEX	<0.00200 0.00200	<0.00200 0.00200				
Inorganic Anions by EPA 300	Extracted:	Dec-20-18 08:00	Dec-20-18 08:00				
	Analyzed:	Dec-20-18 10:55	Dec-20-18 12:13				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	124 4.99	113 5.00				
TPH by SW8015 Mod	Extracted:	Dec-23-18 15:00	Dec-23-18 15:00				
	Analyzed:	Dec-24-18 20:20	Dec-24-18 20:41				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0	<15.0 15.0				
	Diesel Range Organics (DRO)	<15.0 15.0	42.9 15.0				
	Motor Oil Range Hydrocarbons (MRO)	<15.0 15.0	<15.0 15.0				
	Total TPH	<15.0 15.0	42.9 15.0				

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH01A**
 Lab Sample Id: 609034-001

Matrix: Soil
 Date Collected: 12.14.18 09.35

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073519

Date Prep: 12.19.18 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	681	4.98	mg/kg	12.20.18 04.37		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 12.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 12.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 12.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 12.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	12.24.18 12.39	
o-Terphenyl	84-15-1	92	%	70-135	12.24.18 12.39	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH01A**
 Lab Sample Id: 609034-001

Matrix: Soil
 Date Collected: 12.14.18 09.35

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 14.09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.20.18 14.09		
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.20.18 14.09		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH01B**
 Lab Sample Id: 609034-002

Matrix: Soil
 Date Collected: 12.14.18 09.40

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	879	4.96	mg/kg	12.20.18 09.15		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 13.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	34.9	15.0	mg/kg	12.24.18 13.41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	15.1	15.0	mg/kg	12.24.18 13.41		1
Total TPH	PHC635	50.0	15.0	mg/kg	12.24.18 13.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	12.24.18 13.41	
o-Terphenyl	84-15-1	86	%	70-135	12.24.18 13.41	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH01B**
Lab Sample Id: 609034-002

Matrix: Soil
Date Collected: 12.14.18 09.40

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 14.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.20.18 14.30		
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.20.18 14.30		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH02A**
 Lab Sample Id: 609034-003

Matrix: Soil
 Date Collected: 12.14.18 10.40

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.1	4.97	mg/kg	12.20.18 09.33		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 14.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 14.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 14.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 14.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	12.24.18 14.02	
o-Terphenyl	84-15-1	103	%	70-135	12.24.18 14.02	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH02A**
 Lab Sample Id: 609034-003

Matrix: Soil
 Date Collected: 12.14.18 10.40

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 15.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.20.18 15.57		
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.20.18 15.57		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH02B**
 Lab Sample Id: 609034-004

Matrix: Soil
 Date Collected: 12.14.18 10.45

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.91	4.98	mg/kg	12.20.18 09.39		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 14.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 14.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 14.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 14.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	104	%	70-135	12.24.18 14.23		
o-Terphenyl	84-15-1	105	%	70-135	12.24.18 14.23		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH02B**
 Lab Sample Id: 609034-004

Matrix: Soil
 Date Collected: 12.14.18 10.45

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 19.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	12.20.18 19.43		
1,4-Difluorobenzene	540-36-3	88	%	70-130	12.20.18 19.43		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH03A**
 Lab Sample Id: 609034-005

Matrix: Soil
 Date Collected: 12.14.18 12.00

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	80.4	5.00	mg/kg	12.20.18 09.45		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.24.18 14.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	20.9	14.9	mg/kg	12.24.18 14.44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.24.18 14.44	U	1
Total TPH	PHC635	20.9	14.9	mg/kg	12.24.18 14.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	12.24.18 14.44	
o-Terphenyl	84-15-1	94	%	70-135	12.24.18 14.44	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH03A**
 Lab Sample Id: 609034-005

Matrix: Soil
 Date Collected: 12.14.18 12.00

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073646

Date Prep: 12.19.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 16.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	12.20.18 16.40		
1,4-Difluorobenzene	540-36-3	93	%	70-130	12.20.18 16.40		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH03B**
 Lab Sample Id: 609034-006

Matrix: Soil
 Date Collected: 12.14.18 12.15

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	118	5.00	mg/kg	12.20.18 09.52		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.24.18 15.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	72.4	14.9	mg/kg	12.24.18 15.06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.24.18 15.06	U	1
Total TPH	PHC635	72.4	14.9	mg/kg	12.24.18 15.06		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	98	%	70-135	12.24.18 15.06		
o-Terphenyl	84-15-1	101	%	70-135	12.24.18 15.06		



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH03B**
Lab Sample Id: 609034-006

Matrix: Soil
Date Collected: 12.14.18 12.15

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 17.01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.20.18 17.01		
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.20.18 17.01		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH04A**
 Lab Sample Id: 609034-007

Matrix: Soil
 Date Collected: 12.14.18 12.25

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.0	5.00	mg/kg	12.20.18 10.24		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 15.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	21.2	15.0	mg/kg	12.24.18 15.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 15.27	U	1
Total TPH	PHC635	21.2	15.0	mg/kg	12.24.18 15.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	12.24.18 15.27	
o-Terphenyl	84-15-1	93	%	70-135	12.24.18 15.27	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH04A**
 Lab Sample Id: 609034-007

Matrix: Soil
 Date Collected: 12.14.18 12.25

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073646

Date Prep: 12.19.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 17.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	12.20.18 17.23		
1,4-Difluorobenzene	540-36-3	92	%	70-130	12.20.18 17.23		



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH04B**
Lab Sample Id: 609034-008

Matrix: Soil
Date Collected: 12.14.18 12.35

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.8	4.95	mg/kg	12.20.18 10.30		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 15.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	17.9	15.0	mg/kg	12.24.18 15.49		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 15.49	U	1
Total TPH	PHC635	17.9	15.0	mg/kg	12.24.18 15.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.24.18 15.49	
o-Terphenyl	84-15-1	95	%	70-135	12.24.18 15.49	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH04B**
Lab Sample Id: 609034-008

Matrix: Soil
Date Collected: 12.14.18 12.35

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 17.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	12.20.18 17.44		
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.20.18 17.44		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH05A**
 Lab Sample Id: 609034-009

Matrix: Soil
 Date Collected: 12.14.18 12.45

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.4	4.98	mg/kg	12.20.18 10.36		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 16.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 16.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 16.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 16.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.24.18 16.10	
o-Terphenyl	84-15-1	91	%	70-135	12.24.18 16.10	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH05A**
 Lab Sample Id: 609034-009

Matrix: Soil
 Date Collected: 12.14.18 12.45

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073646

Date Prep: 12.19.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 18.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.20.18 18.05		
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.20.18 18.05		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH05B**
 Lab Sample Id: 609034-010

Matrix: Soil
 Date Collected: 12.14.18 12.55

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 12.20.18 08.00

Basis: Wet Weight

Seq Number: 3073556

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.14	4.97	mg/kg	12.20.18 10.42		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 12.23.18 15.00

Basis: Wet Weight

Seq Number: 3073958

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 16.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 16.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 16.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 16.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	12.24.18 16.31	
o-Terphenyl	84-15-1	97	%	70-135	12.24.18 16.31	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH05B**
 Lab Sample Id: 609034-010

Matrix: Soil
 Date Collected: 12.14.18 12.55

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073646

Date Prep: 12.19.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 18.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.20.18 18.38		
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.20.18 18.38		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH06A**
 Lab Sample Id: 609034-011

Matrix: Soil
 Date Collected: 12.14.18 14.00

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.64	5.00	mg/kg	12.20.18 10.49		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 17.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 17.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 17.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 17.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	12.24.18 17.34	
o-Terphenyl	84-15-1	92	%	70-135	12.24.18 17.34	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH06A**
 Lab Sample Id: 609034-011

Matrix: Soil
 Date Collected: 12.14.18 14.00

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073646

Date Prep: 12.19.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 19.00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.20.18 19.00		
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.20.18 19.00		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH06B**
 Lab Sample Id: 609034-012

Matrix: Soil
 Date Collected: 12.14.18 14.05

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.6	5.00	mg/kg	12.20.18 11.15		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.24.18 17.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	12.24.18 17.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.24.18 17.54	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	12.24.18 17.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	92	%	70-135	12.24.18 17.54		
o-Terphenyl	84-15-1	93	%	70-135	12.24.18 17.54		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH06B**
 Lab Sample Id: 609034-012

Matrix: Soil
 Date Collected: 12.14.18 14.05

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 19.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.20.18 19.21		
1,4-Difluorobenzene	540-36-3	90	%	70-130	12.20.18 19.21		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH07A**
 Lab Sample Id: 609034-013

Matrix: Soil
 Date Collected: 12.14.18 14.15

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2050	25.0	mg/kg	12.20.18 11.36		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 18.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	33.9	15.0	mg/kg	12.24.18 18.15		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	25.3	15.0	mg/kg	12.24.18 18.15		1
Total TPH	PHC635	59.2	15.0	mg/kg	12.24.18 18.15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.24.18 18.15	
o-Terphenyl	84-15-1	97	%	70-135	12.24.18 18.15	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH07A**
 Lab Sample Id: 609034-013

Matrix: Soil
 Date Collected: 12.14.18 14.15

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Date Prep: 12.20.18 17.15

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 08.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.21.18 08.24		
4-Bromofluorobenzene	460-00-4	110	%	70-130	12.21.18 08.24		



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH07B**
Lab Sample Id: 609034-014

Matrix: Soil
Date Collected: 12.14.18 14.25

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2080	24.9	mg/kg	12.20.18 11.42		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 18.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 18.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 18.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 18.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.24.18 18.35	
o-Terphenyl	84-15-1	94	%	70-135	12.24.18 18.35	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH07B**
 Lab Sample Id: 609034-014

Matrix: Soil
 Date Collected: 12.14.18 14.25

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Prep Method: SW5030B

% Moisture:

Date Prep: 12.20.18 17.15

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 08.46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.21.18 08.46		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.21.18 08.46		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH08A**
 Lab Sample Id: 609034-015

Matrix: Soil
 Date Collected: 12.14.18 14.30

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3160	24.9	mg/kg	12.20.18 11.49		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	21.1	15.0	mg/kg	12.24.18 18.56		1
Diesel Range Organics (DRO)	C10C28DRO	195	15.0	mg/kg	12.24.18 18.56		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	145	15.0	mg/kg	12.24.18 18.56		1
Total TPH	PHC635	361	15.0	mg/kg	12.24.18 18.56		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	12.24.18 18.56	
o-Terphenyl	84-15-1	100	%	70-135	12.24.18 18.56	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH08A**
 Lab Sample Id: 609034-015

Matrix: Soil
 Date Collected: 12.14.18 14.30

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Prep Method: SW5030B

% Moisture:

Date Prep: 12.20.18 17.15

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 09.09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.21.18 09.09		
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.21.18 09.09		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH08B**
 Lab Sample Id: 609034-016

Matrix: Soil
 Date Collected: 12.14.18 14.40

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3260	50.0	mg/kg	12.20.18 11.55		10

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 19.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	180	15.0	mg/kg	12.24.18 19.17		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	133	15.0	mg/kg	12.24.18 19.17		1
Total TPH	PHC635	313	15.0	mg/kg	12.24.18 19.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	12.24.18 19.17	
o-Terphenyl	84-15-1	95	%	70-135	12.24.18 19.17	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH08B**
 Lab Sample Id: 609034-016

Matrix: Soil
 Date Collected: 12.14.18 14.40

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Prep Method: SW5030B

% Moisture:

Date Prep: 12.20.18 17.15

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 09.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	12.21.18 09.30		
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.21.18 09.30		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH04A**
 Lab Sample Id: 609034-017

Matrix: Soil
 Date Collected: 12.14.18 14.50

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.0	4.96	mg/kg	12.20.18 12.01		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.24.18 19.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	25.8	14.9	mg/kg	12.24.18 19.38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.24.18 19.38	U	1
Total TPH	PHC635	25.8	14.9	mg/kg	12.24.18 19.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	12.24.18 19.38	
o-Terphenyl	84-15-1	91	%	70-135	12.24.18 19.38	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH04A**
 Lab Sample Id: 609034-017

Matrix: Soil
 Date Collected: 12.14.18 14.50

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Prep Method: SW5030B

% Moisture:

Date Prep: 12.20.18 17.15

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 09.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	12.21.18 09.51		
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.21.18 09.51		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH04B**
 Lab Sample Id: 609034-018

Matrix: Soil
 Date Collected: 12.14.18 15.05

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.8	4.99	mg/kg	12.20.18 12.07		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 19.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	15.1	15.0	mg/kg	12.24.18 19.59		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 19.59	U	1
Total TPH	PHC635	15.1	15.0	mg/kg	12.24.18 19.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	12.24.18 19.59	
o-Terphenyl	84-15-1	89	%	70-135	12.24.18 19.59	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH04B**
 Lab Sample Id: 609034-018

Matrix: Soil
 Date Collected: 12.14.18 15.05

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Prep Method: SW5030B

% Moisture:

Date Prep: 12.20.18 17.15

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 10.14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	113	%	70-130	12.21.18 10.14		
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.21.18 10.14		



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH09A**
Lab Sample Id: 609034-019

Matrix: Soil
Date Collected: 12.14.18 16.00

Date Received: 12.18.18 12.15
Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	124	4.99	mg/kg	12.20.18 10.55		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 20.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 20.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 20.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 20.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	12.24.18 20.20	
o-Terphenyl	84-15-1	92	%	70-135	12.24.18 20.20	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH09A**
 Lab Sample Id: 609034-019

Matrix: Soil
 Date Collected: 12.14.18 16.00

Date Received: 12.18.18 12.15
 Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Prep Method: SW5030B

% Moisture:

Date Prep: 12.20.18 17.15

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 10.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.21.18 10.35		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.21.18 10.35		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH09B**
 Lab Sample Id: 609034-020

Matrix: Soil
 Date Collected: 12.14.18 16.15

Date Received: 12.18.18 12.15
 Sample Depth: 3.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	113	5.00	mg/kg	12.20.18 12.13		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 20.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	42.9	15.0	mg/kg	12.24.18 20.41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 20.41	U	1
Total TPH	PHC635	42.9	15.0	mg/kg	12.24.18 20.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.24.18 20.41	
o-Terphenyl	84-15-1	91	%	70-135	12.24.18 20.41	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH09B**
 Lab Sample Id: 609034-020

Matrix: Soil
 Date Collected: 12.14.18 16.15

Date Received: 12.18.18 12.15
 Sample Depth: 3.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.26.18 15.00

Basis: Wet Weight

Seq Number: 3074107

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.27.18 11.20	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	12.27.18 11.20		
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.27.18 11.20		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073519

MB Sample Id: 7668399-1-BLK

Matrix: Solid

LCS Sample Id: 7668399-1-BKS

Prep Method: E300P

Date Prep: 12.19.18

LCSD Sample Id: 7668399-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	312	125	273	109	90-110	13	20	mg/kg	12.20.18 01:28	H

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073556

MB Sample Id: 7668400-1-BLK

Matrix: Solid

LCS Sample Id: 7668400-1-BKS

Prep Method: E300P

Date Prep: 12.20.18

LCSD Sample Id: 7668400-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	255	102	257	103	90-110	1	20	mg/kg	12.20.18 09:02	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073519

Parent Sample Id: 609032-005

Matrix: Soil

MS Sample Id: 609032-005 S

Prep Method: E300P

Date Prep: 12.19.18

MSD Sample Id: 609032-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.855	249	268	108	273	110	90-110	2	20	mg/kg	12.20.18 01:46	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073519

Parent Sample Id: 609033-006

Matrix: Soil

MS Sample Id: 609033-006 S

Prep Method: E300P

Date Prep: 12.19.18

MSD Sample Id: 609033-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.27	250	274	109	274	109	90-110	0	20	mg/kg	12.20.18 03:18	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073556

Parent Sample Id: 609034-002

Matrix: Soil

MS Sample Id: 609034-002 S

Prep Method: E300P

Date Prep: 12.20.18

MSD Sample Id: 609034-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	879	248	1090	85	1090	85	90-110	0	20	mg/kg	12.20.18 09:21	X

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073556

Parent Sample Id: 609034-019

Matrix: Soil

MS Sample Id: 609034-019 S

Prep Method: E300P

Date Prep: 12.20.18

MSD Sample Id: 609034-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	124	250	379	102	387	105	90-110	2	20	mg/kg	12.20.18 11:01	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073958

MB Sample Id: 7668691-1-BLK

Matrix: Solid

LCS Sample Id: 7668691-1-BKS

Prep Method: TX1005P

Date Prep: 12.23.18

LCSD Sample Id: 7668691-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	970	97	932	93	70-135	4	20	mg/kg	12.24.18 11:59	
Diesel Range Organics (DRO)	<8.13	1000	996	100	980	98	70-135	2	20	mg/kg	12.24.18 11:59	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		123		122		70-135	%	12.24.18 11:59
o-Terphenyl	112		119		110		70-135	%	12.24.18 11:59

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073958

Parent Sample Id: 609034-001

Matrix: Soil

MS Sample Id: 609034-001 S

Prep Method: TX1005P

Date Prep: 12.23.18

MSD Sample Id: 609034-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	996	100	902	90	70-135	10	20	mg/kg	12.24.18 13:00	
Diesel Range Organics (DRO)	13.3	998	1010	100	907	90	70-135	11	20	mg/kg	12.24.18 13:00	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		104		70-135	%	12.24.18 13:00
o-Terphenyl	99		92		70-135	%	12.24.18 13:00

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$
 $\text{Log Diff.} = \text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073646

MB Sample Id: 7668531-1-BLK

Matrix: Solid

LCS Sample Id: 7668531-1-BKS

Prep Method: SW5030B

Date Prep: 12.19.18

LCSD Sample Id: 7668531-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.113	113	0.126	126	70-130	11	35	mg/kg	12.19.18 09:32	
Toluene	<0.00200	0.100	0.101	101	0.102	102	70-130	1	35	mg/kg	12.19.18 09:32	
Ethylbenzene	<0.00200	0.100	0.111	111	0.127	127	70-130	13	35	mg/kg	12.19.18 09:32	
m,p-Xylenes	<0.00400	0.200	0.228	114	0.259	130	70-130	13	35	mg/kg	12.19.18 09:32	
o-Xylene	<0.00200	0.100	0.107	107	0.122	122	70-130	13	35	mg/kg	12.19.18 09:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		103		111		70-130	%	12.19.18 09:32
4-Bromofluorobenzene	100		89		96		70-130	%	12.19.18 09:32

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073659

MB Sample Id: 7668541-1-BLK

Matrix: Solid

LCS Sample Id: 7668541-1-BKS

Prep Method: SW5030B

Date Prep: 12.20.18

LCSD Sample Id: 7668541-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0978	98	0.0858	86	70-130	13	35	mg/kg	12.20.18 20:51	
Toluene	<0.00200	0.100	0.0825	83	0.0847	85	70-130	3	35	mg/kg	12.20.18 20:51	
Ethylbenzene	<0.00200	0.100	0.100	100	0.0914	91	70-130	9	35	mg/kg	12.20.18 20:51	
m,p-Xylenes	<0.00400	0.200	0.203	102	0.191	96	70-130	6	35	mg/kg	12.20.18 20:51	
o-Xylene	<0.00200	0.100	0.0962	96	0.0889	89	70-130	8	35	mg/kg	12.20.18 20:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	112		128		100		70-130	%	12.20.18 20:51
4-Bromofluorobenzene	121		111		81		70-130	%	12.20.18 20:51

Analytical Method: BTEX by EPA 8021B

Seq Number: 3074107

MB Sample Id: 7668790-1-BLK

Matrix: Solid

LCS Sample Id: 7668790-1-BKS

Prep Method: SW5030B

Date Prep: 12.26.18

LCSD Sample Id: 7668790-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.113	113	0.104	104	70-130	8	35	mg/kg	12.27.18 09:27	
Toluene	<0.000456	0.100	0.0947	95	0.0905	91	70-130	5	35	mg/kg	12.27.18 09:27	
Ethylbenzene	<0.000565	0.100	0.0991	99	0.0952	95	70-130	4	35	mg/kg	12.27.18 09:27	
m,p-Xylenes	<0.00101	0.200	0.179	90	0.173	87	70-130	3	35	mg/kg	12.27.18 09:27	
o-Xylene	<0.000344	0.100	0.0885	89	0.0865	87	70-130	2	35	mg/kg	12.27.18 09:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		107		106		70-130	%	12.27.18 09:27
4-Bromofluorobenzene	79		85		88		70-130	%	12.27.18 09:27

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073646

Parent Sample Id: 608880-021

Matrix: Soil

MS Sample Id: 608880-021 S

Prep Method: SW5030B

Date Prep: 12.19.18

MSD Sample Id: 608880-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0633	63	0.0835	84	70-130	28	35	mg/kg	12.20.18 09:27	X
Toluene	<0.00200	0.100	0.0556	56	0.0767	77	70-130	32	35	mg/kg	12.20.18 09:27	X
Ethylbenzene	<0.00200	0.100	0.0675	68	0.0851	85	70-130	23	35	mg/kg	12.20.18 09:27	X
m,p-Xylenes	<0.00400	0.200	0.123	62	0.159	80	70-130	26	35	mg/kg	12.20.18 09:27	X
o-Xylene	<0.00200	0.100	0.0673	67	0.0825	83	70-130	20	35	mg/kg	12.20.18 09:27	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	122		115		70-130	%	12.20.18 09:27
4-Bromofluorobenzene	109		110		70-130	%	12.20.18 09:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073659

Parent Sample Id: 609503-001

Matrix: Soil

MS Sample Id: 609503-001 S

Prep Method: SW5030B

Date Prep: 12.20.18

MSD Sample Id: 609503-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.104	104	0.0980	98	70-130	6	35	mg/kg	12.20.18 22:03	
Toluene	<0.00200	0.100	0.0868	87	0.0824	82	70-130	5	35	mg/kg	12.20.18 22:03	
Ethylbenzene	<0.00200	0.100	0.105	105	0.100	100	70-130	5	35	mg/kg	12.20.18 22:03	
m,p-Xylenes	<0.00400	0.200	0.213	107	0.202	101	70-130	5	35	mg/kg	12.20.18 22:03	
o-Xylene	<0.00200	0.100	0.102	102	0.0978	98	70-130	4	35	mg/kg	12.20.18 22:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	122		122		70-130	%	12.20.18 22:03
4-Bromofluorobenzene	119		123		70-130	%	12.20.18 22:03

Analytical Method: BTEX by EPA 8021B

Seq Number: 3074107

Parent Sample Id: 609206-043

Matrix: Soil

MS Sample Id: 609206-043 S

Prep Method: SW5030B

Date Prep: 12.26.18

MSD Sample Id: 609206-043 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0903	90	0.0986	98	70-130	9	35	mg/kg	12.27.18 10:05	
Toluene	<0.000457	0.100	0.0800	80	0.0854	85	70-130	7	35	mg/kg	12.27.18 10:05	
Ethylbenzene	<0.000566	0.100	0.0847	85	0.0902	89	70-130	6	35	mg/kg	12.27.18 10:05	
m,p-Xylenes	<0.00102	0.200	0.154	77	0.164	81	70-130	6	35	mg/kg	12.27.18 10:05	
o-Xylene	<0.000345	0.100	0.0765	77	0.0802	79	70-130	5	35	mg/kg	12.27.18 10:05	

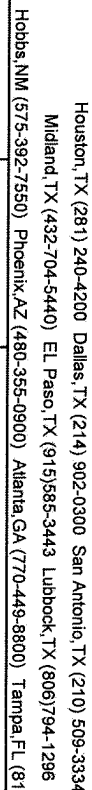
Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	12.27.18 10:05
4-Bromofluorobenzene	88		88		70-130	%	12.27.18 10:05

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Chain of Custody

Work Order No: 609034

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	abaker@ltenv.com

Work Order Comments					
Program: UST/PST	☐ RP	☐ Rowfields	☐ C	☐ perfund	☐
State of Project:					
Reporting Level II	☐ Level III	☐ ST/UST	☐ RP	☐ Level IV	☐
Deliverables: EDD	☐	ADAPT	☐	Other:	

Project Name:	BEU Hackberry 34 Battery	Turn Around	ANALYSIS REQUEST							Work Order Notes
Project Number:	2RP5026	Routine ☒								
P.O. Number:		Rush:								
Sampler's Name:	Anna Byers	Due Date:								

SAMPLE RECEIPT		Temp Blank:		Wet Ice:	
Temperature (°C):	1.01.5	Yes	No	Yes	No
Received In tact:	Yes No	Thermometer ID			
Cooler Custody Seals:	Yes No	Correction Factor:			
Sample Custody Seals:	Yes No	Total Containers:			

of Containers

EPA 8015)

EPA 8021)

e (EPA 300.0)

TAT starts the day received by the lab, if received by 4:30pm

[illegible]

Total 200.7 / 6010 200.8 / 6020:
Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zr
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 77

1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$3 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>Charna Bueh</i>	<i>EC - BAC</i>	12/14/18 19:00	2 <i>BT BAC</i>	<i>[Signature]</i>	12/17/18 @ 0935
3 <i>Carl in gill</i>		12/17/18 17:30	4	<i>[Signature]</i>	12/18/18 1215
5			6		

Revised Date 05/14/18 Rev. 2018.1



Work Order No: 1009034

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com

Page 2 of 2

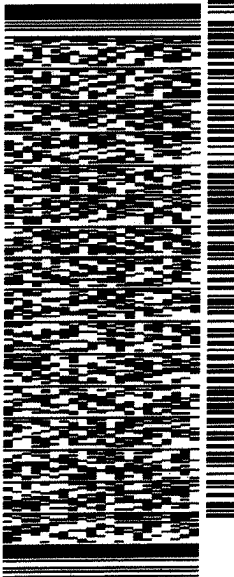
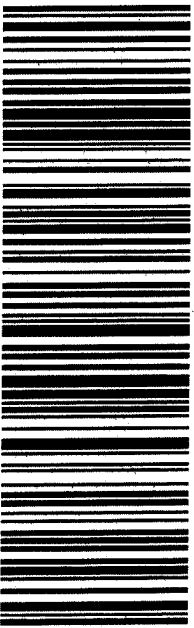
Work Order Comments									
Program: UST/PST ☐ RP ☐ Rowfields ☐ C ☐ perfund ☐									
State of Project:									
Reporting: Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐									
Deliverables: EDD ☐ ADAPT ☐ Other:									

[illegible][illegible]

Total	200.7 / 6010	200.8 / 6020:
<i>Circle Method(s) and Metal(s) to be analyzed</i>	8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>Danya Byers</i>	<i>BT</i>	12/14/18 19:00	2 <i>BT</i>	<i>Paul Miller</i>	12/17/18 0935
3 <i>Paul Miller</i>		12/17/18 15:30	4	<i>Paul Miller</i>	12/18/18 1215
5			6		

ORIGIN ID:CAOA (375) 887-6245 XENCO PAC N MAIL 910 W PIERCE ST CARLSBAD NM 88220 UNITED STATES US		SHIP DATE: 17DEC18 ACTWGT: 14.00 LB CAD: 101813/06/NET 4040 DIMS: 26x14x15 IN BILL RECIPIENT
TO HOLD FOR XENCO FEDEX EXPRESS SHIP CENTER FEDEX SHIP CENTER 3600 COUNTY RD 1276 S MIDLAND TX 79711 (806) 794-1296 NV REF: DEPT:		
 		
TRK# 7739 9868 0930 0201 41 MAFA TX-US LBB MAFA	TUE - 18 DEC HOLD STANDARD OVERNIGHT HLD	

552J2E4AF/DCA5

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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Client: LT Environmental, Inc.

Date/ Time Received: 12/18/2018 12:15:00 PM

Work Order #: 609034

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 12/18/2018

Checklist reviewed by:

Jessica Kramer

Date: 12/18/2018

Analytical Report 609172

for
LT Environmental, Inc.

Project Manager: Adrian Baker

BEU Hackberry 34 Battery

27-DEC-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



27-DEC-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **609172**

BEU Hackberry 34 Battery

Project Address: Eddy County 2RP5026

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 609172. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 609172 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 609172****LT Environmental, Inc., Arvada, CO**

BEU Hackberry 34 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH10A	S	12-17-18 09:35	0.5 ft	609172-001
BH10B	S	12-17-18 10:30	4.5 ft	609172-002
BH11A	S	12-17-18 11:20	0.5 ft	609172-003
BH11B	S	12-17-18 11:40	2 ft	609172-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU Hackberry 34 Battery

Project ID:

Work Order Number(s): 609172

Report Date: 27-DEC-18

Date Received: 12/19/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3073589 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 609172

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery

Project Id:

Contact: Adrian Baker

Project Location: Eddy County 2RP5026

Date Received in Lab: Wed Dec-19-18 10:30 am

Report Date: 27-DEC-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	609172-001	609172-002	609172-003	609172-004		
	<i>Field Id:</i>	BH10A	BH10B	BH11A	BH11B		
	<i>Depth:</i>	0.5- ft	4.5- ft	0.5- ft	2- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Dec-17-18 09:35	Dec-17-18 10:30	Dec-17-18 11:20	Dec-17-18 11:40		
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-19-18 14:30	Dec-19-18 14:30	Dec-19-18 14:30	Dec-19-18 14:30		
	<i>Analyzed:</i>	Dec-20-18 20:24	Dec-20-18 20:44	Dec-20-18 21:03	Dec-20-18 21:22		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Toluene		0.00592 0.00200	<0.00200 0.00200	<0.00200 0.00200	0.00738 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	0.00361 0.00200		
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400		
o-Xylene		0.0102 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		0.0102 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total BTEX		0.0161 0.00200	<0.00200 0.00200	<0.00200 0.00200	0.0110 0.00200		
Inorganic Anions by EPA 300	<i>Extracted:</i>	Dec-20-18 14:30	Dec-20-18 14:30	Dec-20-18 14:30	Dec-20-18 14:30		
	<i>Analyzed:</i>	Dec-21-18 02:47	Dec-21-18 02:53	Dec-21-18 02:59	Dec-21-18 03:06		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		1240 4.99	1940 24.9	34.6 4.95	12.2 5.00		
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-21-18 17:00	Dec-21-18 17:00	Dec-21-18 17:00	Dec-21-18 17:00		
	<i>Analyzed:</i>	Dec-22-18 17:41	Dec-22-18 18:01	Dec-22-18 19:02	Dec-22-18 19:23		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		257 15.0	<14.9 14.9	280 15.0	18.6 15.0		
Motor Oil Range Hydrocarbons (MRO)		46.6 15.0	<14.9 14.9	55.3 15.0	<15.0 15.0		
Total TPH		304 15.0	<14.9 14.9	335 15.0	18.6 15.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH10A**
 Lab Sample Id: 609172-001

Matrix: Soil
 Date Collected: 12.17.18 09.35

Date Received: 12.19.18 10.30
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073884

Date Prep: 12.20.18 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1240	4.99	mg/kg	12.21.18 02.47		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073906

Date Prep: 12.21.18 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.22.18 17.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	257	15.0	mg/kg	12.22.18 17.41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	46.6	15.0	mg/kg	12.22.18 17.41		1
Total TPH	PHC635	304	15.0	mg/kg	12.22.18 17.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.22.18 17.41	
o-Terphenyl	84-15-1	108	%	70-135	12.22.18 17.41	



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH10A**
 Lab Sample Id: 609172-001

Matrix: Soil
 Date Collected: 12.17.18 09.35

Date Received: 12.19.18 10.30
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 14.30

Basis: Wet Weight

Seq Number: 3073589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 20.24	U	1
Toluene	108-88-3	0.00592	0.00200	mg/kg	12.20.18 20.24		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 20.24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 20.24	U	1
o-Xylene	95-47-6	0.0102	0.00200	mg/kg	12.20.18 20.24		1
Total Xylenes	1330-20-7	0.0102	0.00200	mg/kg	12.20.18 20.24		1
Total BTEX		0.0161	0.00200	mg/kg	12.20.18 20.24		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.20.18 20.24		
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.20.18 20.24		



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH10B**
 Lab Sample Id: 609172-002

Matrix: Soil
 Date Collected: 12.17.18 10.30

Date Received: 12.19.18 10.30
 Sample Depth: 4.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073884

Date Prep: 12.20.18 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1940	24.9	mg/kg	12.21.18 02.53		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073906

Date Prep: 12.21.18 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.22.18 18.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	12.22.18 18.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.22.18 18.01	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	12.22.18 18.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	12.22.18 18.01	
o-Terphenyl	84-15-1	101	%	70-135	12.22.18 18.01	



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH10B**
 Lab Sample Id: 609172-002

Matrix: Soil
 Date Collected: 12.17.18 10.30

Date Received: 12.19.18 10.30
 Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073589

Date Prep: 12.19.18 14.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 20.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.20.18 20.44		
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.20.18 20.44		



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH11A**
 Lab Sample Id: 609172-003

Matrix: Soil
 Date Collected: 12.17.18 11.20

Date Received: 12.19.18 10.30
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073884

Date Prep: 12.20.18 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.6	4.95	mg/kg	12.21.18 02.59		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073906

Date Prep: 12.21.18 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.22.18 19.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	280	15.0	mg/kg	12.22.18 19.02		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	55.3	15.0	mg/kg	12.22.18 19.02		1
Total TPH	PHC635	335	15.0	mg/kg	12.22.18 19.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.22.18 19.02	
o-Terphenyl	84-15-1	108	%	70-135	12.22.18 19.02	



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH11A**
 Lab Sample Id: 609172-003

Matrix: Soil
 Date Collected: 12.17.18 11.20

Date Received: 12.19.18 10.30
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073589

Date Prep: 12.19.18 14.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 21.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.20.18 21.03		
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.20.18 21.03		



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH11B**
 Lab Sample Id: 609172-004

Matrix: Soil
 Date Collected: 12.17.18 11.40

Date Received: 12.19.18 10.30
 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073884

Date Prep: 12.20.18 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.2	5.00	mg/kg	12.21.18 03.06		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073906

Date Prep: 12.21.18 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.22.18 19.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	18.6	15.0	mg/kg	12.22.18 19.23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.22.18 19.23	U	1
Total TPH	PHC635	18.6	15.0	mg/kg	12.22.18 19.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.22.18 19.23	
o-Terphenyl	84-15-1	100	%	70-135	12.22.18 19.23	



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH11B**
 Lab Sample Id: 609172-004

Matrix: Soil
 Date Collected: 12.17.18 11.40

Date Received: 12.19.18 10.30
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 14.30

Basis: Wet Weight

Seq Number: 3073589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 21.22	U	1
Toluene	108-88-3	0.00738	0.00200	mg/kg	12.20.18 21.22		1
Ethylbenzene	100-41-4	0.00361	0.00200	mg/kg	12.20.18 21.22		1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 21.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 21.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 21.22	U	1
Total BTEX		0.0110	0.00200	mg/kg	12.20.18 21.22		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	12.20.18 21.22		
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.20.18 21.22		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073884

MB Sample Id: 7668542-1-BLK

Matrix: Solid

LCS Sample Id: 7668542-1-BKS

Prep Method: E300P

Date Prep: 12.20.18

LCSD Sample Id: 7668542-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	268	107	272	109	90-110	1	20	mg/kg	12.20.18 23:59	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073884

Parent Sample Id: 609123-014

Matrix: Soil

MS Sample Id: 609123-014 S

Prep Method: E300P

Date Prep: 12.20.18

MSD Sample Id: 609123-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	511	249	738	91	725	86	90-110	2	20	mg/kg	12.21.18 00:19	X

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073884

Parent Sample Id: 609123-020

Matrix: Soil

MS Sample Id: 609123-020 S

Prep Method: E300P

Date Prep: 12.20.18

MSD Sample Id: 609123-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	28.4	250	299	108	296	107	90-110	1	20	mg/kg	12.21.18 01:52	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073906

MB Sample Id: 7668683-1-BLK

Matrix: Solid

LCS Sample Id: 7668683-1-BKS

Prep Method: TX1005P

Date Prep: 12.21.18

LCSD Sample Id: 7668683-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	975	98	1150	115	70-135	16	20	mg/kg	12.22.18 13:18	
Diesel Range Organics (DRO)	9.78	1000	977	98	1160	116	70-135	17	20	mg/kg	12.22.18 13:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		126		121		70-135	%	12.22.18 13:18
o-Terphenyl	94		114		126		70-135	%	12.22.18 13:18

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073906

Parent Sample Id: 609031-001

Matrix: Soil

MS Sample Id: 609031-001 S

Prep Method: TX1005P

Date Prep: 12.21.18

MSD Sample Id: 609031-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	947	95	963	96	70-135	2	20	mg/kg	12.22.18 14:20	
Diesel Range Organics (DRO)	43.7	999	993	95	1000	96	70-135	1	20	mg/kg	12.22.18 14:20	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		123		70-135	%	12.22.18 14:20
o-Terphenyl	103		107		70-135	%	12.22.18 14:20

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073589

MB Sample Id: 7668445-1-BLK

Matrix: Solid

LCS Sample Id: 7668445-1-BKS

Prep Method: SW5030B

Date Prep: 12.19.18

LCSD Sample Id: 7668445-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0864	86	0.0806	81	70-130	7	35	mg/kg	12.20.18 00:00	
Toluene	<0.000457	0.100	0.0805	81	0.0766	77	70-130	5	35	mg/kg	12.20.18 00:00	
Ethylbenzene	<0.000566	0.100	0.0867	87	0.0830	83	70-130	4	35	mg/kg	12.20.18 00:00	
m,p-Xylenes	<0.00102	0.200	0.157	79	0.151	76	70-130	4	35	mg/kg	12.20.18 00:00	
o-Xylene	<0.000345	0.100	0.0783	78	0.0754	75	70-130	4	35	mg/kg	12.20.18 00:00	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		103		101		70-130	%	12.20.18 00:00
4-Bromofluorobenzene	76		84		83		70-130	%	12.20.18 00:00

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073589

Parent Sample Id: 609031-001

Matrix: Soil

MS Sample Id: 609031-001 S

Prep Method: SW5030B

Date Prep: 12.19.18

MSD Sample Id: 609031-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0994	0.0574	58	0.0549	55	70-130	4	35	mg/kg	12.20.18 12:15	X
Toluene	<0.000453	0.0994	0.0492	49	0.0431	43	70-130	13	35	mg/kg	12.20.18 12:15	X
Ethylbenzene	<0.000561	0.0994	0.0520	52	0.0484	48	70-130	7	35	mg/kg	12.20.18 12:15	X
m,p-Xylenes	<0.00101	0.199	0.0960	48	0.0891	45	70-130	7	35	mg/kg	12.20.18 12:15	X
o-Xylene	<0.000342	0.0994	0.0544	55	0.0538	54	70-130	1	35	mg/kg	12.20.18 12:15	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	12.20.18 12:15
4-Bromofluorobenzene	85		87		70-130	%	12.20.18 12:15

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

CHAIN OF C STUDY

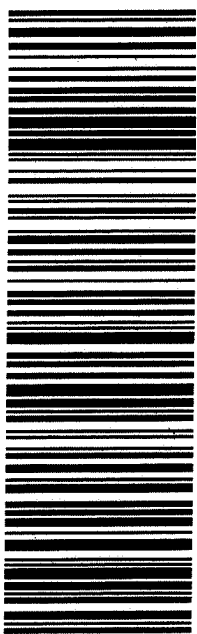
Page 1 Of 1

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

www.xenco.com

Phoenix, Arizona (480-355-0900)

Client / Reporting Information Company Name / Branch: <u>IT Services, Inc.</u> <u>Pelican Office</u> Company Address: <u>3300 N. St. Building 1 Unit 103</u> <u>Midway, TX 75272</u> Email: <u>adrian@itsec.com</u> <u>(432) 704-5178</u> Project Contact: <u>Adrian Baker</u> Sampler's Name: <u>Anna Byers</u>		Project Information Project Name/Number: <u>BEU Haulback 34 Battery</u> Project Location: <u>Eddy County 2 RD 502a</u> Invoice To: <u>XTO Kyle Littell</u> PO Number:		Analytical Information TPH (EPA 8015) BTEX (EPA 8021) Chloride (EPA 300.0)		Matrix Codes W = Water S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wipe O = Oil WW = Waste Water A = Air																																																																																																																																														
No. <u>Field ID / Point of Collection</u>		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Sample Depth</th> <th>Date</th> <th>Time</th> <th>Matrix</th> <th># of bottles</th> <th>HCI</th> <th>NaOH/Zn Acetate</th> <th>HNO3</th> <th>H2SO4</th> <th>NaOH</th> <th>NaHSO4</th> <th>MEOH</th> <th>NONE</th> </tr> </thead> <tbody> <tr> <td>1 BH10A</td> <td>0.5'</td> <td>12/13</td> <td>0935</td> <td>S</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2 BH10B</td> <td>4.5'</td> <td></td> <td>1030</td> <td>S</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3 BH11A</td> <td>0.5'</td> <td></td> <td>1120</td> <td>S</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4 BH11B</td> <td>3.0'</td> <td></td> <td>1140</td> <td>S</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>		Sample Depth	Date	Time	Matrix	# of bottles	HCI	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	1 BH10A	0.5'	12/13	0935	S	1								2 BH10B	4.5'		1030	S	1								3 BH11A	0.5'		1120	S	1								4 BH11B	3.0'		1140	S	1								5													6													7													8													9													10													Turnaround Time (Business days) _____ Data Deliverable Information _____ Notes: _____	
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TAT Starts Day received by Lab, if received by 5:00 pm		SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Relinquished by Sampler</th> <th>Date Time</th> <th>Received By</th> <th>Date Time</th> <th>Relinquished By</th> <th>Date Time</th> <th>Received By</th> <th>Date Time</th> </tr> </thead> <tbody> <tr> <td>1 Anna Byers</td> <td>12/18/18</td> <td>1 Jody Lee</td> <td>12/18/18</td> <td>2 Jody Lee</td> <td>12/18/18</td> <td>3 Jody Lee</td> <td>12/18/18</td> </tr> <tr> <td>2 Anna Byers</td> <td>12/18/18</td> <td>3 Jody Lee</td> <td>12/18/18</td> <td>4 Jody Lee</td> <td>12/18/18</td> <td>5 Jody Lee</td> <td>12/18/18</td> </tr> </tbody> </table>				Relinquished by Sampler	Date Time	Received By	Date Time	Relinquished By	Date Time	Received By	Date Time	1 Anna Byers	12/18/18	1 Jody Lee	12/18/18	2 Jody Lee	12/18/18	3 Jody Lee	12/18/18	2 Anna Byers	12/18/18	3 Jody Lee	12/18/18	4 Jody Lee	12/18/18	5 Jody Lee	12/18/18																																																																																																																							
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2 Anna Byers	12/18/18	3 Jody Lee	12/18/18	4 Jody Lee	12/18/18	5 Jody Lee	12/18/18																																																																																																																																													
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ORIGIN ID: CACA (575) 887-6245 XENCO PAC N MAIL 910 W PIERCE ST CARLSBAD, NM 88220 UNITED STATES US		SHIP DATE: 18DEC18 ACT WGT: 34.00 LB CAD: 101813706NET/4040 DIMS: 18x12x15 IN BILL RECIPIENT
TO HOLD FOR XENCO FEDEX EXPRESS SHIP CENTER FEDEX SHIP CENTER 3600 COUNTY RD 1276 S MIDLAND TX 79711 (806) 794-1296 NV: REF: DEPT:		
TRK# 7740 1246 2162 0201 WED - 19 DEC HOLD STANDARD OVERNIGHT HLD 41 MAFA TX-US LBB 		
 		

552J2/E4AF/DCA5

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Client: LT Environmental, Inc.

Date/ Time Received: 12/19/2018 10:30:00 AM

Work Order #: 609172

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.7
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 12/19/2018

Checklist reviewed by:

Jessica Kramer

Date: 12/19/2018

Analytical Report 609695

for
LT Environmental, Inc.

Project Manager: Adrian Baker
BEU Hackberry 34 Battery

02-JAN-19

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



02-JAN-19

Project Manager: **Adrian Baker**
LT Environmental, Inc.
4600 W. 60th Avenue
Arvada, CO 80003

Reference: XENCO Report No(s): **609695**
BEU Hackberry 34 Battery
Project Address: Eddy County

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 609695. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 609695 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 609695****LT Environmental, Inc., Arvada, CO**

BEU Hackberry 34 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	12-19-18 14:30	2.5 ft	609695-001
FS02	S	12-19-18 15:20	4 ft	609695-002
SW01	S	12-19-18 14:50	1 ft	609695-003
SW02	S	12-19-18 15:50	2.5 ft	609695-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU Hackberry 34 Battery

Project ID:

Work Order Number(s): 609695

Report Date: 02-JAN-19

Date Received: 12/22/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3074107 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 609695

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery

Project Id:

Contact: Adrian Baker

Project Location: Eddy County

Date Received in Lab: Sat Dec-22-18 01:15 pm

Report Date: 02-JAN-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	609695-001	609695-002	609695-003	609695-004		
	<i>Field Id:</i>	FS01	FS02	SW01	SW02		
	<i>Depth:</i>	2.5- ft	4- ft	1- ft	2.5- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Dec-19-18 14:30	Dec-19-18 15:20	Dec-19-18 14:50	Dec-19-18 15:50		
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-26-18 15:00	Dec-26-18 15:00	Dec-26-18 15:00	Dec-26-18 15:00		
	<i>Analyzed:</i>	Dec-27-18 16:03	Dec-27-18 16:22	Dec-27-18 17:02	Dec-27-18 17:21		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
m,p-Xylenes		<0.00401 0.00401	<0.00399 0.00399	<0.00400 0.00400	<0.00403 0.00403		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
Inorganic Anions by EPA 300	<i>Extracted:</i>	Dec-28-18 18:00	Dec-28-18 18:00	Dec-28-18 18:00	Dec-28-18 18:00		
	<i>Analyzed:</i>	Dec-29-18 05:09	Dec-29-18 05:15	Dec-29-18 05:21	Dec-29-18 05:28		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		29.2 4.95	12.5 4.98	876 4.98	11.4 4.99		
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-31-18 11:00	Dec-31-18 11:00	Dec-31-18 11:00	Dec-31-18 11:00		
	<i>Analyzed:</i>	Dec-31-18 21:06	Dec-31-18 21:26	Dec-31-18 21:47	Dec-31-18 22:07		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		<15.0 15.0	19.6 15.0	<15.0 15.0	<15.0 15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total TPH		<15.0 15.0	19.6 15.0	<15.0 15.0	<15.0 15.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant



Certificate of Analytical Results 609695

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **FS01**
 Lab Sample Id: 609695-001

Matrix: Soil
 Date Collected: 12.19.18 14.30

Date Received: 12.22.18 13.15
 Sample Depth: 2.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3074480

Date Prep: 12.28.18 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.2	4.95	mg/kg	12.29.18 05.09		1

Analytical Method: TPH by SW8015 Mod

Tech: ALJ

Analyst: ALJ

Seq Number: 3074476

Date Prep: 12.31.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.31.18 21.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.31.18 21.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.31.18 21.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.31.18 21.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	12.31.18 21.06	
o-Terphenyl	84-15-1	102	%	70-135	12.31.18 21.06	



Certificate of Analytical Results 609695

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **FS01**
 Lab Sample Id: 609695-001

Matrix: Soil
 Date Collected: 12.19.18 14.30

Date Received: 12.22.18 13.15
 Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.26.18 15.00

Basis: Wet Weight

Seq Number: 3074107

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.27.18 16.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	12.27.18 16.03		
1,4-Difluorobenzene	540-36-3	111	%	70-130	12.27.18 16.03		



Certificate of Analytical Results 609695

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **FS02**
 Lab Sample Id: 609695-002

Matrix: Soil
 Date Collected: 12.19.18 15.20

Date Received: 12.22.18 13.15
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3074480

Date Prep: 12.28.18 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.5	4.98	mg/kg	12.29.18 05.15		1

Analytical Method: TPH by SW8015 Mod

Tech: ALJ

Analyst: ALJ

Seq Number: 3074476

Date Prep: 12.31.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.31.18 21.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	19.6	15.0	mg/kg	12.31.18 21.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.31.18 21.26	U	1
Total TPH	PHC635	19.6	15.0	mg/kg	12.31.18 21.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.31.18 21.26	
o-Terphenyl	84-15-1	105	%	70-135	12.31.18 21.26	



Certificate of Analytical Results 609695

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **FS02**
 Lab Sample Id: 609695-002

Matrix: Soil
 Date Collected: 12.19.18 15.20

Date Received: 12.22.18 13.15
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3074107

Date Prep: 12.26.18 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.27.18 16.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	12.27.18 16.22		
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.27.18 16.22		



Certificate of Analytical Results 609695



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SW01**
Lab Sample Id: 609695-003

Matrix: Soil
Date Collected: 12.19.18 14.50

Date Received: 12.22.18 13.15
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3074480

Date Prep: 12.28.18 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	876	4.98	mg/kg	12.29.18 05.21		1

Analytical Method: TPH by SW8015 Mod

Tech: ALJ

Analyst: ALJ

Seq Number: 3074476

Date Prep: 12.31.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.31.18 21.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.31.18 21.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.31.18 21.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.31.18 21.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	111	%	70-135	12.31.18 21.47		
o-Terphenyl	84-15-1	113	%	70-135	12.31.18 21.47		



Certificate of Analytical Results 609695

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SW01**
 Lab Sample Id: 609695-003

Matrix: Soil
 Date Collected: 12.19.18 14.50

Date Received: 12.22.18 13.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3074107

Date Prep: 12.26.18 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.27.18 17.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.27.18 17.02		
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.27.18 17.02		



Certificate of Analytical Results 609695



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SW02**
Lab Sample Id: 609695-004

Matrix: Soil
Date Collected: 12.19.18 15.50

Date Received: 12.22.18 13.15
Sample Depth: 2.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3074480

Date Prep: 12.28.18 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.4	4.99	mg/kg	12.29.18 05.28		1

Analytical Method: TPH by SW8015 Mod

Tech: ALJ

Analyst: ALJ

Seq Number: 3074476

Date Prep: 12.31.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.31.18 22.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.31.18 22.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.31.18 22.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.31.18 22.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	12.31.18 22.07		
o-Terphenyl	84-15-1	104	%	70-135	12.31.18 22.07		



Certificate of Analytical Results 609695

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SW02**
 Lab Sample Id: 609695-004

Matrix: Soil
 Date Collected: 12.19.18 15.50

Date Received: 12.22.18 13.15
 Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3074107

Date Prep: 12.26.18 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.27.18 17.21	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.27.18 17.21		
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.27.18 17.21		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3074480

MB Sample Id: 7668969-1-BLK

Matrix: Solid

LCS Sample Id: 7668969-1-BKS

Prep Method: E300P

Date Prep: 12.28.18

LCSD Sample Id: 7668969-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	273	109	273	109	90-110	0	20	mg/kg	12.29.18 02:28	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3074480

Parent Sample Id: 609587-026

Matrix: Soil

MS Sample Id: 609587-026 S

Prep Method: E300P

Date Prep: 12.28.18

MSD Sample Id: 609587-026 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.2	248	285	110	281	109	90-110	1	20	mg/kg	12.29.18 02:47	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3074480

Parent Sample Id: 609587-035

Matrix: Soil

MS Sample Id: 609587-035 S

Prep Method: E300P

Date Prep: 12.28.18

MSD Sample Id: 609587-035 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.7	248	312	113	253	89	90-110	21	20	mg/kg	12.29.18 04:17	XF

Analytical Method: TPH by SW8015 Mod

Seq Number: 3074476

MB Sample Id: 7669016-1-BLK

Matrix: Solid

LCS Sample Id: 7669016-1-BKS

Prep Method: TX1005P

Date Prep: 12.31.18

LCSD Sample Id: 7669016-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	861	86	884	88	70-135	3	20	mg/kg	12.31.18 13:45	
Diesel Range Organics (DRO)	<8.12	999	971	97	984	98	70-135	1	20	mg/kg	12.31.18 13:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		125		133		70-135	%	12.31.18 13:45
o-Terphenyl	100		112		112		70-135	%	12.31.18 13:45

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3074476

Parent Sample Id: 609634-001

Matrix: Soil

MS Sample Id: 609634-001 S

Prep Method: TX1005P

Date Prep: 12.31.18

MSD Sample Id: 609634-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.98	997	908	91	895	90	70-135	1	20	mg/kg	12.31.18 14:26	
Diesel Range Organics (DRO)	<8.10	997	1030	103	1020	102	70-135	1	20	mg/kg	12.31.18 14:26	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	132		129		70-135	%	12.31.18 14:26
o-Terphenyl	121		118		70-135	%	12.31.18 14:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3074107

MB Sample Id: 7668790-1-BLK

Matrix: Solid

LCS Sample Id: 7668790-1-BKS

Prep Method: SW5030B

Date Prep: 12.26.18

LCSD Sample Id: 7668790-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.113	113	0.104	104	70-130	8	35	mg/kg	12.27.18 09:27	
Toluene	<0.000456	0.100	0.0947	95	0.0905	91	70-130	5	35	mg/kg	12.27.18 09:27	
Ethylbenzene	<0.000565	0.100	0.0991	99	0.0952	95	70-130	4	35	mg/kg	12.27.18 09:27	
m,p-Xylenes	<0.00101	0.200	0.179	90	0.173	87	70-130	3	35	mg/kg	12.27.18 09:27	
o-Xylene	<0.000344	0.100	0.0885	89	0.0865	87	70-130	2	35	mg/kg	12.27.18 09:27	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		107		106		70-130	%	12.27.18 09:27
4-Bromofluorobenzene	79		85		88		70-130	%	12.27.18 09:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3074107

Parent Sample Id: 609206-043

Matrix: Soil

MS Sample Id: 609206-043 S

Prep Method: SW5030B

Date Prep: 12.26.18

MSD Sample Id: 609206-043 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0903	90	0.0986	98	70-130	9	35	mg/kg	12.27.18 10:05	
Toluene	<0.000457	0.100	0.0800	80	0.0854	85	70-130	7	35	mg/kg	12.27.18 10:05	
Ethylbenzene	<0.000566	0.100	0.0847	85	0.0902	89	70-130	6	35	mg/kg	12.27.18 10:05	
m,p-Xylenes	<0.00102	0.200	0.154	77	0.164	81	70-130	6	35	mg/kg	12.27.18 10:05	
o-Xylene	<0.000345	0.100	0.0765	77	0.0802	79	70-130	5	35	mg/kg	12.27.18 10:05	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	12.27.18 10:05
4-Bromofluorobenzene	88		88		70-130	%	12.27.18 10:05

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

**San Antonio, Texas (210-509-3334,
Midland, Texas (432-704-5251))**

Phoenix, Arizona (480-355-0900)

CHAIN OF C STUDY
Page 1 of 1

Page 1 of 1

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: <u>IT Environmental, Inc.</u> <u>Pelican Office</u> Company Address: <u>3300 W 18th St. Building Unit 103</u> <u>Midway, TX 79702</u> Email: <u>ababayo@itenv.com</u> <u>(432) 704-5178</u> Project Contact: <u>Adrian Baker</u> Sampler's Name: <u>Anna Rogers</u>				Project Name/Number: <u>BEU Hackberry 3rd Battery</u> Project Location: <u>Eddy County</u> Invoice To: <u>KTD : Kyle Littrell</u> PO Number:				BTEX (only BTEX) 8021 TPH/DRO GRO MPO 8015 chloride (300.00)				IW = Water S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wipe O = Oil WW = Waste Water A = Air			
No. <u>Field ID / Point of Collection</u>				Sample Depth				Date				Time			
1 <u>ESD1</u>				2.5'				12/19				14:30			
2 <u>ESD2</u>				4'				15:20				3			
3 <u>SWD1</u>				1'				14:50				3			
4 <u>SWD2</u>				2.5'				15:50				3			
5				12/19/18				12/19/18				12/19/18			
6				12/19/18				12/19/18				12/19/18			
7				12/19/18				12/19/18				12/19/18			
8				12/19/18				12/19/18				12/19/18			
9				12/19/18				12/19/18				12/19/18			
10				12/19/18				12/19/18				12/19/18			
Turnaround Time (Business days)				Data Deliverable Information				Notes:				Field Comments			
☐ Same Day TAT				☒ 5 Day TAT				☐ Level II Std QC				☐ Level IV (Full Data Pig / raw data)			
☐ Next Day EMERGENCY				☐ 7 Day TAT				☐ Level III Std QC+ Forms				☐ TRRP Level IV			
☐ 2 Day EMERGENCY				☐ Contract TAT				☐ Level 3 (CLP Forms)				☐ UST / RG -411			
☐ 3 Day EMERGENCY				☐ TRRP Checklist				☐ TRRP Checklist				☐ TRRP Checklist			
TAT Starts Day received by Lab, if received by 5:00 pm				SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING CONTAINER DELIVERY				FED-EX / UPS: Tracking #				Matrix Codes			
Relinquished by Sampler: <u>Anna Rogers</u>				Date Time: <u>12/19/18</u>				Received By: <u>[Signature]</u>				Date Time: <u>12/19/18</u>			
Relinquished by: <u>[Signature]</u>				Date Time: <u>12/19/18</u>				Received By: <u>[Signature]</u>				Date Time: <u>12/19/18</u>			
Relinquished by: <u>[Signature]</u>				Date Time: <u>12/19/18</u>				Received By: <u>[Signature]</u>				Date Time: <u>12/19/18</u>			
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Relinquished by: <u>[Signature]</u>				Date Time: <u>12/19/18</u>				Received By: <u>[Signature]</u>				Date Time: <u>12/19/18</u>			

Novocin, Novocin's signature of this document and reimbursement of samples constitutes a valid purchase order from client company to Xenovo, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenovo will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenovo. A minimum charge of \$75 will be applied to each project. Xenovo's liability will be limited to the cost of samples. Any samples received by Xenovo but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



Client: LT Environmental, Inc.

Date/ Time Received: 12/22/2018 01:15:00 PM

Work Order #: 609695

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 12/26/2018

Checklist reviewed by:

Jessica Kramer

Date: 12/26/2018



August 2, 2023

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**Re: Closure Request
BEU Hackberry 34 Federal Battery #1
Incident Number NAB1726335399
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Closure Request* as a follow up to the *Remediation Work Plan (Work Plan)* submitted May 26, 2023. The *Work Plan* proposed to complete additional remediation activities at the BEU Hackberry 34 Federal Battery #1 (Site) based on relocation of the production equipment. Relocation of the equipment allowed for access to impacted soil that had previously been requested for deferral of remediation, detailed in a *Deferral Request* submitted January 3, 2019. The *Deferral Request* was denied for lack of horizontal delineation. The *Work Plan* was submitted in response to that denial, but has not yet been approved. To work with construction operations on site, XTO made the decision to proceed with remediation of the remaining impacted soil and completed horizontal delineation. The following *Closure Request* describes lateral delineation of the historical release and full remediation by excavation of impacted soil completed at the Site and is submitted for approval in lieu of the *Work Plan*.

SITE DESCRIPTION AND RELEASE BACKGROUND

The Site is located in Unit A, Section 34, Township 19 South, Range 31 East, in Eddy County, New Mexico (32.621936°, -103.851602°) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On August 6, 2017, a Victaulic connection on the separator dump line failed and 18.79 barrels (bbls) of crude oil and 1.1 bbls of produced water were released within an unlined earthen containment berm. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on September 18, 2017, and the release was assigned Incident Number NAB1726335399. The release was included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018.

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Based on the results of the Site Characterization, which were presented in the *Deferral Report*, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)

XTO Energy, Inc
Closure Request
BEU Hackberry 34 Federal Battery #1

- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

During October and December 2018, delineation and excavation activities were conducted at the Site to address the impacted soil resulting from the August 6, 2017, crude oil and produced water release. Impacted soil was excavated to the extent possible; however, an estimated 250 cubic yards of impacted soil were left in place for compliance with XTO safety policy regarding earth-moving activities within two feet of active production equipment and pipelines. Additional details regarding the 2018 delineation and excavation activities can be referenced in the original *Deferral Request*, submitted to NMOCD on January 3, 2018. The soil sample locations representing remaining impacted soil are depicted on Figure 1.

On February 27, 2023, NMOCD denied the *Deferral Request* requesting additional horizontal delineation to confirm the release did not extend off the well pad. It should be noted that the *Deferral Request* was submitted four years prior to receipt of the denial. Horizontal delineation to confirm the release did not extend off pad was neither practiced, nor enforced by the NMOCD, until it was generally applied through NMOCD's denial language in 2021.

While reviewing the Site following the NMOCD denial of the *Deferral Request*, XTO noted that the production equipment was being relocated to the southern boundary of the well pad, which allowed access to excavate the impacted soil that was left in place in 2018. XTO submitted the *Work Plan* to address that soil and collect horizontal delineation samples, but that *Work Plan* has not yet been reviewed by the NMOCD. The proposed area to be excavated is presented on Figure 1. XTO chose to proceed with remediation during construction to allow for easier logistical operations.

DELINEATION AND EXCAVATION ACTIVITIES

Ensolum collected additional horizontal delineation soil samples (SS06 through SS09) from a depth of 0.5 feet below ground surface (bgs) around the release extent to confirm the lateral extent of the release. The lateral delineation soil sample locations are depicted on Figure 2. Soil sample SS05 had been previously collected and presented in the *Deferral Report*. Photographic documentation of the Site and sampling activities are included in Appendix A.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following contaminant of concern: BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for the soil samples SS06 through SS09 indicated that all COC concentrations were compliant with Site Closure Criteria and provided lateral delineation to below the most stringent Table I Closure Criteria. The soil sample analytical results are summarized on Table 1 and the complete laboratory analytical reports are included in Appendix B.

XTO excavated the soil from the previously inaccessible area. Excavation activities were performed using track-mounted backhoe and transport vehicle. To direct excavation activities, soil was screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips,

XTO Energy, Inc
Closure Request
BEU Hackberry 34 Federal Battery #1

respectively. The excavation was completed a depth of approximately 2 feet bgs. The extent of the excavation is presented on Figure 3.

Following removal of the impacted soil, 5-point composite soil samples were collected from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite floor samples FS01 through FS12 were collected from the floor of the excavation at a depth of 2 feet bgs. Sidewall samples SW01 through SW03 were collected from the sidewalls of the excavation extent at depths ranging from the ground surface to 2 feet bgs. The soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation soil sample locations are presented on Figure 3.

The excavation area measured approximately 2,145 square feet. A total of approximately 200 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico.

Laboratory analytical results for excavation floor samples FS01 through FS12 and sidewall samples SW01 through SW03 indicated that all COC concentrations were compliant with the Closure Criteria. The sidewall samples also meet the strictest of Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix B.

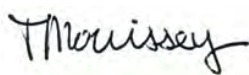
CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the deferral area left in place following initial remediation of the August 6, 2017 crude oil and produced water release. Details of the *Deferral Request* can be found in Appendix C. Laboratory analytical results for the final excavation samples indicated all COC concentrations were compliant with the Closure Criteria. In addition, horizontal delineation soil samples collected outside of the release extent provide lateral delineation to the strictest Table I Closure Criteria.

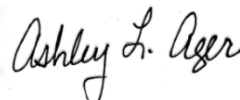
Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAB1726335399 in lieu of approval of the *Work Plan*. Following approval of this *Closure Request*, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC



Tacoma Morrissey
Senior Geologist



Ashley Ager, P.G.
Principal

cc: Garrett Green, XTO
Shelby Pennington, XTO
Bureau of Land Management

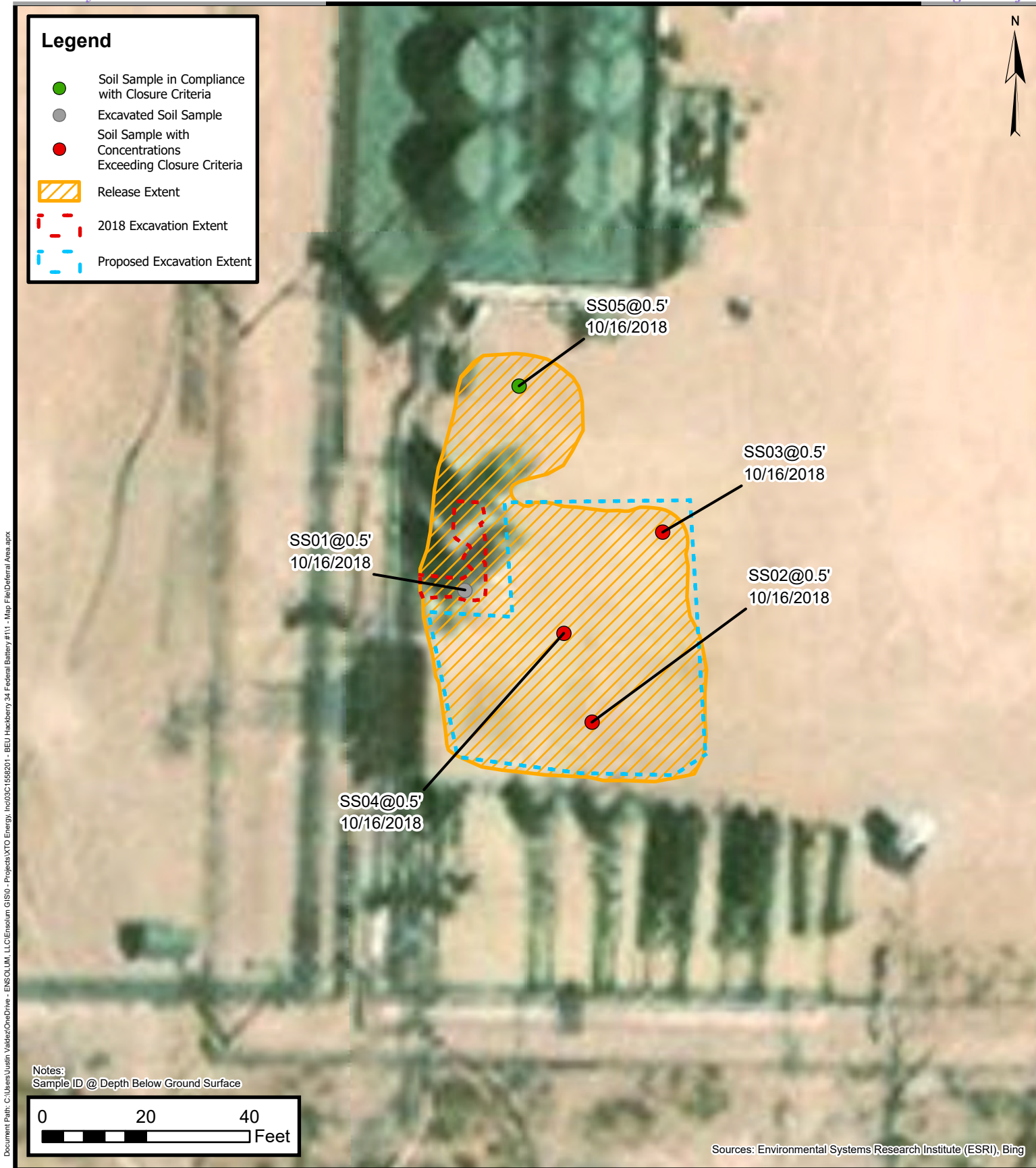
XTO Energy, Inc
Closure Request
BEU Hackberry 34 Federal Battery #1

Appendices:

Figure 1	Deferral Area Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Photographic Log
Appendix B	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix C	January 3, 2018 Deferral Request
Appendix D	NMOCD Notifications



FIGURES



Document Path: C:\Users\Justin_Valdez\OneDrive - ENSOLUM, LLC\Enrolum GIS\0 - Projects\XTO Energy, Inc\03C155B201 - BEU Hackberry 34 Federal Battery #11 - Map File\Deferral Area.aprx



Deferral Area Map

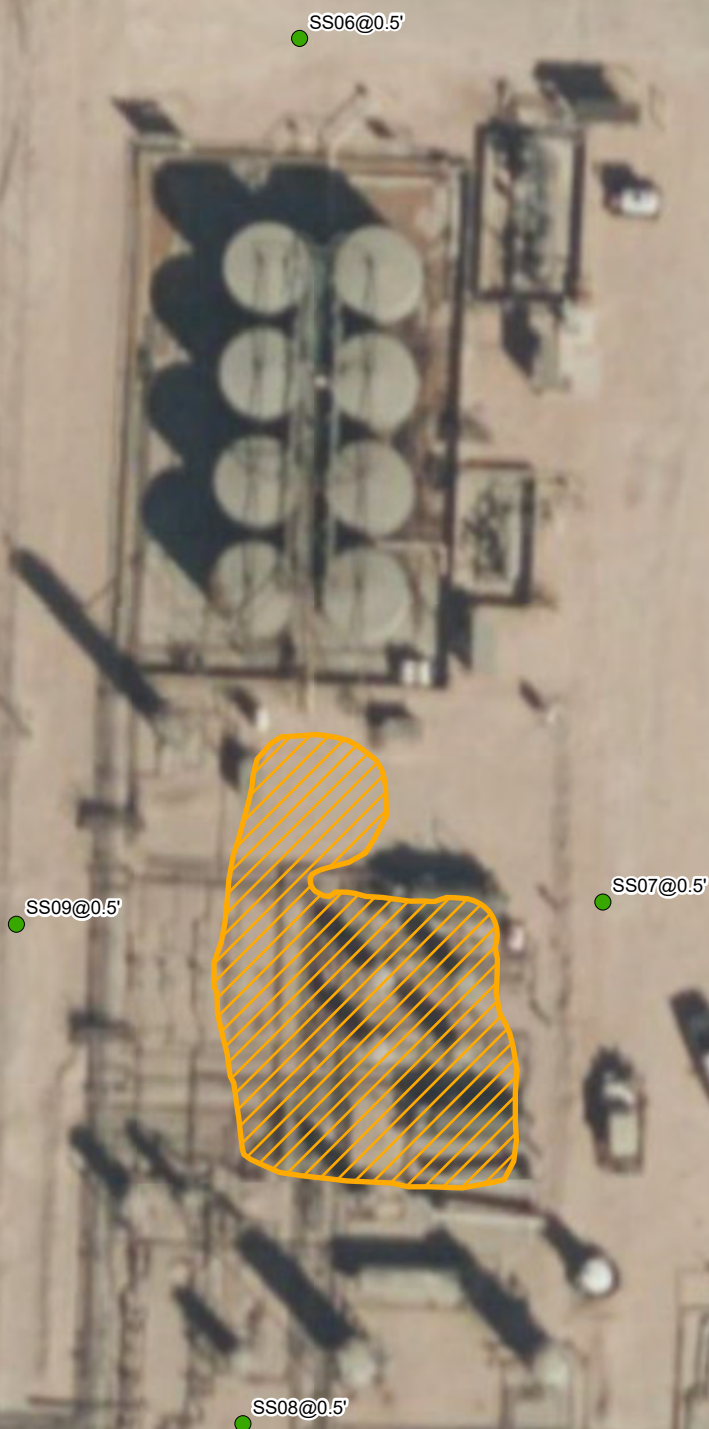
XTO Energy, Inc.
BEU Hackberry 34 Federal Battery #1
Incident Number: NAB1726335399
Unit A, Sec 34, T19S, R31E
Eddy County, New Mexico

FIGURE

1

Legend

- Delineation Soil Sample
in Compliance with
Closure Criteria
- Release Extent



Notes:
Sample ID @ Depth Below Ground Surface.

0 25 50
Feet

Sources: Environmental Systems Research Institute (ESRI)



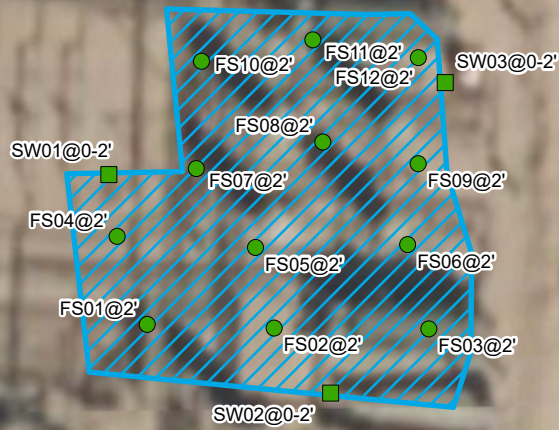
Delineation Soil Sample Locations

XTO Energy, Inc.
BEU Hackberry 34 Federal Battery #1
Incident Number: NAB1726335399
Unit A, Sec 34, T19S, R31E
Eddy County, New Mexico

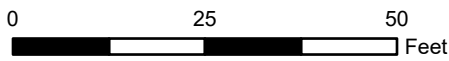
FIGURE
2

Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- Excavation Sidewall Sample in Compliance with Closure Criteria
- Excavation Extent



Notes:
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)



Excavation Soil Sample Locations

XTO Energy, Inc.
BEU Hackberry 34 Federal Battery #1
Incident Number: NAB1726335399
Unit A, Sec 34, T19S, R31E
Eddy County, New Mexico

FIGURE

3



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
BEU Hackberry 34 Federal Battery #1
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Deferred Soil Samples										
SS02	10/16/2018	0.5	5.08	260	1,560	5,380	211	6,940	7,150	1,040
SS03	10/16/2018	0.5	1.85	93.9	973	4,060	212	5,030	5,250	1,020
SS04	10/16/2018	0.5	0.08	10.9	223	1,370	41.9	1,590	1,630	4,030
Delineation Soil Samples										
SS05	10/16/2018	0.5	<0.0185	<0.0185	<14.9	35.6	<14.9	35.6	35.6	120
SS06	03/21/2023	0.5	<0.00199	<0.00398	<49.9	56.5	<49.9	56.5	56.5	245
SS07	03/21/2023	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	187
SS08	03/21/2023	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	326
SS09	03/21/2023	0.5	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	125
Excavation Floor Soil Samples										
FS01	06/14/2023	2	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	152
FS02	06/14/2023	2	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	201
FS03	06/14/2023	2	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	457
FS04	06/14/2023	2	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	454
FS05	06/14/2023	2	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	1,590
FS06	06/14/2023	2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	913
FS07	06/14/2023	2	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	3,530
FS08	06/14/2023	2	<0.00199	<0.00398	<49.8	617	132	617	749	2,080
FS09	06/14/2023	2	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	3,740
FS10	06/14/2023	2	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	912
FS11	06/14/2023	2	<0.00199	<0.00398	<50.0	60.7	<50.0	60.7	60.7	2,520
FS12	06/14/2023	2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	2,260



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
BEU Hackberry 34 Federal Battery #1
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Excavation Sidewall Soil Samples										
SW01	06/14/2023	0-2	<0.00199	<0.00398	<49.9	73.7	<49.9	73.7	73.7	63.1
SW02	06/14/2023	0-2	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	202
SW03	06/14/2023	0-2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	967

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

Grey text indicates soil sample removed during excavation activities



APPENDIX A

Photographic Log



Photographic Log

XTO Energy, Inc.

BEU Hackberry 34 Federal Battery #1

Incident Number NAB1726335399



Photograph: 1 Date: 3/21/2023
Description: View of historical release area.
Facing Northeast



Photograph: 2 Date: 6/13/2023
Description: Ongoing excavation
Facing Northwest



Photograph: 3 Date: 7/17/2023
Description: View of final excavation extent.
Facing Northeast



Photograph: 4 Date: 7/17/2023
Description: View of final excavation extent.
Facing Southwest



APPENDIX B

Laboratory Analytical Reports & Chain-of-Custody Documentation



Environment Testing

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- 14

ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 4/6/2023 9:55:56 AM Revision 1

JOB DESCRIPTION

BEU Hackberry 34 001
SDG NUMBER 03C1558201

JOB NUMBER

890-4384-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad**Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Generated
4/6/2023 9:55:56 AM
Revision 1

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Laboratory Job ID: 890-4384-1
SDG: 03C1558201

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Definitions/Glossary

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Job ID: 890-4384-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-4384-1

REVISION

The report being provided is a revision of the original report sent on 4/3/2023. The report (revision 1) is being revised due to Per client email, requesting TPH re run on SS06.

Report revision history

Receipt

The samples were received on 3/21/2023 4:48 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: SS06 (890-4384-1), SS07 (890-4384-2), SS08 (890-4384-3) and SS09 (890-4384-4).

GC VOA

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-49808 and analytical batch 880-50000 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-4371-A-1-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-49652 and analytical batch 880-49691 was outside control limits. Sample non-homogeneity is suspected.

Method 8015MOD_NM: The method blank for preparation batch 880-49652 and analytical batch 880-49691 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: An incorrect volume of surrogate spiking solution was inadvertently added the following samples: (890-4439-A-11-E MS) and (890-4439-A-11-F MSD). Percent recoveries are based on the amount spiked.

Method 8015MOD_NM: Spike compounds were inadvertently omitted during the extraction process for the matrix spike/matrix spike duplicate (MS/MSD); therefore, matrix spike recoveries are unavailable for preparation batch 880-50316 and analytical batch 880-50348. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Client Sample ID: SS06

Lab Sample ID: 890-4384-1

Date Collected: 03/21/23 12:10

Matrix: Solid

Date Received: 03/21/23 16:48

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/29/23 10:19	04/01/23 12:13	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/29/23 10:19	04/01/23 12:13	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/29/23 10:19	04/01/23 12:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		03/29/23 10:19	04/01/23 12:13	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/29/23 10:19	04/01/23 12:13	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/29/23 10:19	04/01/23 12:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	03/29/23 10:19	04/01/23 12:13	1
1,4-Difluorobenzene (Surr)	96		70 - 130	03/29/23 10:19	04/01/23 12:13	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			04/03/23 15:17	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	56.5		49.9	mg/Kg			03/29/23 12:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		04/04/23 12:48	04/06/23 05:03	1
Diesel Range Organics (Over C10-C28)	56.5		49.9	mg/Kg		04/04/23 12:48	04/06/23 05:03	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		04/04/23 12:48	04/06/23 05:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	04/04/23 12:48	04/06/23 05:03	1
o-Terphenyl	83		70 - 130	04/04/23 12:48	04/06/23 05:03	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	245		4.97	mg/Kg			03/31/23 02:48	1

Client Sample ID: SS07

Lab Sample ID: 890-4384-2

Date Collected: 03/21/23 13:50

Matrix: Solid

Date Received: 03/21/23 16:48

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 12:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 12:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 12:34	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		03/29/23 10:19	04/01/23 12:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 12:34	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		03/29/23 10:19	04/01/23 12:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	03/29/23 10:19	04/01/23 12:34	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Client Sample ID: SS07

Lab Sample ID: 890-4384-2

Date Collected: 03/21/23 13:50

Matrix: Solid

Date Received: 03/21/23 16:48

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	99		70 - 130	03/29/23 10:19	04/01/23 12:34	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			04/03/23 15:17	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/29/23 12:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/29/23 04:33	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/29/23 04:33	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/29/23 04:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130			03/27/23 14:32	03/29/23 04:33	1
o-Terphenyl	102		70 - 130			03/27/23 14:32	03/29/23 04:33	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	187		4.95	mg/Kg			03/31/23 02:53	1

Client Sample ID: SS08

Lab Sample ID: 890-4384-3

Date Collected: 03/21/23 12:30

Matrix: Solid

Date Received: 03/21/23 16:48

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		03/29/23 10:19	04/01/23 12:55	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/29/23 10:19	04/01/23 12:55	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		03/29/23 10:19	04/01/23 12:55	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		03/29/23 10:19	04/01/23 12:55	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		03/29/23 10:19	04/01/23 12:55	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/29/23 10:19	04/01/23 12:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	03/29/23 10:19	04/01/23 12:55	1
1,4-Difluorobenzene (Surr)	100		70 - 130	03/29/23 10:19	04/01/23 12:55	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			04/03/23 15:17	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			03/29/23 12:10	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Client Sample ID: SS08

Lab Sample ID: 890-4384-3

Date Collected: 03/21/23 12:30

Matrix: Solid

Date Received: 03/21/23 16:48

Sample Depth: 0.5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		03/27/23 14:32	03/29/23 04:11	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		03/27/23 14:32	03/29/23 04:11	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		03/27/23 14:32	03/29/23 04:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130			03/27/23 14:32	03/29/23 04:11	1
o-Terphenyl	98		70 - 130			03/27/23 14:32	03/29/23 04:11	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	326		5.04	mg/Kg			03/31/23 03:07	1

Client Sample ID: SS09

Lab Sample ID: 890-4384-4

Date Collected: 03/21/23 12:40

Matrix: Solid

Date Received: 03/21/23 16:48

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 13:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 13:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 13:16	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		03/29/23 10:19	04/01/23 13:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 13:16	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/29/23 10:19	04/01/23 13:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130			03/29/23 10:19	04/01/23 13:16	1
1,4-Difluorobenzene (Surr)	98		70 - 130			03/29/23 10:19	04/01/23 13:16	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			04/03/23 15:17	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			03/28/23 11:17	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		03/27/23 12:51	03/28/23 04:56	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		03/27/23 12:51	03/28/23 04:56	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		03/27/23 12:51	03/28/23 04:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130			03/27/23 12:51	03/28/23 04:56	1
o-Terphenyl	121		70 - 130			03/27/23 12:51	03/28/23 04:56	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Client Sample ID: SS09
Date Collected: 03/21/23 12:40
Date Received: 03/21/23 16:48
Sample Depth: 0.5

Lab Sample ID: 890-4384-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	125		4.98	mg/Kg			03/31/23 03:12	1	

Surrogate Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4381-A-1-B MS	Matrix Spike	113	89
890-4381-A-1-C MSD	Matrix Spike Duplicate	113	84
890-4384-1	SS06	118	96
890-4384-2	SS07	107	99
890-4384-3	SS08	108	100
890-4384-4	SS09	114	98
LCS 880-49808/1-A	Lab Control Sample	104	88
LCSD 880-49808/2-A	Lab Control Sample Dup	110	88
MB 880-49808/5-A	Method Blank	100	81
MB 880-49933/5-A	Method Blank	103	79

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4371-A-1-B MS	Matrix Spike	88	80
890-4371-A-1-C MSD	Matrix Spike Duplicate	103	91
890-4375-A-1-H MS	Matrix Spike	105	100
890-4375-A-1-I MSD	Matrix Spike Duplicate	106	101
890-4384-1	SS06	98	83
890-4384-2	SS07	104	102
890-4384-3	SS08	98	98
890-4384-4	SS09	111	121
890-4439-A-11-E MS	Matrix Spike	1983 S1+	1611 S1+
890-4439-A-11-F MSD	Matrix Spike Duplicate	2486 S1+	2042 S1+
LCS 880-49630/2-A	Lab Control Sample	114	125
LCS 880-49652/2-A	Lab Control Sample	103	103
LCS 880-50316/2-A	Lab Control Sample	110	90
LCSD 880-49630/3-A	Lab Control Sample Dup	107	118
LCSD 880-49652/3-A	Lab Control Sample Dup	102	106
LCSD 880-50316/3-A	Lab Control Sample Dup	109	89
MB 880-49630/1-A	Method Blank	112	125
MB 880-49652/1-A	Method Blank	124	124
MB 880-50316/1-A	Method Blank	124	103

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49808/5-A

Matrix: Solid

Analysis Batch: 50000

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49808

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 09:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 09:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 09:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/29/23 10:19	04/01/23 09:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:19	04/01/23 09:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/29/23 10:19	04/01/23 09:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	03/29/23 10:19	04/01/23 09:47	1
1,4-Difluorobenzene (Surr)	81		70 - 130	03/29/23 10:19	04/01/23 09:47	1

Lab Sample ID: LCS 880-49808/1-A

Matrix: Solid

Analysis Batch: 50000

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49808

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08736		mg/Kg		87	70 - 130
Toluene	0.100	0.09251		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.08844		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	0.200	0.1836		mg/Kg		92	70 - 130
o-Xylene	0.100	0.09446		mg/Kg		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

Lab Sample ID: LCSD 880-49808/2-A

Matrix: Solid

Analysis Batch: 50000

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49808

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08999		mg/Kg		90	70 - 130	3	35
Toluene	0.100	0.09676		mg/Kg		97	70 - 130	4	35
Ethylbenzene	0.100	0.09340		mg/Kg		93	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1958		mg/Kg		98	70 - 130	6	35
o-Xylene	0.100	0.1015		mg/Kg		102	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

Lab Sample ID: 890-4381-A-1-B MS

Matrix: Solid

Analysis Batch: 50000

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49808

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U F1	0.0998	0.06102	F1	mg/Kg		61	70 - 130
Toluene	<0.00198	U F1	0.0998	0.06854	F1	mg/Kg		69	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-4381-A-1-B MS

Matrix: Solid

Analysis Batch: 50000

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49808

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00198	U	0.0998	0.06969		mg/Kg		70	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1467		mg/Kg		73	70 - 130
o-Xylene	<0.00198	U	0.0998	0.07643		mg/Kg		77	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: 890-4381-A-1-C MSD

Matrix: Solid

Analysis Batch: 50000

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 49808

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00198	U F1	0.100	0.07589		mg/Kg		75	70 - 130	22	35
Toluene	<0.00198	U F1	0.100	0.08530		mg/Kg		85	70 - 130	22	35
Ethylbenzene	<0.00198	U	0.100	0.08427		mg/Kg		84	70 - 130	19	35
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1753		mg/Kg		87	70 - 130	18	35
o-Xylene	<0.00198	U	0.100	0.09052		mg/Kg		90	70 - 130	17	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	84		70 - 130

Lab Sample ID: MB 880-49933/5-A

Matrix: Solid

Analysis Batch: 50000

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49933

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/30/23 12:24	03/31/23 23:05	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/30/23 12:24	03/31/23 23:05	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/30/23 12:24	03/31/23 23:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/30/23 12:24	03/31/23 23:05	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/30/23 12:24	03/31/23 23:05	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/30/23 12:24	03/31/23 23:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	03/30/23 12:24	03/31/23 23:05	1
1,4-Difluorobenzene (Surr)	79		70 - 130	03/30/23 12:24	03/31/23 23:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-49630/1-A

Matrix: Solid

Analysis Batch: 49555

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49630

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/27/23 12:51	03/27/23 20:02	1

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QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-49630/1-A

Matrix: Solid

Analysis Batch: 49555

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49630

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/27/23 12:51	03/27/23 20:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/27/23 12:51	03/27/23 20:02	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130			03/27/23 12:51	03/27/23 20:02	1
o-Terphenyl	125		70 - 130			03/27/23 12:51	03/27/23 20:02	1

Lab Sample ID: LCS 880-49630/2-A

Matrix: Solid

Analysis Batch: 49555

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49630

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	985.2		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	1000	915.2		mg/Kg		92	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	114		70 - 130				
o-Terphenyl	125		70 - 130				

Lab Sample ID: LCSD 880-49630/3-A

Matrix: Solid

Analysis Batch: 49555

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49630

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	877.9		mg/Kg		88	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	1000	839.9		mg/Kg		84	70 - 130	9	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	107		70 - 130						
o-Terphenyl	118		70 - 130						

Lab Sample ID: 890-4375-A-1-H MS

Matrix: Solid

Analysis Batch: 49555

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49630

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	933.3		mg/Kg		91	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1099		mg/Kg		106	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	105		70 - 130						
o-Terphenyl	100		70 - 130						

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QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-4375-A-1-I MSD

Matrix: Solid

Analysis Batch: 49555

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 49630

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	953.0		mg/Kg		93	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1107		mg/Kg		107	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	106		70 - 130								
o-Terphenyl	101		70 - 130								

Lab Sample ID: MB 880-49652/1-A

Matrix: Solid

Analysis Batch: 49691

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49652

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/28/23 21:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/28/23 21:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/28/23 21:43	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130			03/27/23 14:32	03/28/23 21:43	1
o-Terphenyl	124		70 - 130			03/27/23 14:32	03/28/23 21:43	1

Lab Sample ID: LCS 880-49652/2-A

Matrix: Solid

Analysis Batch: 49691

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49652

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	869.0		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	875.2		mg/Kg		88	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
1-Chlorooctane	103		70 - 130						
o-Terphenyl	103		70 - 130						

Lab Sample ID: LCSD 880-49652/3-A

Matrix: Solid

Analysis Batch: 49691

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49652

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	972.5		mg/Kg		97	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	1000	912.9		mg/Kg		91	70 - 130	4	20

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QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-49652/3-A

Matrix: Solid

Analysis Batch: 49691

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49652

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	106		70 - 130

Lab Sample ID: 890-4371-A-1-B MS

Matrix: Solid

Analysis Batch: 49691

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	997	862.1		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	895.2		mg/Kg		90	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	80		70 - 130

Lab Sample ID: 890-4371-A-1-C MSD

Matrix: Solid

Analysis Batch: 49691

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 49652

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	999	1185	F2	mg/Kg		119	70 - 130	32	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1014		mg/Kg		102	70 - 130	12	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: MB 880-50316/1-A

Matrix: Solid

Analysis Batch: 50348

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50316

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		04/04/23 12:48	04/05/23 20:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		04/04/23 12:48	04/05/23 20:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		04/04/23 12:48	04/05/23 20:13	1

	MB	MB	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	124		70 - 130
o-Terphenyl	103		70 - 130

	Prepared	Analyzed	Dil Fac
1-Chlorooctane	04/04/23 12:48	04/05/23 20:13	1
o-Terphenyl	04/04/23 12:48	04/05/23 20:13	1

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QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-50316/2-A

Matrix: Solid

Analysis Batch: 50348

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50316

Analyte			Spike	LCS	LCS	Unit	D	%Rec	%Rec		
			Added	Result	Qualifier			Limits	Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	827.7		mg/Kg		83	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	944.4		mg/Kg		94	70 - 130		
Surrogate	LCS	LCS									
	%Recovery	Qualifier	Limits								
1-Chlorooctane	110		70 - 130								
o-Terphenyl	90		70 - 130								

Lab Sample ID: LCSD 880-50316/3-A

Matrix: Solid

Analysis Batch: 50348

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 50316

Report Data: 05/05/15											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	806.7		mg/Kg		81	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	958.2		mg/Kg		96	70 - 130	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
1-Chlorooctane	109		70 - 130								
o-Terphenyl	89		70 - 130								

Lab Sample ID: 890-4439-A-11-E MS

Matrix: Solid

Analysis Batch: 50348

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 50316

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier				Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	998	90.51	F1	mg/Kg		5	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	<49.9	U F1	mg/Kg		4	70 - 130		
Surrogate	MS	MS									
	%Recovery	Qualifier	Limits								
1-Chlorooctane	1983	S1+	70 - 130								
o-Terphenyl	1611	S1+	70 - 130								

Lab Sample ID: 890-4439-A-11-F MSD

Matrix: Solid

Analysis Batch: 50348

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 50316

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	84.37	F1	mg/Kg	-	5	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	<50.0	U F1	mg/Kg		4	70 - 130	17	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	2486	S1+	70 - 130								

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QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-4439-A-11-F MSD

Matrix: Solid

Analysis Batch: 50348

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 50316

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
<i>o</i> -Terphenyl	2042	S1+	70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49886/1-A

Matrix: Solid

Analysis Batch: 49988

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB	MB							
	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil	Fac
Chloride	<5.00	U	5.00	mg/Kg			03/31/23 01:11		1

Lab Sample ID: LCS 880-49886/2-A

Matrix: Solid

Analysis Batch: 49988

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte		Spike	LCS	LCS				%Rec	
		Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride		250	261.8		mg/Kg		105	90 - 110	

Lab Sample ID: LCSD 880-49886/3-A

Matrix: Solid

Analysis Batch: 49988

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte		Spike	LCSD	LCSD				%Rec		RPD	
		Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride		250	263.2		mg/Kg		105	90 - 110	1	20	

Lab Sample ID: 890-4383-A-2-D MS

Matrix: Solid

Analysis Batch: 49988

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample	Sample	Spike	MS	MS				%Rec	
	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	71.7		250	323.7		mg/Kg		101	90 - 110	

Lab Sample ID: 890-4383-A-2-E MSD

Matrix: Solid

Analysis Batch: 49988

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	71.7		250	323.8		mg/Kg		101	90 - 110	0	20	

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QC Association Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

GC VOA

Prep Batch: 49808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-1	SS06	Total/NA	Solid	5035	
890-4384-2	SS07	Total/NA	Solid	5035	
890-4384-3	SS08	Total/NA	Solid	5035	
890-4384-4	SS09	Total/NA	Solid	5035	
MB 880-49808/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49808/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49808/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4381-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-4381-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 49933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-49933/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 50000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-1	SS06	Total/NA	Solid	8021B	49808
890-4384-2	SS07	Total/NA	Solid	8021B	49808
890-4384-3	SS08	Total/NA	Solid	8021B	49808
890-4384-4	SS09	Total/NA	Solid	8021B	49808
MB 880-49808/5-A	Method Blank	Total/NA	Solid	8021B	49808
MB 880-49933/5-A	Method Blank	Total/NA	Solid	8021B	49933
LCS 880-49808/1-A	Lab Control Sample	Total/NA	Solid	8021B	49808
LCSD 880-49808/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49808
890-4381-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	49808
890-4381-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49808

Analysis Batch: 50222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-1	SS06	Total/NA	Solid	Total BTEX	
890-4384-2	SS07	Total/NA	Solid	Total BTEX	
890-4384-3	SS08	Total/NA	Solid	Total BTEX	
890-4384-4	SS09	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 49555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-4	SS09	Total/NA	Solid	8015B NM	49630
MB 880-49630/1-A	Method Blank	Total/NA	Solid	8015B NM	49630
LCS 880-49630/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49630
LCSD 880-49630/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49630
890-4375-A-1-H MS	Matrix Spike	Total/NA	Solid	8015B NM	49630
890-4375-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	49630

Prep Batch: 49630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-4	SS09	Total/NA	Solid	8015NM Prep	
MB 880-49630/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49630/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49630/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

GC Semi VOA (Continued)

Prep Batch: 49630 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4375-A-1-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4375-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 49652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-2	SS07	Total/NA	Solid	8015NM Prep	
890-4384-3	SS08	Total/NA	Solid	8015NM Prep	
MB 880-49652/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49652/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49652/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4371-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4371-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 49691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-2	SS07	Total/NA	Solid	8015B NM	49652
890-4384-3	SS08	Total/NA	Solid	8015B NM	49652
MB 880-49652/1-A	Method Blank	Total/NA	Solid	8015B NM	49652
LCS 880-49652/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49652
LCSD 880-49652/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49652
890-4371-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	49652
890-4371-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	49652

Analysis Batch: 49732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-1	SS06	Total/NA	Solid	8015 NM	
890-4384-2	SS07	Total/NA	Solid	8015 NM	
890-4384-3	SS08	Total/NA	Solid	8015 NM	
890-4384-4	SS09	Total/NA	Solid	8015 NM	

Prep Batch: 50316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-1	SS06	Total/NA	Solid	8015NM Prep	
MB 880-50316/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-50316/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-50316/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4439-A-11-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4439-A-11-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 50348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-1	SS06	Total/NA	Solid	8015B NM	50316
MB 880-50316/1-A	Method Blank	Total/NA	Solid	8015B NM	50316
LCS 880-50316/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	50316
LCSD 880-50316/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	50316
890-4439-A-11-E MS	Matrix Spike	Total/NA	Solid	8015B NM	50316
890-4439-A-11-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	50316

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QC Association Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

HPLC/IC

Leach Batch: 49886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-1	SS06	Soluble	Solid	DI Leach	
890-4384-2	SS07	Soluble	Solid	DI Leach	
890-4384-3	SS08	Soluble	Solid	DI Leach	
890-4384-4	SS09	Soluble	Solid	DI Leach	
MB 880-49886/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49886/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49886/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4383-A-2-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4383-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 49988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4384-1	SS06	Soluble	Solid	300.0	49886
890-4384-2	SS07	Soluble	Solid	300.0	49886
890-4384-3	SS08	Soluble	Solid	300.0	49886
890-4384-4	SS09	Soluble	Solid	300.0	49886
MB 880-49886/1-A	Method Blank	Soluble	Solid	300.0	49886
LCS 880-49886/2-A	Lab Control Sample	Soluble	Solid	300.0	49886
LCSD 880-49886/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49886
890-4383-A-2-D MS	Matrix Spike	Soluble	Solid	300.0	49886
890-4383-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	49886

Lab Chronicle

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Client Sample ID: SS06

Lab Sample ID: 890-4384-1

Date Collected: 03/21/23 12:10

Matrix: Solid

Date Received: 03/21/23 16:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	49808	03/29/23 10:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50000	04/01/23 12:13	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50222	04/03/23 15:17	SM	EET MID
Total/NA	Analysis	8015 NM		1			49732	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	50316	04/04/23 12:48	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50348	04/06/23 05:03	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	49886	03/29/23 16:23	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49988	03/31/23 02:48	SMC	EET MID

Client Sample ID: SS07

Lab Sample ID: 890-4384-2

Date Collected: 03/21/23 13:50

Matrix: Solid

Date Received: 03/21/23 16:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	49808	03/29/23 10:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50000	04/01/23 12:34	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50222	04/03/23 15:17	SM	EET MID
Total/NA	Analysis	8015 NM		1			49732	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49691	03/29/23 04:33	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	49886	03/29/23 16:23	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49988	03/31/23 02:53	SMC	EET MID

Client Sample ID: SS08

Lab Sample ID: 890-4384-3

Date Collected: 03/21/23 12:30

Matrix: Solid

Date Received: 03/21/23 16:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	49808	03/29/23 10:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50000	04/01/23 12:55	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50222	04/03/23 15:17	SM	EET MID
Total/NA	Analysis	8015 NM		1			49732	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49691	03/29/23 04:11	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	49886	03/29/23 16:23	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49988	03/31/23 03:07	SMC	EET MID

Client Sample ID: SS09

Lab Sample ID: 890-4384-4

Date Collected: 03/21/23 12:40

Matrix: Solid

Date Received: 03/21/23 16:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	49808	03/29/23 10:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50000	04/01/23 13:16	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50222	04/03/23 15:17	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Client Sample ID: SS09

Date Collected: 03/21/23 12:40

Date Received: 03/21/23 16:48

Lab Sample ID: 890-4384-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			49732	03/28/23 11:17	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	49630	03/27/23 12:51	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49555	03/28/23 04:56	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	49886	03/29/23 16:23	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49988	03/31/23 03:12	SMC	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 001

Job ID: 890-4384-1
SDG: 03C1558201

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4384-1	SS06	Solid	03/21/23 12:10	03/21/23 16:48	0.5
890-4384-2	SS07	Solid	03/21/23 13:50	03/21/23 16:48	0.5
890-4384-3	SS08	Solid	03/21/23 12:30	03/21/23 16:48	0.5
890-4384-4	SS09	Solid	03/21/23 12:40	03/21/23 16:48	0.5

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
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City, State ZIP:	Midland, TX 79701	City, State ZIP:	
Phone:	337-257-8307	Email:	tmorrissey@ensolum.com

Program: ☒ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other:	

Project Name:	BEU Hackberry 34 001	Turn Around	☒ Routine ☐ Rush	Pres. Code		ANALYSIS REQUEST		Preservative Codes	None: NO ☐ DI Water: H ₂ O ☐
Project Number:	03C1558201								
Project Location:	32.621994, -103.8511429	Due Date:							Cool: Cool ☐ MeOH: Me ☐
Sampler's Name:	Peter Van Patten	TAT starts the day received by the lab, if received by 4:30pm							HCL: HC ☐ HNO ₃ : HN ☐
PO #:									H ₂ SO ₄ : H ₂ ☐ NaOH: Na ☐
SAMPLE RECEIPT	Temp Blank: ☒ Yes ☒ No	Thermometer ID:	Wet Ice: ☒ Yes ☒ No						H ₃ PO ₄ : HP ☐
Samples Received Intact:	☒ Yes ☐ No	Correction Factor:							NaHSO ₄ : NABIS ☐
Cooler Custody Seals:	Yes ☐ No ☒ N/A	Temperature Reading:							Na ₂ S ₂ O ₃ : NaSO ₃ ☐
Sample Custody Seals:	Yes ☐ No ☒ N/A	Corrected Temperature:							Zn Acetate+NaOH: Zn ☐
Total Containers:									NaOH+Ascorbic Acid: SAPC ☐

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS06	Soil	3/21/2023	1210	0.5'	Comp	1	X	X	X	Cost Center
SS07	Soil	3/21/2023	1350	0.5'	Comp	1	X	X	X	1090731001
SS08	Soil	3/21/2023	1230	0.5'	Comp	1	X	X	X	
SS09	Soil	3/21/2023	1240	0.5'	Comp	1	X	X	X	API
										30-015-40288
										NAB1726335399

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TC1P / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$35.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		3.21.23 1645			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4384-1

SDG Number: 03C1558201

Login Number: 4384**List Number: 1****Creator: Stutzman, Amanda****List Source: Eurofins Carlsbad**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4384-1

SDG Number: 03C1558201

Login Number: 4384**List Number: 2****Creator: Teel, Brianna****List Source: Eurofins Midland****List Creation: 03/23/23 10:27 AM**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 6/19/2023 3:25:59 PM

JOB DESCRIPTION

BEU Hackberry 34 Federal Battery #1
SDG NUMBER 03C1558201

JOB NUMBER

890-4825-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
6/19/2023 3:25:59 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Laboratory Job ID: 890-4825-1
SDG: 03C1558201

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Definitions/Glossary

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Job ID: 890-4825-1**Laboratory: Eurofins Carlsbad****Narrative****Job Narrative
890-4825-1****Receipt**

The samples were received on 6/14/2023 3:51 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-4825-1), FS02 (890-4825-2), FS03 (890-4825-3), FS04 (890-4825-4), SW01 (890-4825-5), SW02 (890-4825-6), FS05 (890-4825-7), FS06 (890-4825-8), FS07 (890-4825-9), FS08 (890-4825-10), FS09 (890-4825-11), SW03 (890-4825-12), FS10 (890-4825-13), FS11 (890-4825-14) and FS12 (890-4825-15).

GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-55627 and 880-55680 and analytical batch 880-55652 was outside the control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (CCV 880-55652/20). Evidence of matrix interferences is not obvious.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-55652 recovered below the lower control limit for m-Xylene & p-Xylene and o-Xylene. An acceptable CCV was ran within the 12 hour window, therefore the data has been qualified and reported. The associated sample is impacted: (CCV 880-55652/20).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-55731 and analytical batch 880-55748 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: FS02 (890-4825-2) and FS03 (890-4825-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS07 (890-4825-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS08 (890-4825-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-55748/31). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-55731 and analytical batch 880-55748 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-55682 and analytical batch 880-55704 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Case Narrative

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Job ID: 890-4825-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS01

Lab Sample ID: 890-4825-1

Date Collected: 06/14/23 10:50

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		06/16/23 11:48	06/16/23 23:09	1
Toluene	<0.00198	U	0.00198	mg/Kg		06/16/23 11:48	06/16/23 23:09	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		06/16/23 11:48	06/16/23 23:09	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		06/16/23 11:48	06/16/23 23:09	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		06/16/23 11:48	06/16/23 23:09	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		06/16/23 11:48	06/16/23 23:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	06/16/23 11:48	06/16/23 23:09	1
1,4-Difluorobenzene (Surr)	84		70 - 130	06/16/23 11:48	06/16/23 23:09	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 12:01	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		06/16/23 16:28	06/17/23 12:01	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 12:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	06/16/23 16:28	06/17/23 12:01	1
o-Terphenyl	126		70 - 130	06/16/23 16:28	06/17/23 12:01	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	152		4.97	mg/Kg			06/16/23 18:03	1

Client Sample ID: FS02

Lab Sample ID: 890-4825-2

Date Collected: 06/14/23 10:55

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		06/16/23 11:48	06/16/23 23:29	1
Toluene	<0.00201	U	0.00201	mg/Kg		06/16/23 11:48	06/16/23 23:29	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		06/16/23 11:48	06/16/23 23:29	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		06/16/23 11:48	06/16/23 23:29	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		06/16/23 11:48	06/16/23 23:29	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		06/16/23 11:48	06/16/23 23:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	06/16/23 11:48	06/16/23 23:29	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS02

Lab Sample ID: 890-4825-2

Date Collected: 06/14/23 10:55

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	81		70 - 130	06/16/23 11:48	06/16/23 23:29	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 13:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		06/16/23 16:28	06/17/23 13:10	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 13:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130			06/16/23 16:28	06/17/23 13:10	1
o-Terphenyl	131	S1+	70 - 130			06/16/23 16:28	06/17/23 13:10	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	201		5.03	mg/Kg			06/16/23 18:20	1

Client Sample ID: FS03

Lab Sample ID: 890-4825-3

Date Collected: 06/14/23 11:00

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 23:50	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 23:50	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 23:50	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		06/16/23 11:48	06/16/23 23:50	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 23:50	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		06/16/23 11:48	06/16/23 23:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130	06/16/23 11:48	06/16/23 23:50	1
1,4-Difluorobenzene (Surr)	81		70 - 130	06/16/23 11:48	06/16/23 23:50	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/19/23 15:00	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS03

Lab Sample ID: 890-4825-3

Date Collected: 06/14/23 11:00

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 13:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		06/16/23 16:28	06/17/23 13:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 13:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130			06/16/23 16:28	06/17/23 13:34	1
o-Terphenyl	135	S1+	70 - 130			06/16/23 16:28	06/17/23 13:34	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	457		5.02	mg/Kg			06/16/23 18:25	1

Client Sample ID: FS04

Lab Sample ID: 890-4825-4

Date Collected: 06/14/23 11:05

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/17/23 00:10	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/17/23 00:10	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/17/23 00:10	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/16/23 11:48	06/17/23 00:10	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/17/23 00:10	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/16/23 11:48	06/17/23 00:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130			06/16/23 11:48	06/17/23 00:10	1
1,4-Difluorobenzene (Surr)	79		70 - 130			06/16/23 11:48	06/17/23 00:10	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 13:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U *	50.0	mg/Kg		06/16/23 16:28	06/17/23 13:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 13:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130			06/16/23 16:28	06/17/23 13:57	1
o-Terphenyl	117		70 - 130			06/16/23 16:28	06/17/23 13:57	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS04

Lab Sample ID: 890-4825-4

Date Collected: 06/14/23 11:05

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	454		4.97	mg/Kg			06/16/23 18:31	1

Client Sample ID: SW01

Lab Sample ID: 890-4825-5

Date Collected: 06/14/23 11:10

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 0-2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/16/23 11:48	06/17/23 00:31	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/16/23 11:48	06/17/23 00:31	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/16/23 11:48	06/17/23 00:31	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/16/23 11:48	06/17/23 00:31	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/16/23 11:48	06/17/23 00:31	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/16/23 11:48	06/17/23 00:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130			06/16/23 11:48	06/17/23 00:31	1
1,4-Difluorobenzene (Surr)	80		70 - 130			06/16/23 11:48	06/17/23 00:31	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	73.7		49.9	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 14:21	1
Diesel Range Organics (Over C10-C28)	73.7	*-	49.9	mg/Kg		06/16/23 16:28	06/17/23 14:21	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 14:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130			06/16/23 16:28	06/17/23 14:21	1
o-Terphenyl	130		70 - 130			06/16/23 16:28	06/17/23 14:21	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63.1		5.01	mg/Kg			06/19/23 09:05	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: SW02

Lab Sample ID: 890-4825-6

Date Collected: 06/14/23 11:15

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 0-2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		06/16/23 11:48	06/17/23 00:51	1
Toluene	<0.00198	U	0.00198	mg/Kg		06/16/23 11:48	06/17/23 00:51	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		06/16/23 11:48	06/17/23 00:51	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		06/16/23 11:48	06/17/23 00:51	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		06/16/23 11:48	06/17/23 00:51	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		06/16/23 11:48	06/17/23 00:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	06/16/23 11:48	06/17/23 00:51	1
1,4-Difluorobenzene (Surr)	83		70 - 130	06/16/23 11:48	06/17/23 00:51	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 14:45	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		06/16/23 16:28	06/17/23 14:45	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 14:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	06/16/23 16:28	06/17/23 14:45	1
o-Terphenyl	116		70 - 130	06/16/23 16:28	06/17/23 14:45	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	202		4.95	mg/Kg			06/16/23 18:54	1

Client Sample ID: FS05

Lab Sample ID: 890-4825-7

Date Collected: 06/14/23 13:30

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		06/16/23 11:48	06/17/23 01:12	1
Toluene	<0.00202	U	0.00202	mg/Kg		06/16/23 11:48	06/17/23 01:12	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		06/16/23 11:48	06/17/23 01:12	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		06/16/23 11:48	06/17/23 01:12	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		06/16/23 11:48	06/17/23 01:12	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		06/16/23 11:48	06/17/23 01:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	06/16/23 11:48	06/17/23 01:12	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS05

Lab Sample ID: 890-4825-7

Date Collected: 06/14/23 13:30

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	79		70 - 130	06/16/23 11:48	06/17/23 01:12	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 15:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		06/16/23 16:28	06/17/23 15:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 15:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130			06/16/23 16:28	06/17/23 15:09	1
o-Terphenyl	129		70 - 130			06/16/23 16:28	06/17/23 15:09	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1590		24.8	mg/Kg			06/16/23 18:59	5

Client Sample ID: FS06

Lab Sample ID: 890-4825-8

Date Collected: 06/14/23 13:35

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		06/16/23 11:48	06/17/23 01:33	1
Toluene	0.00278		0.00201	mg/Kg		06/16/23 11:48	06/17/23 01:33	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		06/16/23 11:48	06/17/23 01:33	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		06/16/23 11:48	06/17/23 01:33	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		06/16/23 11:48	06/17/23 01:33	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		06/16/23 11:48	06/17/23 01:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130	06/16/23 11:48	06/17/23 01:33	1
1,4-Difluorobenzene (Surr)	85		70 - 130	06/16/23 11:48	06/17/23 01:33	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/19/23 15:00	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS06

Lab Sample ID: 890-4825-8

Date Collected: 06/14/23 13:35

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 15:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U *	50.0	mg/Kg		06/16/23 16:28	06/17/23 15:33	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 15:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130			06/16/23 16:28	06/17/23 15:33	1
o-Terphenyl	113		70 - 130			06/16/23 16:28	06/17/23 15:33	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	913		5.05	mg/Kg			06/16/23 19:05	1

Client Sample ID: FS07

Lab Sample ID: 890-4825-9

Date Collected: 06/14/23 13:40

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		06/16/23 11:48	06/17/23 01:53	1
Toluene	<0.00202	U	0.00202	mg/Kg		06/16/23 11:48	06/17/23 01:53	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		06/16/23 11:48	06/17/23 01:53	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		06/16/23 11:48	06/17/23 01:53	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		06/16/23 11:48	06/17/23 01:53	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		06/16/23 11:48	06/17/23 01:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130			06/16/23 11:48	06/17/23 01:53	1
1,4-Difluorobenzene (Surr)	77		70 - 130			06/16/23 11:48	06/17/23 01:53	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 15:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		06/16/23 16:28	06/17/23 15:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 15:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130			06/16/23 16:28	06/17/23 15:57	1
o-Terphenyl	131	S1+	70 - 130			06/16/23 16:28	06/17/23 15:57	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS07

Lab Sample ID: 890-4825-9

Date Collected: 06/14/23 13:40

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3530		25.3	mg/Kg			06/16/23 19:11	5

Client Sample ID: FS08

Lab Sample ID: 890-4825-10

Date Collected: 06/14/23 13:45

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/16/23 11:48	06/17/23 02:14	1
Toluene	0.00282		0.00199	mg/Kg		06/16/23 11:48	06/17/23 02:14	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/16/23 11:48	06/17/23 02:14	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/16/23 11:48	06/17/23 02:14	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/16/23 11:48	06/17/23 02:14	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/16/23 11:48	06/17/23 02:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130			06/16/23 11:48	06/17/23 02:14	1
1,4-Difluorobenzene (Surr)	83		70 - 130			06/16/23 11:48	06/17/23 02:14	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	749		49.8	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		06/16/23 16:28	06/17/23 18:45	1
Diesel Range Organics (Over C10-C28)	617	*-	49.8	mg/Kg		06/16/23 16:28	06/17/23 18:45	1
Oil Range Organics (Over C28-C36)	132		49.8	mg/Kg		06/16/23 16:28	06/17/23 18:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130			06/16/23 16:28	06/17/23 18:45	1
o-Terphenyl	137	S1+	70 - 130			06/16/23 16:28	06/17/23 18:45	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2080		24.9	mg/Kg			06/16/23 19:16	5

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS09

Lab Sample ID: 890-4825-11

Date Collected: 06/14/23 13:50

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		06/15/23 16:34	06/16/23 18:39	1
Toluene	<0.00198	U	0.00198	mg/Kg		06/15/23 16:34	06/16/23 18:39	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		06/15/23 16:34	06/16/23 18:39	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		06/15/23 16:34	06/16/23 18:39	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		06/15/23 16:34	06/16/23 18:39	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		06/15/23 16:34	06/16/23 18:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	06/15/23 16:34	06/16/23 18:39	1
1,4-Difluorobenzene (Surr)	91		70 - 130	06/15/23 16:34	06/16/23 18:39	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 16:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		06/16/23 16:28	06/17/23 16:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 16:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	06/16/23 16:28	06/17/23 16:22	1
o-Terphenyl	124		70 - 130	06/16/23 16:28	06/17/23 16:22	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3740	F1	25.2	mg/Kg			06/16/23 19:22	5

Client Sample ID: SW03

Lab Sample ID: 890-4825-12

Date Collected: 06/14/23 14:10

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 0-2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		06/15/23 16:34	06/16/23 19:00	1
Toluene	<0.00201	U	0.00201	mg/Kg		06/15/23 16:34	06/16/23 19:00	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		06/15/23 16:34	06/16/23 19:00	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		06/15/23 16:34	06/16/23 19:00	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		06/15/23 16:34	06/16/23 19:00	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		06/15/23 16:34	06/16/23 19:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	06/15/23 16:34	06/16/23 19:00	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: SW03

Lab Sample ID: 890-4825-12

Date Collected: 06/14/23 14:10

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 0-2'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	89		70 - 130	06/15/23 16:34	06/16/23 19:00	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 17:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U *	50.0	mg/Kg		06/16/23 16:28	06/17/23 17:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 17:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130			06/16/23 16:28	06/17/23 17:09	1
o-Terphenyl	119		70 - 130			06/16/23 16:28	06/17/23 17:09	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	967		5.01	mg/Kg			06/16/23 19:39	1

Client Sample ID: FS10

Lab Sample ID: 890-4825-13

Date Collected: 06/14/23 14:15

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		06/15/23 16:34	06/16/23 19:20	1
Toluene	<0.00202	U	0.00202	mg/Kg		06/15/23 16:34	06/16/23 19:20	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		06/15/23 16:34	06/16/23 19:20	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		06/15/23 16:34	06/16/23 19:20	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		06/15/23 16:34	06/16/23 19:20	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		06/15/23 16:34	06/16/23 19:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130	06/15/23 16:34	06/16/23 19:20	1
1,4-Difluorobenzene (Surr)	93		70 - 130	06/15/23 16:34	06/16/23 19:20	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/19/23 15:00	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS10

Lab Sample ID: 890-4825-13

Date Collected: 06/14/23 14:15

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 17:33	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		06/16/23 16:28	06/17/23 17:33	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/16/23 16:28	06/17/23 17:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130			06/16/23 16:28	06/17/23 17:33	1
o-Terphenyl	113		70 - 130			06/16/23 16:28	06/17/23 17:33	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	912		4.97	mg/Kg			06/16/23 19:44	1

Client Sample ID: FS11

Lab Sample ID: 890-4825-14

Date Collected: 06/14/23 14:20

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/15/23 16:34	06/16/23 19:41	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/15/23 16:34	06/16/23 19:41	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/15/23 16:34	06/16/23 19:41	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/15/23 16:34	06/16/23 19:41	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/15/23 16:34	06/16/23 19:41	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/15/23 16:34	06/16/23 19:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130			06/15/23 16:34	06/16/23 19:41	1
1,4-Difluorobenzene (Surr)	93		70 - 130			06/15/23 16:34	06/16/23 19:41	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	60.7		50.0	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 18:21	1
Diesel Range Organics (Over C10-C28)	60.7	*-	50.0	mg/Kg		06/16/23 16:28	06/17/23 18:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 18:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130			06/16/23 16:28	06/17/23 18:21	1
o-Terphenyl	117		70 - 130			06/16/23 16:28	06/17/23 18:21	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS11

Lab Sample ID: 890-4825-14

Date Collected: 06/14/23 14:20

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2520		24.8	mg/Kg			06/16/23 20:01	5

Client Sample ID: FS12

Lab Sample ID: 890-4825-15

Date Collected: 06/14/23 14:25

Matrix: Solid

Date Received: 06/14/23 15:51

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		06/15/23 16:34	06/16/23 20:02	1
Toluene	<0.00201	U	0.00201	mg/Kg		06/15/23 16:34	06/16/23 20:02	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		06/15/23 16:34	06/16/23 20:02	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		06/15/23 16:34	06/16/23 20:02	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		06/15/23 16:34	06/16/23 20:02	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		06/15/23 16:34	06/16/23 20:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		70 - 130			06/15/23 16:34	06/16/23 20:02	1
1,4-Difluorobenzene (Surr)	93		70 - 130			06/15/23 16:34	06/16/23 20:02	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			06/19/23 15:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/19/23 15:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 17:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U *	50.0	mg/Kg		06/16/23 16:28	06/17/23 17:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 17:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130			06/16/23 16:28	06/17/23 17:57	1
o-Terphenyl	116		70 - 130			06/16/23 16:28	06/17/23 17:57	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2260		25.2	mg/Kg			06/16/23 20:07	5

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Surrogate Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
890-4825-1	FS01	86	84
890-4825-1 MS	FS01	102	109
890-4825-1 MSD	FS01	100	108
890-4825-2	FS02	88	81
890-4825-3	FS03	90	81
890-4825-4	FS04	87	79
890-4825-5	SW01	86	80
890-4825-6	SW02	89	83
890-4825-7	FS05	89	79
890-4825-8	FS06	90	85
890-4825-9	FS07	86	77
890-4825-10	FS08	86	83
890-4825-11	FS09	86	91
890-4825-12	SW03	84	89
890-4825-13	FS10	87	93
890-4825-14	FS11	84	93
890-4825-15	FS12	80	93
LCS 880-55627/1-A	Lab Control Sample	105	109
LCS 880-55680/1-A	Lab Control Sample	96	115
LCSD 880-55627/2-A	Lab Control Sample Dup	103	108
LCSD 880-55680/2-A	Lab Control Sample Dup	93	109
MB 880-55627/5-A	Method Blank	68 S1-	99
MB 880-55680/5-A	Method Blank	69 S1-	99
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
890-4825-1	FS01	103	126
890-4825-1 MS	FS01	112	124
890-4825-1 MSD	FS01	95	108
890-4825-2	FS02	111	131 S1+
890-4825-3	FS03	114	135 S1+
890-4825-4	FS04	96	117
890-4825-5	SW01	112	130
890-4825-6	SW02	95	116
890-4825-7	FS05	111	129
890-4825-8	FS06	93	113
890-4825-9	FS07	112	131 S1+
890-4825-10	FS08	114	137 S1+
890-4825-11	FS09	105	124
890-4825-12	SW03	96	119
890-4825-13	FS10	92	113
890-4825-14	FS11	93	117

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Surrogate Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4825-15	FS12	93	116
LCS 880-55731/2-A	Lab Control Sample	100	128
LCSD 880-55731/3-A	Lab Control Sample Dup	94	120
MB 880-55731/1-A	Method Blank	105	132 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-55627/5-A

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 55627

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/15/23 16:34	06/16/23 11:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/15/23 16:34	06/16/23 11:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/15/23 16:34	06/16/23 11:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/15/23 16:34	06/16/23 11:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/15/23 16:34	06/16/23 11:44	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/15/23 16:34	06/16/23 11:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130	06/15/23 16:34	06/16/23 11:44	1
1,4-Difluorobenzene (Surr)	99		70 - 130	06/15/23 16:34	06/16/23 11:44	1

Lab Sample ID: LCS 880-55627/1-A

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 55627

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1209		mg/Kg		121	70 - 130
Toluene	0.100	0.1110		mg/Kg		111	70 - 130
Ethylbenzene	0.100	0.1166		mg/Kg		117	70 - 130
m-Xylene & p-Xylene	0.200	0.2390		mg/Kg		119	70 - 130
o-Xylene	0.100	0.1154		mg/Kg		115	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-55627/2-A

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 55627

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1184		mg/Kg		118	70 - 130	2	35
Toluene	0.100	0.1084		mg/Kg		108	70 - 130	2	35
Ethylbenzene	0.100	0.1083		mg/Kg		108	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2234		mg/Kg		112	70 - 130	7	35
o-Xylene	0.100	0.1079		mg/Kg		108	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: MB 880-55680/5-A

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 55680

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 22:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 22:47	1

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QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-55680/5-A

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 55680

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 22:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/16/23 11:48	06/16/23 22:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 22:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/16/23 11:48	06/16/23 22:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130	06/16/23 11:48	06/16/23 22:47	1
1,4-Difluorobenzene (Surr)	99		70 - 130	06/16/23 11:48	06/16/23 22:47	1

Lab Sample ID: LCS 880-55680/1-A

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 55680

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Benzene	0.100	0.1045		mg/Kg		104	70 - 130
Toluene	0.100	0.09721		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.09175		mg/Kg		92	70 - 130
m-Xylene & p-Xylene	0.200	0.1872		mg/Kg		94	70 - 130
o-Xylene	0.100	0.09056		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	115		70 - 130

Lab Sample ID: LCSD 880-55680/2-A

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 55680

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1148		mg/Kg		115	70 - 130	9	35
Toluene	0.100	0.09945		mg/Kg		99	70 - 130	2	35
Ethylbenzene	0.100	0.09330		mg/Kg		93	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1922		mg/Kg		96	70 - 130	3	35
o-Xylene	0.100	0.09315		mg/Kg		93	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 890-4825-1 MS

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 55680

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Benzene	<0.00198	U	0.0994	0.1075		mg/Kg		108	70 - 130
Toluene	<0.00198	U	0.0994	0.09310		mg/Kg		92	70 - 130
Ethylbenzene	<0.00198	U	0.0994	0.09063		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.199	0.1833		mg/Kg		92	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-4825-1 MS

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 55680

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	<0.00198	U	0.0994	0.08848		mg/Kg		89	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	102		70 - 130						
1,4-Difluorobenzene (Surr)	109		70 - 130						

Lab Sample ID: 890-4825-1 MSD

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 55680

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0996	0.09476		mg/Kg		95	70 - 130	13	35
Toluene	<0.00198	U	0.0996	0.08275		mg/Kg		82	70 - 130	12	35
Ethylbenzene	<0.00198	U	0.0996	0.07671		mg/Kg		77	70 - 130	17	35
m-Xylene & p-Xylene	<0.00396	U	0.199	0.1534		mg/Kg		77	70 - 130	18	35
o-Xylene	<0.00198	U	0.0996	0.07439		mg/Kg		75	70 - 130	17	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	100		70 - 130								
1,4-Difluorobenzene (Surr)	108		70 - 130								

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-55731/1-A

Matrix: Solid

Analysis Batch: 55748

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 55731

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 09:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 09:14	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/16/23 16:28	06/17/23 09:14	1
Surrogate	MB %Recovery	MB Qualifier	Limits					
1-Chlorooctane	105		70 - 130					
o-Terphenyl	132	S1+	70 - 130					

Lab Sample ID: LCS 880-55731/2-A

Matrix: Solid

Analysis Batch: 55748

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 55731

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1088		mg/Kg		109	70 - 130
Diesel Range Organics (Over C10-C28)	1000	694.9	*-	mg/Kg		69	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-55731/2-A
Matrix: Solid
Analysis Batch: 55748

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55731

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	128		70 - 130

Lab Sample ID: LCSD 880-55731/3-A
Matrix: Solid
Analysis Batch: 55748

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 55731

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1089		mg/Kg		109	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	1000	701.5		mg/Kg		70	70 - 130	1	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: 890-4825-1 MS
Matrix: Solid
Analysis Batch: 55748

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 55731

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	936.6		mg/Kg		94	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U *	998	846.1		mg/Kg		85	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	124		70 - 130

Lab Sample ID: 890-4825-1 MSD
Matrix: Solid
Analysis Batch: 55748

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 55731

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	876.9		mg/Kg		88	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	<49.9	U *	998	724.1		mg/Kg		73	70 - 130	16	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	108		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-55682/1-A

Matrix: Solid

Analysis Batch: 55704

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			06/16/23 17:46	1

Lab Sample ID: LCS 880-55682/2-A

Matrix: Solid

Analysis Batch: 55704

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	251.9		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-55682/3-A

Matrix: Solid

Analysis Batch: 55704

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	265.8		mg/Kg		106	90 - 110	5	20

Lab Sample ID: 890-4825-1 MS

Matrix: Solid

Analysis Batch: 55704

Client Sample ID: FS01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	152		249	380.4		mg/Kg		92	90 - 110

Lab Sample ID: 890-4825-1 MSD

Matrix: Solid

Analysis Batch: 55704

Client Sample ID: FS01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	152		249	394.3		mg/Kg		97	90 - 110	4	20

Lab Sample ID: 890-4825-11 MS

Matrix: Solid

Analysis Batch: 55704

Client Sample ID: FS09

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3740	F1	1260	5061		mg/Kg		105	90 - 110

Lab Sample ID: 890-4825-11 MSD

Matrix: Solid

Analysis Batch: 55704

Client Sample ID: FS09

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3740	F1	1260	5143	F1	mg/Kg		111	90 - 110	2	20

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QC Association Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

GC VOA

Prep Batch: 55627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-11	FS09	Total/NA	Solid	5035	
890-4825-12	SW03	Total/NA	Solid	5035	
890-4825-13	FS10	Total/NA	Solid	5035	
890-4825-14	FS11	Total/NA	Solid	5035	
890-4825-15	FS12	Total/NA	Solid	5035	
MB 880-55627/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-55627/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-55627/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 55652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-1	FS01	Total/NA	Solid	8021B	55680
890-4825-2	FS02	Total/NA	Solid	8021B	55680
890-4825-3	FS03	Total/NA	Solid	8021B	55680
890-4825-4	FS04	Total/NA	Solid	8021B	55680
890-4825-5	SW01	Total/NA	Solid	8021B	55680
890-4825-6	SW02	Total/NA	Solid	8021B	55680
890-4825-7	FS05	Total/NA	Solid	8021B	55680
890-4825-8	FS06	Total/NA	Solid	8021B	55680
890-4825-9	FS07	Total/NA	Solid	8021B	55680
890-4825-10	FS08	Total/NA	Solid	8021B	55680
890-4825-11	FS09	Total/NA	Solid	8021B	55627
890-4825-12	SW03	Total/NA	Solid	8021B	55627
890-4825-13	FS10	Total/NA	Solid	8021B	55627
890-4825-14	FS11	Total/NA	Solid	8021B	55627
890-4825-15	FS12	Total/NA	Solid	8021B	55627
MB 880-55627/5-A	Method Blank	Total/NA	Solid	8021B	55627
MB 880-55680/5-A	Method Blank	Total/NA	Solid	8021B	55680
LCS 880-55627/1-A	Lab Control Sample	Total/NA	Solid	8021B	55627
LCS 880-55680/1-A	Lab Control Sample	Total/NA	Solid	8021B	55680
LCSD 880-55627/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	55627
LCSD 880-55680/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	55680
890-4825-1 MS	FS01	Total/NA	Solid	8021B	55680
890-4825-1 MSD	FS01	Total/NA	Solid	8021B	55680

Prep Batch: 55680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-1	FS01	Total/NA	Solid	5035	
890-4825-2	FS02	Total/NA	Solid	5035	
890-4825-3	FS03	Total/NA	Solid	5035	
890-4825-4	FS04	Total/NA	Solid	5035	
890-4825-5	SW01	Total/NA	Solid	5035	
890-4825-6	SW02	Total/NA	Solid	5035	
890-4825-7	FS05	Total/NA	Solid	5035	
890-4825-8	FS06	Total/NA	Solid	5035	
890-4825-9	FS07	Total/NA	Solid	5035	
890-4825-10	FS08	Total/NA	Solid	5035	
MB 880-55680/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-55680/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-55680/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4825-1 MS	FS01	Total/NA	Solid	5035	

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QC Association Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

GC VOA (Continued)

Prep Batch: 55680 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-1 MSD	FS01	Total/NA	Solid	5035	

Analysis Batch: 55861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-1	FS01	Total/NA	Solid	Total BTEX	
890-4825-2	FS02	Total/NA	Solid	Total BTEX	
890-4825-3	FS03	Total/NA	Solid	Total BTEX	
890-4825-4	FS04	Total/NA	Solid	Total BTEX	
890-4825-5	SW01	Total/NA	Solid	Total BTEX	
890-4825-6	SW02	Total/NA	Solid	Total BTEX	
890-4825-7	FS05	Total/NA	Solid	Total BTEX	
890-4825-8	FS06	Total/NA	Solid	Total BTEX	
890-4825-9	FS07	Total/NA	Solid	Total BTEX	
890-4825-10	FS08	Total/NA	Solid	Total BTEX	
890-4825-11	FS09	Total/NA	Solid	Total BTEX	
890-4825-12	SW03	Total/NA	Solid	Total BTEX	
890-4825-13	FS10	Total/NA	Solid	Total BTEX	
890-4825-14	FS11	Total/NA	Solid	Total BTEX	
890-4825-15	FS12	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 55731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-1	FS01	Total/NA	Solid	8015NM Prep	
890-4825-2	FS02	Total/NA	Solid	8015NM Prep	
890-4825-3	FS03	Total/NA	Solid	8015NM Prep	
890-4825-4	FS04	Total/NA	Solid	8015NM Prep	
890-4825-5	SW01	Total/NA	Solid	8015NM Prep	
890-4825-6	SW02	Total/NA	Solid	8015NM Prep	
890-4825-7	FS05	Total/NA	Solid	8015NM Prep	
890-4825-8	FS06	Total/NA	Solid	8015NM Prep	
890-4825-9	FS07	Total/NA	Solid	8015NM Prep	
890-4825-10	FS08	Total/NA	Solid	8015NM Prep	
890-4825-11	FS09	Total/NA	Solid	8015NM Prep	
890-4825-12	SW03	Total/NA	Solid	8015NM Prep	
890-4825-13	FS10	Total/NA	Solid	8015NM Prep	
890-4825-14	FS11	Total/NA	Solid	8015NM Prep	
890-4825-15	FS12	Total/NA	Solid	8015NM Prep	
MB 880-55731/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-55731/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-55731/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4825-1 MS	FS01	Total/NA	Solid	8015NM Prep	
890-4825-1 MSD	FS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 55748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-1	FS01	Total/NA	Solid	8015B NM	55731
890-4825-2	FS02	Total/NA	Solid	8015B NM	55731
890-4825-3	FS03	Total/NA	Solid	8015B NM	55731
890-4825-4	FS04	Total/NA	Solid	8015B NM	55731

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QC Association Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

GC Semi VOA (Continued)

Analysis Batch: 55748 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-5	SW01	Total/NA	Solid	8015B NM	55731
890-4825-6	SW02	Total/NA	Solid	8015B NM	55731
890-4825-7	FS05	Total/NA	Solid	8015B NM	55731
890-4825-8	FS06	Total/NA	Solid	8015B NM	55731
890-4825-9	FS07	Total/NA	Solid	8015B NM	55731
890-4825-10	FS08	Total/NA	Solid	8015B NM	55731
890-4825-11	FS09	Total/NA	Solid	8015B NM	55731
890-4825-12	SW03	Total/NA	Solid	8015B NM	55731
890-4825-13	FS10	Total/NA	Solid	8015B NM	55731
890-4825-14	FS11	Total/NA	Solid	8015B NM	55731
890-4825-15	FS12	Total/NA	Solid	8015B NM	55731
MB 880-55731/1-A	Method Blank	Total/NA	Solid	8015B NM	55731
LCS 880-55731/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	55731
LCSD 880-55731/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	55731
890-4825-1 MS	FS01	Total/NA	Solid	8015B NM	55731
890-4825-1 MSD	FS01	Total/NA	Solid	8015B NM	55731

Analysis Batch: 55843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-1	FS01	Total/NA	Solid	8015 NM	
890-4825-2	FS02	Total/NA	Solid	8015 NM	
890-4825-3	FS03	Total/NA	Solid	8015 NM	
890-4825-4	FS04	Total/NA	Solid	8015 NM	
890-4825-5	SW01	Total/NA	Solid	8015 NM	
890-4825-6	SW02	Total/NA	Solid	8015 NM	
890-4825-7	FS05	Total/NA	Solid	8015 NM	
890-4825-8	FS06	Total/NA	Solid	8015 NM	
890-4825-9	FS07	Total/NA	Solid	8015 NM	
890-4825-10	FS08	Total/NA	Solid	8015 NM	
890-4825-11	FS09	Total/NA	Solid	8015 NM	
890-4825-12	SW03	Total/NA	Solid	8015 NM	
890-4825-13	FS10	Total/NA	Solid	8015 NM	
890-4825-14	FS11	Total/NA	Solid	8015 NM	
890-4825-15	FS12	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 55682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-1	FS01	Soluble	Solid	DI Leach	
890-4825-2	FS02	Soluble	Solid	DI Leach	
890-4825-3	FS03	Soluble	Solid	DI Leach	
890-4825-4	FS04	Soluble	Solid	DI Leach	
890-4825-5	SW01	Soluble	Solid	DI Leach	
890-4825-6	SW02	Soluble	Solid	DI Leach	
890-4825-7	FS05	Soluble	Solid	DI Leach	
890-4825-8	FS06	Soluble	Solid	DI Leach	
890-4825-9	FS07	Soluble	Solid	DI Leach	
890-4825-10	FS08	Soluble	Solid	DI Leach	
890-4825-11	FS09	Soluble	Solid	DI Leach	
890-4825-12	SW03	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

HPLC/IC (Continued)

Leach Batch: 55682 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-13	FS10	Soluble	Solid	DI Leach	
890-4825-14	FS11	Soluble	Solid	DI Leach	
890-4825-15	FS12	Soluble	Solid	DI Leach	
MB 880-55682/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-55682/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-55682/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4825-1 MS	FS01	Soluble	Solid	DI Leach	
890-4825-1 MSD	FS01	Soluble	Solid	DI Leach	
890-4825-11 MS	FS09	Soluble	Solid	DI Leach	
890-4825-11 MSD	FS09	Soluble	Solid	DI Leach	

Analysis Batch: 55704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4825-1	FS01	Soluble	Solid	300.0	55682
890-4825-2	FS02	Soluble	Solid	300.0	55682
890-4825-3	FS03	Soluble	Solid	300.0	55682
890-4825-4	FS04	Soluble	Solid	300.0	55682
890-4825-5	SW01	Soluble	Solid	300.0	55682
890-4825-6	SW02	Soluble	Solid	300.0	55682
890-4825-7	FS05	Soluble	Solid	300.0	55682
890-4825-8	FS06	Soluble	Solid	300.0	55682
890-4825-9	FS07	Soluble	Solid	300.0	55682
890-4825-10	FS08	Soluble	Solid	300.0	55682
890-4825-11	FS09	Soluble	Solid	300.0	55682
890-4825-12	SW03	Soluble	Solid	300.0	55682
890-4825-13	FS10	Soluble	Solid	300.0	55682
890-4825-14	FS11	Soluble	Solid	300.0	55682
890-4825-15	FS12	Soluble	Solid	300.0	55682
MB 880-55682/1-A	Method Blank	Soluble	Solid	300.0	55682
LCS 880-55682/2-A	Lab Control Sample	Soluble	Solid	300.0	55682
LCSD 880-55682/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	55682
890-4825-1 MS	FS01	Soluble	Solid	300.0	55682
890-4825-1 MSD	FS01	Soluble	Solid	300.0	55682
890-4825-11 MS	FS09	Soluble	Solid	300.0	55682
890-4825-11 MSD	FS09	Soluble	Solid	300.0	55682

Lab Chronicle

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS01

Lab Sample ID: 890-4825-1

Date Collected: 06/14/23 10:50

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	55680	06/16/23 11:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/16/23 23:09	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 12:01	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55704	06/16/23 18:03	CH	EET MID

Client Sample ID: FS02

Lab Sample ID: 890-4825-2

Date Collected: 06/14/23 10:55

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	55680	06/16/23 11:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/16/23 23:29	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 13:10	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55704	06/16/23 18:20	CH	EET MID

Client Sample ID: FS03

Lab Sample ID: 890-4825-3

Date Collected: 06/14/23 11:00

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	55680	06/16/23 11:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/16/23 23:50	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 13:34	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55704	06/16/23 18:25	CH	EET MID

Client Sample ID: FS04

Lab Sample ID: 890-4825-4

Date Collected: 06/14/23 11:05

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	55680	06/16/23 11:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 00:10	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS04

Lab Sample ID: 890-4825-4

Date Collected: 06/14/23 11:05

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 13:57	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55704	06/16/23 18:31	CH	EET MID

Client Sample ID: SW01

Lab Sample ID: 890-4825-5

Date Collected: 06/14/23 11:10

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	55680	06/16/23 11:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 00:31	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 14:21	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55704	06/19/23 09:05	CH	EET MID

Client Sample ID: SW02

Lab Sample ID: 890-4825-6

Date Collected: 06/14/23 11:15

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	55680	06/16/23 11:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 00:51	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 14:45	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55704	06/16/23 18:54	CH	EET MID

Client Sample ID: FS05

Lab Sample ID: 890-4825-7

Date Collected: 06/14/23 13:30

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	55680	06/16/23 11:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 01:12	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 15:09	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS05

Date Collected: 06/14/23 13:30

Date Received: 06/14/23 15:51

Lab Sample ID: 890-4825-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		5	10 mL	10 mL	55704	06/16/23 18:59	CH	EET MID

Client Sample ID: FS06

Date Collected: 06/14/23 13:35

Date Received: 06/14/23 15:51

Lab Sample ID: 890-4825-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	55680	06/16/23 11:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 01:33	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 15:33	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55704	06/16/23 19:05	CH	EET MID

Client Sample ID: FS07

Date Collected: 06/14/23 13:40

Date Received: 06/14/23 15:51

Lab Sample ID: 890-4825-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	55680	06/16/23 11:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 01:53	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 15:57	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		5	10 mL	10 mL	55704	06/16/23 19:11	CH	EET MID

Client Sample ID: FS08

Date Collected: 06/14/23 13:45

Date Received: 06/14/23 15:51

Lab Sample ID: 890-4825-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	55680	06/16/23 11:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 02:14	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 18:45	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		5	10 mL	10 mL	55704	06/16/23 19:16	CH	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS09

Lab Sample ID: 890-4825-11

Date Collected: 06/14/23 13:50

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	55627	06/15/23 16:34	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/16/23 18:39	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 16:22	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		5	10 mL	10 mL	55704	06/16/23 19:22	CH	EET MID

Client Sample ID: SW03

Lab Sample ID: 890-4825-12

Date Collected: 06/14/23 14:10

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	55627	06/15/23 16:34	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/16/23 19:00	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 17:09	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55704	06/16/23 19:39	CH	EET MID

Client Sample ID: FS10

Lab Sample ID: 890-4825-13

Date Collected: 06/14/23 14:15

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	55627	06/15/23 16:34	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/16/23 19:20	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 17:33	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55704	06/16/23 19:44	CH	EET MID

Client Sample ID: FS11

Lab Sample ID: 890-4825-14

Date Collected: 06/14/23 14:20

Matrix: Solid

Date Received: 06/14/23 15:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	55627	06/15/23 16:34	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/16/23 19:41	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Client Sample ID: FS11
Date Collected: 06/14/23 14:20
Date Received: 06/14/23 15:51

Lab Sample ID: 890-4825-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 18:21	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		5	10 mL	10 mL	55704	06/16/23 20:01	CH	EET MID

Client Sample ID: FS12
Date Collected: 06/14/23 14:25
Date Received: 06/14/23 15:51

Lab Sample ID: 890-4825-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	55627	06/15/23 16:34	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/16/23 20:02	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55861	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55843	06/19/23 15:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	55731	06/16/23 16:28	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55748	06/17/23 17:57	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	55682	06/16/23 12:02	SMC	EET MID
Soluble	Analysis	300.0		5	10 mL	10 mL	55704	06/16/23 20:07	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU Hackberry 34 Federal Battery #1

Job ID: 890-4825-1
SDG: 03C1558201

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum

Job ID: 890-4825-1

Project/Site: BEU Hackberry 34 Federal Battery #1

SDG: 03C1558201

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum

Job ID: 890-4825-1

Project/Site: BEU Hackberry 34 Federal Battery #1

SDG: 03C1558201

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4825-1	FS01	Solid	06/14/23 10:50	06/14/23 15:51	2'
890-4825-2	FS02	Solid	06/14/23 10:55	06/14/23 15:51	2'
890-4825-3	FS03	Solid	06/14/23 11:00	06/14/23 15:51	2'
890-4825-4	FS04	Solid	06/14/23 11:05	06/14/23 15:51	2'
890-4825-5	SW01	Solid	06/14/23 11:10	06/14/23 15:51	0-2'
890-4825-6	SW02	Solid	06/14/23 11:15	06/14/23 15:51	0-2'
890-4825-7	FS05	Solid	06/14/23 13:30	06/14/23 15:51	2'
890-4825-8	FS06	Solid	06/14/23 13:35	06/14/23 15:51	2'
890-4825-9	FS07	Solid	06/14/23 13:40	06/14/23 15:51	2'
890-4825-10	FS08	Solid	06/14/23 13:45	06/14/23 15:51	2'
890-4825-11	FS09	Solid	06/14/23 13:50	06/14/23 15:51	2'
890-4825-12	SW03	Solid	06/14/23 14:10	06/14/23 15:51	0-2'
890-4825-13	FS10	Solid	06/14/23 14:15	06/14/23 15:51	2'
890-4825-14	FS11	Solid	06/14/23 14:20	06/14/23 15:51	2'
890-4825-15	FS12	Solid	06/14/23 14:25	06/14/23 15:51	2'



Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 302-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Greer St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	(337) 251-8301	Email:	Garrett.Green@XxonMobil.com

Program:	UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:	
Reporting:	Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables:	EDD ☐ ADAPT ☐ Other: _____

Project Name:	BEA HARBOR #1	Turn Around	MD Rush	Pres. Code	
Project Number:	08C1550201	Due Date:	2 days		
Project Location:	32.021994, -103.851429	TAT starts the day received by the lab, if received by 4:30pm			
Sample's Name:	Manahua O'Dell	Corrected Temperature:	3.0		
P.O. #:					
SAMPLE RECEIPT	Temp Blank: ☒ Yes No ☒ Thermometer ID: ☒ Yes No ☒ Wet Ice: ☒ Yes No ☒	Parameters	Chlorides	TPH	BTEX
Samples Received Intact:	☒ Yes No ☒				
Cooler Custody Seals:	☒ Yes No ☒				
Sample Custody Seals:	☒ Yes No ☒				
Total Containers:					



890-4825 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	ANALYSIS REQUEST	Preservative Codes	Sample Comments
FS01	S	10/14/23	10:50	2'	C	1	X	None: NO	Incident #: NAB1720335399
FS02			10:55				X	Cool: Cool	Cost Center: 1090131001
FS03			11:00				X	HCL: HC	API: 30-015-40288
FS04			11:05				X	H ₂ SO ₄ : H ₂	
SM01			11:10	0.2'				H ₂ PO ₄ : HP	
SM02			11:15	0.2'				NaHSO ₄ : NABIS	
FS05			13:30	2'				Na ₂ S ₂ O ₃ : NaSO ₃	
FS06			13:35					Zn Acetate+NaOH: Zn	Tacoma Morrissey: tmorrissey@ensolum.com
FS07			13:40					NaOH+Ascorbic Acid: SAPC	
FS08			13:45						

Total 2007/6010	2008/6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed		TCIP/SPIP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>mmorrissey</i>	<i>Garrett Green</i>	10/14/23 1551			



Environment Testing

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No:

www.xenco.com Page 2 of 2

Project Manager:	Iacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolium, LLC	Company Name:	XTO Energy
Address:	3492 National Parks Hwy	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	(337) 257-8307	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments				
Program:	UST/PST ☐	PRP ☐	Brownfields ☐	RRC ☐ Superfund ☐
State of Project:				
Reporting:	Level II ☐	Level III ☐	PST/UST ☐	TRRP ☐ Level IV ☐
Deliverables:	EDD ☐	Adapt ☐	Other: _____	

[illegible][illegible]

Circle Method(s) and Metal(s) to be analyzed	2008 / 6020:	2008 / 6010
8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Tl Sn U V Zn		
TC1P / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U		Hg: 1631 / 245.1 / 7470 / 7471

Notwithstanding to this document and relinquishment of sample constitutes a valid purchase order from client company to Eurofins Xeno, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xeno will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xeno. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xeno, but not analyzed. These terms will be enforced unless previously impugned.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>M. G. Miller</i>	<i>Amanda Stutz</i>	6/14/23 1551			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4825-1

SDG Number: 03C1558201

Login Number: 4825

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4825-1

SDG Number: 03C1558201

Login Number: 4825

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 06/16/23 10:56 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



APPENDIX C

January 3, 2019 Deferral Request



LT Environmental, Inc.

3300 North "A" Street
Building 1, Unit 103
Midland, Texas 79705
432.704.5178

January 3, 2018

Bradford Billings
New Mexico Oil Conservation Division
1220 South St. Francis Drive, #3
Santa Fe, NM 87505

**RE: Deferral Request
BEU Hackberry 34 Federal Battery #1
Remediation Permit Numbers 2RP-4399
Eddy County, New Mexico**

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following letter report detailing excavation and soil sampling activities at the BEU Hackberry 34 Federal Battery #1 (API 30-015-40288) (Site) in Unit A, Section 34, Township 19 South, Range 31 East, in Eddy County, New Mexico (Figure 1). The purpose of the excavation and soil sampling activities was to address impacts to soil after produced water and crude oil were released into the unlined berm in the southeast portion of the well pad in the process equipment area.

On August 6, 2017, a Victaulic connection on the separator dump line failed and 18.79 barrels (bbls) of crude oil and 1.1 bbl of produced water were released within an unlined earthen containment berm. The failed connection was replaced. Approximately 17 bbls of crude oil and 1 bbl of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on September 18, 2017 and was assigned Remediation Permit Number (RP) Number 2RP-4399 (Attachment 1). A second release occurred at that Site on October 5, 2018 and was assigned 2RP-5026. Due to the releases overlapping, soil sampling and excavation activities to address both releases were conducted at the same time. Some of the soil samples presented herein were additionally used to document response and remediation activities for 2RP-5026. The response to 2RP-5026 is reported under a separate cover.

BACKGROUND

This release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018. The purpose of the Compliance Agreement is to ensure that reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with 19.15.29 of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The release is categorized as a Tier II site in the Compliance Agreement, meaning remediation of the release began before prior to August 14, 2018, the effective date of 19.15.29 NMAC, but a closure report





Billings, B.
Page 2

is pending. Based on the results of the confirmation soil sampling conducted after impacted soil was removed, XTO is submitting this closure report describing remediation that has occurred and requesting deferral of final remediation.

Depth to groundwater at the Site is estimated to be 153 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is C 00722 POD 3, located approximately 1.4 miles west southwest of the Site. Ground surface elevation at the well location is 3,459 feet, which is 13 feet lower in elevation than the Site. The water well has a depth to groundwater of 140 feet and a total depth of 220 feet bgs. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash located approximately 5,443 feet south southeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. Based on these criteria, the following remediation action levels apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 1,000 mg/kg gasoline range organics (GRO) and diesel range organics (DRO); 2,500 mg/kg total petroleum hydrocarbons (TPH); and 20,000 mg/kg chloride.

INITIAL SOIL SAMPLING

On October 16, 2018, an LTE scientist collected five initial soil samples (SS01 through SS05), to assess the lateral extent of impacted soil in the release area (Figure 2). Initial soil sample locations were selected based on information provided on the initial Form C-141 and field observations. To eliminate the effects from weathering and natural degradation of contaminants at the ground surface, the soil samples were collected at approximately 0.5 feet bgs. The soil samples were screened for volatile aromatic hydrocarbons using a photo-ionization detector (PID) equipped with a 10.6 electron volt lamp and Hach® chloride QuanTab® test strips. The soil samples were placed directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis, and immediately placed on ice. The samples were shipped to Xenco Laboratories (Xenco) in Midland, Texas, at 4 degrees Celsius (°C) under strict chain-of-custody procedures for analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021B, TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) by EPA Method 8015 Modified, and chloride by EPA Method 300.0.

Laboratory analytical results for the preliminary soil samples indicated soil samples SS01 through SS03 exceeded the NMOCD site-specific remediation action level for BTEX, DRO/GRO, and TPH; soil sample SS01 also exceeded the NMOCD site-specific remediation action level for benzene; and soil sample SS04 exceeded the NMOCD site-specific remediation action level for DRO/GRO. SS05 was compliant with NMOCD site-specific remediation action level for benzene, BTEX,





Billings, B.
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GRO/DRO, TPH, and chloride. The laboratory analytical results are depicted on Figure 2, summarized in Table 1, and the full laboratory analytical reports are included in Attachment 2.

DELINEATION ACTIVITIES

On December 12 through 17, 2018, LTE personnel returned to the Site to further investigate vertical and horizontal impacts to soil via potholing and hand augering. Potholing was conducted using a Hydrovacuum (Hydrovac) in the northern area of the process equipment. LTE screened soil samples from three potholes using a PID and Hach® chloride QuanTab® test strips. Soil samples were collected from potholes PH01 and PH02 at 0.5 feet and 1 foot bgs; and from pothole PH03 at 1 foot and 2 feet bgs (Figure 3). Boreholes BH06 through BH08 were advanced outside the release area with a hand auger. Soil samples were collected at 0.5 feet and 1 foot bgs from each borehole. Boreholes BH09 and BH10 were advanced within the release area and samples were collected at 3 feet and 3.5 feet bgs from BH09 and from 0.5 feet and 4.5 feet bgs in BH10. Laboratory analytical results indicated pothole and borehole soil samples were compliant with the NMOCD benzene, BTEX, GRO/DRO, TPH, and chloride remediation action levels. Results are presented in Table 1 and Figure 3 and laboratory reports are included in Attachment 2.

EXCAVATION ACTIVITIES

On December 19, 2018, LTE personnel returned to the Site to oversee excavation of impacted soil identified by the initial soil samples SS01 through SS04 collected from 0.5 bgs. Due to the high density of equipment and pipelines, excavation was conducted using a Hydrovac. To direct excavation activities, LTE screened soil using a PID and Hach® chloride QuanTab® test strips. LTE removed impacted soil represented by initial soil sample SS01. Further excavation to the east and south was limited by the presence of active pipelines and production equipment. XTO safety policy restricts soil disturbing activities to a 2-foot radius of any active production equipment. This XTO safety policy is established to protect workers and to reduce the likelihood of compromising equipment and equipment foundations. The excavation was advanced to two feet from the pipelines and production equipment by mechanical and hand digging methods to remove as much impacted soil as possible. The L-shaped excavation measured approximately 400 square feet and was completed to depths ranging from 2 feet to 4 feet bgs, with the southwestern portion of the excavation being the deepest (Figure 4). Approximately 30 cubic yards of impacted soil were removed from the excavation. The impacted soil removed from the excavation was transported and properly disposed of at the R360 Landfill located in Hobbs, New Mexico.

Following removal of impacted soil, LTE collected 5-point composite soil samples from the floor and sidewalls of the excavation. Composite soil samples FS01 and FS02 were collected from the floor of the excavation from depths of 2.5 feet and 4 feet bgs respectively. Composite soil samples SW01 and SW02 were collected from the sidewalls of the excavation. The 5-point composite





Billings, B.
Page 4

samples were collected by depositing 5 aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thorough mixing. Samples were handled and analyzed by Xenco as previously described.

Laboratory analytical results indicated final confirmation excavation soil samples were compliant with the NMOCD benzene, BTEX, GRO/DRO, TPH, and chloride remediation action levels. Results are presented in Table 1 and Figure 4 and laboratory reports are included in Attachment 2

DEFERRAL REQUEST

Approximately 30 cubic yards of impacted soil were excavated from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth-moving activities within two feet of active production equipment and pipelines. Laboratory analytical results for initial soil samples SS02, SS03, and SS04 indicated that soil with BTEX, GRO/DRO, and/or TPH exceeding the NMOCD Table 1 closure criteria was left in place within two feet of equipment. An estimated 250 cubic yards of impacted soil remain in place, assuming a maximum 4-foot depth based on delineation sample BH01B collected from 4.5 feet bgs that was compliant with the NMOCD Table 1 closure criteria. XTO requests to backfill the existing excavation and complete delineation and remediation during any future major well pad construction/alteration or final plugging and abandonment, whichever occurs first. LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The majority of the release occurred within the containment berm and free-standing fluids were recovered during initial response activities. No saturated soil remains in place. The release is delineated vertically to 4.5 feet bgs by samples collected from borehole BH10 and laterally based on delineation samples from potholes PH01 through PH03 and boreholes BH06 through BH9.

Upon approval of the deferral request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included as Attachment 1. A photographic log of the Site is included as Attachment 3.

If you have any questions or comments, please do not hesitate to contact Adrian Baker at (432) 887-1255 or abaker@ltenv.com.

Sincerely,
LT ENVIRONMENTAL, INC.

A handwritten signature in blue ink that reads "Adrian Baker".

Adrian Baker
Project Geologist

A handwritten signature in black ink that reads "Ashley L. Ager".

Ashley L. Ager, M.S., P.G.
Senior Geologist





Billings, B.
Page 5

cc: Kyle Littrell, XTO
Shelly Tucker, Bureau of Land Management

Attachments:

Figure 1 Site Location Map
Figure 2 Initial Soil Sample Locations
Figure 3 Delineation Soil Sample Locations
Figure 4 Excavation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-4399)
Attachment 2 Laboratory Analytical Reports
Attachment 3 Photographic Log



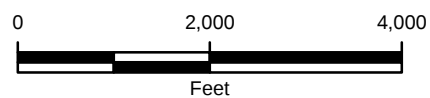
FIGURES



**LEGEND**

○ SITE LOCATION

IMAGE COURTESY OF ESRI/USGS



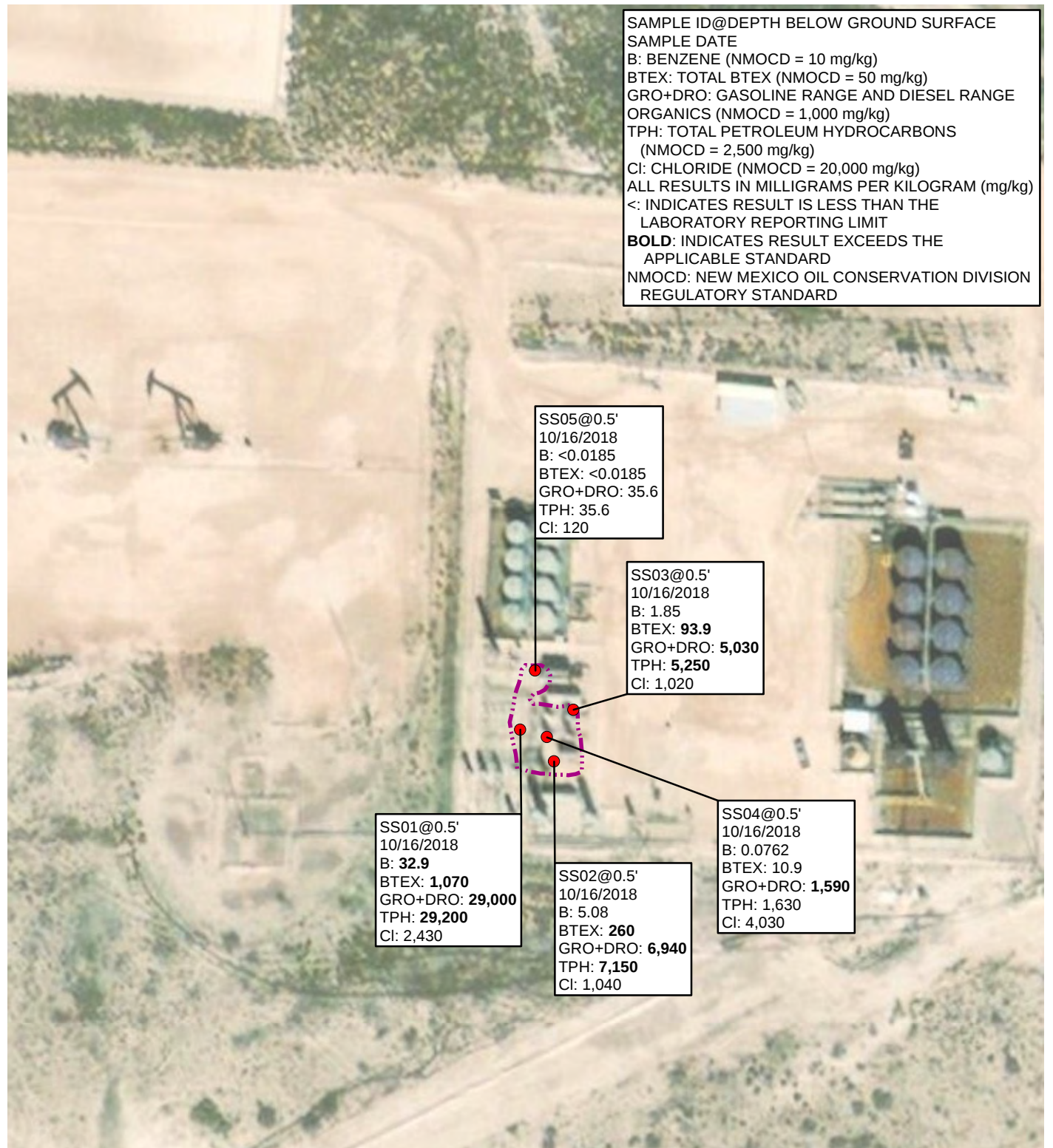
NOTE: REMEDIATION PERMIT
NUMBERS 2RP-4399

FIGURE 1
SITE LOCATION MAP
BEU HACKBERRY 34 FEDERAL BATTERY #1
UNIT A SEC 34 T19S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



P:\XTO Energy\GIS\MXD\012918169_HACKBERRY 34 BATTERY\012918169_FIG01_SL_2018_4399_NA.mxd

SAMPLE ID@DEPTH BELOW GROUND SURFACE
 SAMPLE DATE
 B: BENZENE (NMOCD = 10 mg/kg)
 BTEX: TOTAL BTEX (NMOCD = 50 mg/kg)
 GRO+DRO: GASOLINE RANGE AND DIESEL RANGE
 ORGANICS (NMOCD = 1,000 mg/kg)
 TPH: TOTAL PETROLEUM HYDROCARBONS
 (NMOCD = 2,500 mg/kg)
 Cl: CHLORIDE (NMOCD = 20,000 mg/kg)
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT
BOLD: INDICATES RESULT EXCEEDS THE
 APPLICABLE STANDARD
 NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
 REGULATORY STANDARD

**LEGEND**

● INITIAL SOIL SAMPLE

--- 2RP-4399 RELEASE EXTENT

IMAGE COURTESY OF ESRI

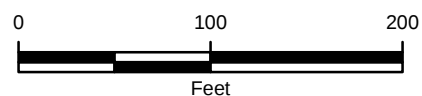
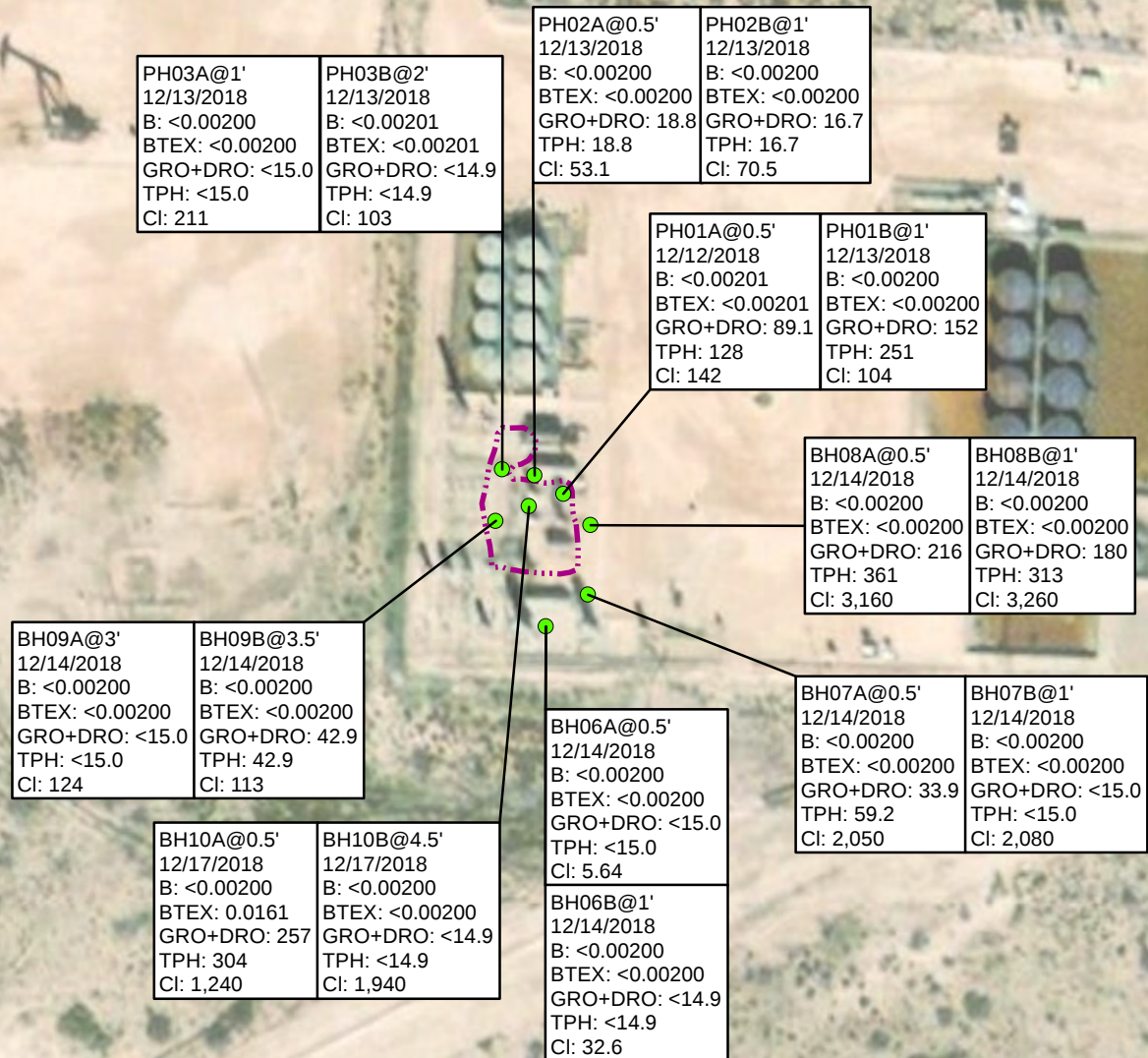


FIGURE 2
 INITIAL SOIL SAMPLE LOCATIONS
 BEU HACKBERRY 34 FEDERAL BATTERY #1
 UNIT A SEC 34 T19S R31E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.



NOTE: REMEDIATION PERMIT NUMBER 2RP-4399

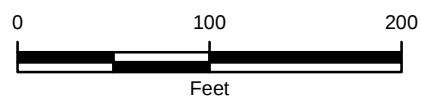
SAMPLE ID@DEPTH BELOW GROUND SURFACE
 SAMPLE DATE
 B: BENZENE (NMOCD = 10 mg/kg)
 BTEX: TOTAL BTEX (NMOCD = 50 mg/kg)
 GRO+DRO: GASOLINE RANGE AND DIESEL RANGE
 ORGANICS (NMOCD = 1,000 mg/kg)
 TPH: TOTAL PETROLEUM HYDROCARBONS
 (NMOCD = 2,500 mg/kg)
 Cl: CHLORIDE (NMOCD = 20,000 mg/kg)
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT
 NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
 REGULATORY STANDARD



LEGEND

- DELINEATION SOIL SAMPLE
- ▭ 2RP-4399 RELEASE EXTENT

IMAGE COURTESY OF ESRI

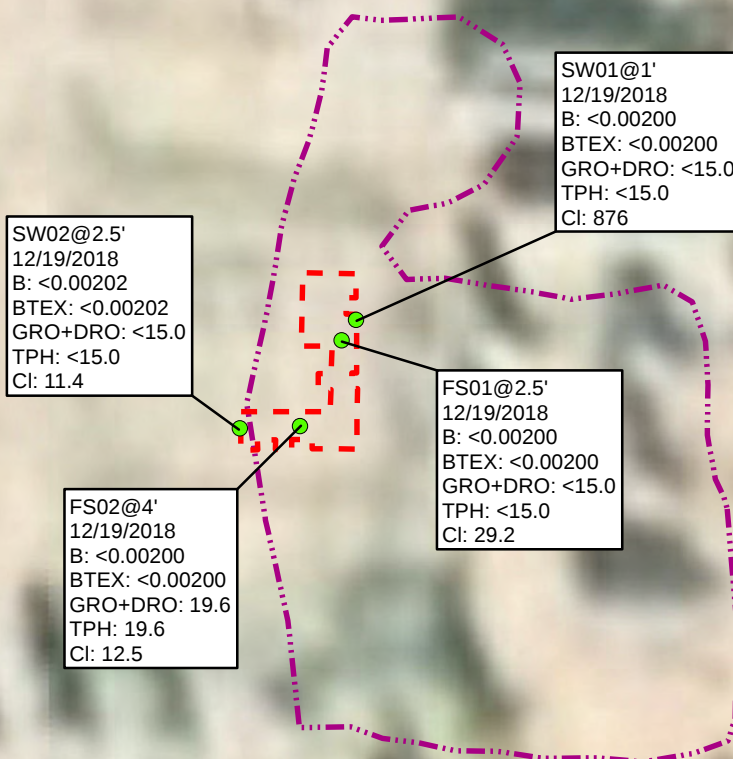


NOTE: REMEDIATION PERMIT NUMBER 2RP-4399

FIGURE 3
 DELINEATION SOIL SAMPLE LOCATIONS
 BEU HACKBERRY 34 FEDERAL BATTERY #1
 UNIT A SEC 34 T19S R31E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.



SAMPLE ID@DEPTH BELOW GROUND SURFACE
 SAMPLE DATE
 B: BENZENE (NMOCD = 10 mg/kg)
 BTEX: TOTAL BTEX (NMOCD = 50 mg/kg)
 GRO+DRO: GASOLINE RANGE AND DIESEL RANGE
 ORGANICS (NMOCD = 1,000 mg/kg)
 TPH: TOTAL PETROLEUM HYDROCARBONS
 (NMOCD = 2,500 mg/kg)
 Cl: CHLORIDE (NMOCD = 20,000 mg/kg)
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT
 NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
 REGULATORY STANDARD

**LEGEND**

- FINAL CONFIRMATION SOIL SAMPLE
- EXCAVATION EXTENT
- 2RP-4399 RELEASE EXTENT

IMAGE COURTESY OF ESRI

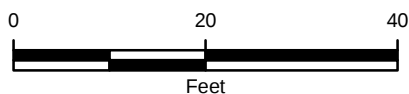


FIGURE 4
 EXCAVATION SOIL SAMPLE LOCATIONS
 BEU HACKBERRY 34 FEDERAL BATTERY #1
 UNIT A SEC 34 T19S R31E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.



NOTE: REMEDIATION PERMIT NUMBER 2RP-4399

TABLE



TABLE 1
SOIL ANALYTICAL RESULTS

BEU HACKBERRY 34 FEDERAL BATTERY #1
REMEDIATION PERMIT NUMBER 2RP-4399
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 GRO (mg/kg)	C10-C28 DRO (mg/kg)	C28-C40 ORO (mg/kg)	GRO and DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	10/16/2018	32.9	350	248	439	1,070	8,660	20,300	197	29,000	29,200	2,430
SS02	0.5	10/16/2018	5.08	65.5	55.5	134	260	1,560	5,380	211	6,940	7,150	1,040
SS03	0.5	10/16/2018	1.85	21.9	21.7	48.4	93.9	973	4,060	212	5,030	5,250	1,020
SS04	0.5	10/16/2018	0.0762	1.55	2.66	6.59	10.9	223	1,370	41.9	1,590	1,630	4,030
SS05	0.5	10/16/2018	<0.0185	<0.0185	<0.0185	<0.0185	<0.0185	<14.9	35.6	<14.9	35.6	35.6	120
PH01A	0.5	12/12/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	89.1	39.0	89.1	128	142
PH01B	1	12/13/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	152	98.9	152	251	104
PH02A	0.5	12/13/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	18.8	<15.0	18.8	18.8	53.1
PH02B	1	12/13/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	16.7	<15.0	16.7	16.7	70.5
PH03A	1	12/13/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	211
PH03B	2	12/13/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	103
BH06A	0.5	12/14/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	5.64
BH06B	1	12/14/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	32.6
BH07A	0.5	12/14/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	33.9	25.3	33.9	59.2	2,050
BH07B	1	12/14/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	2,080
BH08A	0.5	12/14/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	21.1	195	145	216	361	3,160
BH08B	1	12/14/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	180	133	180	313	3,260
BH09A	3	12/14/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	124
BH09B	3.5	12/14/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	42.9	<15.0	42.9	42.9	113
BH10A	0.5	12/17/2018	<0.00200	0.00592	<0.00200	0.0102	0.0161	<15.0	257	46.6	257	304	1,240
BH10B	4.5	12/17/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	1,940
FS01	2.5	12/19/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	29.2
FS02	4	12/19/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	19.6	<15.0	19.6	19.6	12.5
SW01	1	12/19/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	876
SW02	2.5	12/19/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	11.4
NMOCD Remediation Action Levels			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000

Notes:

bgs - below ground surface
 BTEX - benzene, toluene, ethylbenzene, and total xylenes
 mg/kg - milligrams per kilogram
 NE - not established

NMOCD - New Mexico Oil Conservation Division
 DRO - diesel range organics
 GRO - gasoline range organics
 ORO - oil range organics

TPH - total petroleum hydrocarbons
 < - indicates result is below laboratory reporting limits
Bold - indicates result exceeds the applicable regulatory standard



ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-4399)



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

NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141
Revised August 8, 2011

SEP 18 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

RECEIVED

Release Notification and Corrective Action

DAB1726335399 **OPERATOR** ☒ Initial Report ☐ Final Report

Name of Company: XTO Energy / BOPEC 260737	Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: BEU Hackberry 34 Federal Battery #1	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-40288
------------------------	------------------------	----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	34	19S	31E	815	North	950	East	Eddy

Latitude 32.621936° Longitude -103.851602°

NATURE OF RELEASE

Type of Release	Crude Oil and Produced Water	Volume of Release	18.79 BO 1.1 BPW	Volume Recovered	17 BO 1 BPW
Source of Release	Victaulic Connection	Date and Hour of Occurrence	8/6/2017 time unknown	Date and Hour of Discovery	8/6/2017 6 pm
Was Immediate Notice Given?	☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	N/A		
By Whom?	N/A	Date and Hour	N/A		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	N/A		

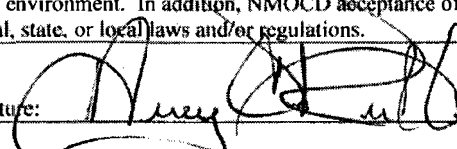
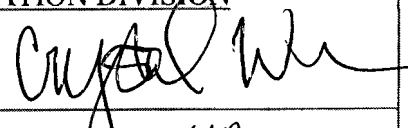
If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
A Victaulic connection on the separator dump line failed. The failed connection was replaced.

Describe Area Affected and Cleanup Action Taken.*
The leak affected approximately 400 square feet of caliche pad within the earthen containment area. Free standing fluids were recovered.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

OIL CONSERVATION DIVISION

Signature: 	Approved by Environmental Specialist: 	
Printed Name: Amy C. Ruth	Approval Date: 9/19/17	Expiration Date: N/A
Title: Environmental Coordinator	Conditions of Approval: see attached	
E-mail Address: Amy_Ruth@xtoenergy.com	Attached ☒ APP-437A	
Date: 9/18/2017 Phone: 432-661-0571		

* Attach Additional Sheets If Necessary Please refer to the New Mexico Oil Conservation Division Website for updated form(s) at:
<http://www.emnrd.state.nm.us/OCD/forms.html>
Thank you

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **9/18/17** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number ARP-4399 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District II office in Artesia on or before 10/3/17. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

505-476-3465

jim.griswold@state.nm.us

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	2RP-4399
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-4399
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.621936 Longitude -103.851602
(NAD 83 in decimal degrees to 5 decimal places)

Site Name BEU Hackberry 34 Federal Battery #1	Site Type Exploration and Production
Date Release Discovered 8/6/2017	API# (if applicable) 30-015-40288

Unit Letter	Section	Township	Range	County
A	34	19S	31E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 18.79	Volume Recovered (bbls) 17
☒ Produced Water	Volume Released (bbls) 1.1	Volume Recovered (bbls) 1
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (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 Victaulic connection on the separator dump line failed. The failed connection was replaced. The release affected approximately 400 square feet of caliche pad within the earthen containment area. Free standing fluids were recovered.

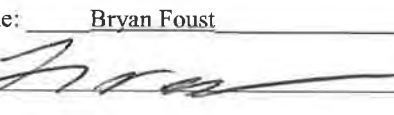
State of New Mexico
Oil Conservation Division

Page 2

Incident ID	
District RP	2RP-4399
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?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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 <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Bryan Foust</u>	Title: <u>SH&E Coordinator</u>
Signature: 	Date: <u>1/3/2019</u>
email: <u>Bryan_Foust@xtoenergy.com</u>	Telephone: <u>432-221-7331</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

Form C-141

State of New Mexico
Oil Conservation Division

Page 3

Incident ID	
District RP	2RP-4399
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?	<u>153</u> (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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	2RP-4399
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Bryan Foust Title: SH&E CoordinatorSignature:  Date: 1/3/2019email: Bryan_Foust@xtoenergy.com Telephone: 432-221-7331**OCD Only**

Received by: _____ Date: _____

Form C-141

State of New Mexico
Oil Conservation Division

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Incident ID	
District RP	2RP-4399
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: Bryan Foust Title: SH&E Coordinator
Signature:  Date: 1/3/2019
email: Bryan_Foust@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS



Analytical Report 602718

for
LT Environmental, Inc.

Project Manager: Adrian Baker
BEU Hackeberry 34 Battery

25-OCT-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



25-OCT-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **602718**

BEU Hackeberry 34 Battery

Project Address: Eddy County 2RP4399

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 602718. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 602718 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 602718****LT Environmental, Inc., Arvada, CO**

BEU Hackeberry 34 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	10-16-18 10:45	6 In	602718-001
SS02	S	10-16-18 10:50	6 In	602718-002
SS03	S	10-16-18 11:02	6 In	602718-003
SS04	S	10-16-18 15:10	6 In	602718-004
SS05	S	10-16-18 15:55	6 In	602718-005



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU Hackeberry 34 Battery

Project ID:

Work Order Number(s): 602718

Report Date: 25-OCT-18

Date Received: 10/18/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3067020 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3067092 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 602718-001,602718-003,602718-002.

Batch: LBA-3067339 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 602718-001.



Certificate of Analysis Summary 602718

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery

Project Id:

Contact: Adrian Baker

Project Location: Eddy County 2RP4399

Date Received in Lab: Thu Oct-18-18 10:40 am

Report Date: 25-OCT-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	602718-001	602718-002	602718-003	602718-004	602718-005	
	Field Id:	SS01	SS02	SS03	SS04	SS05	
	Depth:	6- In	6- In	6- In	6- In	6- In	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Oct-16-18 10:45	Oct-16-18 10:50	Oct-16-18 11:02	Oct-16-18 15:10	Oct-16-18 15:55	
BTEX by EPA 8021B SUB: T104704219-18-18	Extracted:	Oct-23-18 10:30	Oct-19-18 12:30	Oct-19-18 12:30	Oct-19-18 12:30	Oct-19-18 12:30	
	Analyzed:	Oct-24-18 05:35	Oct-19-18 22:10	Oct-19-18 22:37	Oct-19-18 23:04	Oct-19-18 19:56	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		32.9 1.96	5.08 0.391	1.85 0.0923	0.0762 0.0381	<0.0185 0.0185	
Toluene		350 1.96	65.5 0.391	21.9 0.0923	1.55 0.0381	<0.0185 0.0185	
Ethylbenzene		248 1.96	55.5 0.391	21.7 0.0923	2.66 0.0381	<0.0185 0.0185	
m,p-Xylenes		302 3.91	87.7 0.781	35.4 0.185	4.90 0.0762	<0.0370 0.0370	
o-Xylene		137 1.96	46.7 0.391	13.0 0.0923	1.69 0.0381	<0.0185 0.0185	
Total Xylenes		439 1.96	134 0.391	48.4 0.0923	6.59 0.0381	<0.0185 0.0185	
Total BTEX		1070 1.96	260 0.391	93.9 0.0923	10.9 0.0381	<0.0185 0.0185	
Inorganic Anions by EPA 300 SUB: T104704219-18-18	Extracted:	Oct-19-18 11:00	Oct-19-18 11:00	Oct-19-18 11:00	Oct-19-18 11:00	Oct-19-18 11:00	
	Analyzed:	Oct-19-18 18:59	Oct-19-18 19:12	Oct-19-18 19:24	Oct-19-18 19:49	Oct-19-18 20:02	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		2430 250	1040 125	1020 125	4030 250	120 25.0	
TPH by SW8015 Mod	Extracted:	Oct-19-18 16:00	Oct-19-18 16:00	Oct-19-18 16:00	Oct-19-18 16:00	Oct-19-18 16:00	
	Analyzed:	Oct-20-18 02:29	Oct-20-18 02:50	Oct-20-18 03:10	Oct-20-18 03:31	Oct-20-18 03:52	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		8660 74.9	1560 74.8	973 74.9	223 15.0	<14.9 14.9	
Diesel Range Organics (DRO)		20300 74.9	5380 74.8	4060 74.9	1370 15.0	35.6 14.9	
Motor Oil Range Hydrocarbons (MRO)		197 74.9	211 74.8	212 74.9	41.9 15.0	<14.9 14.9	
Total TPH		29200 74.9	7150 74.8	5250 74.9	1630 15.0	35.6 14.9	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SS01**
Lab Sample Id: 602718-001

Matrix: Soil
Date Collected: 10.16.18 10.45

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3067028

Date Prep: 10.19.18 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2430	250	mg/kg	10.19.18 18.59		10

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3067092

Date Prep: 10.19.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	8660	74.9	mg/kg	10.20.18 02.29		5
Diesel Range Organics (DRO)	C10C28DRO	20300	74.9	mg/kg	10.20.18 02.29		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	197	74.9	mg/kg	10.20.18 02.29		5
Total TPH	PHC635	29200	74.9	mg/kg	10.20.18 02.29		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	10.20.18 02.29	
o-Terphenyl	84-15-1	440	%	70-135	10.20.18 02.29	**



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackeberry 34 Battery

Sample Id: **SS01**
Lab Sample Id: 602718-001

Matrix: Soil
Date Collected: 10.16.18 10.45

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3067339

Date Prep: 10.23.18 10.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	32.9	1.96	mg/kg	10.24.18 05.35		100
Toluene	108-88-3	350	1.96	mg/kg	10.24.18 05.35		100
Ethylbenzene	100-41-4	248	1.96	mg/kg	10.24.18 05.35		100
m,p-Xylenes	179601-23-1	302	3.91	mg/kg	10.24.18 05.35		100
o-Xylene	95-47-6	137	1.96	mg/kg	10.24.18 05.35		100
Total Xylenes	1330-20-7	439	1.96	mg/kg	10.24.18 05.35		100
Total BTEX		1070	1.96	mg/kg	10.24.18 05.35		100
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	161	%	68-120	10.24.18 05.35	**	
a,a,a-Trifluorotoluene	98-08-8	101	%	71-121	10.24.18 05.35		



Certificate of Analytical Results 602718

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: SS02
Lab Sample Id: 602718-002

Matrix: Soil
Date Collected: 10.16.18 10.50

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3067028

Date Prep: 10.19.18 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1040	125	mg/kg	10.19.18 19.12		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3067092

Date Prep: 10.19.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	1560	74.8	mg/kg	10.20.18 02.50		5
Diesel Range Organics (DRO)	C10C28DRO	5380	74.8	mg/kg	10.20.18 02.50		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	211	74.8	mg/kg	10.20.18 02.50		5
Total TPH	PHC635	7150	74.8	mg/kg	10.20.18 02.50		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	10.20.18 02.50	
o-Terphenyl	84-15-1	178	%	70-135	10.20.18 02.50	**



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackeberry 34 Battery

Sample Id: SS02
Lab Sample Id: 602718-002

Matrix: Soil
Date Collected: 10.16.18 10.50

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.19.18 12.30

Basis: Wet Weight

Seq Number: 3067020

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	5.08	0.391	mg/kg	10.19.18 22.10		20
Toluene	108-88-3	65.5	0.391	mg/kg	10.19.18 22.10		20
Ethylbenzene	100-41-4	55.5	0.391	mg/kg	10.19.18 22.10		20
m,p-Xylenes	179601-23-1	87.7	0.781	mg/kg	10.19.18 22.10		20
o-Xylene	95-47-6	46.7	0.391	mg/kg	10.19.18 22.10		20
Total Xylenes	1330-20-7	134	0.391	mg/kg	10.19.18 22.10		20
Total BTEX		260	0.391	mg/kg	10.19.18 22.10		20
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	68-120	10.19.18 22.10		
a,a,a-Trifluorotoluene	98-08-8	94	%	71-121	10.19.18 22.10		



Certificate of Analytical Results 602718

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: SS03
Lab Sample Id: 602718-003

Matrix: Soil
Date Collected: 10.16.18 11.02

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3067028

Date Prep: 10.19.18 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1020	125	mg/kg	10.19.18 19.24		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3067092

Date Prep: 10.19.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	973	74.9	mg/kg	10.20.18 03.10		5
Diesel Range Organics (DRO)	C10C28DRO	4060	74.9	mg/kg	10.20.18 03.10		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	212	74.9	mg/kg	10.20.18 03.10		5
Total TPH	PHC635	5250	74.9	mg/kg	10.20.18 03.10		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	10.20.18 03.10	
o-Terphenyl	84-15-1	159	%	70-135	10.20.18 03.10	**



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackeberry 34 Battery

Sample Id: SS03
Lab Sample Id: 602718-003

Matrix: Soil
Date Collected: 10.16.18 11.02

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.19.18 12.30

Basis: Wet Weight

Seq Number: 3067020

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	1.85	0.0923	mg/kg	10.19.18 22.37		5
Toluene	108-88-3	21.9	0.0923	mg/kg	10.19.18 22.37		5
Ethylbenzene	100-41-4	21.7	0.0923	mg/kg	10.19.18 22.37		5
m,p-Xylenes	179601-23-1	35.4	0.185	mg/kg	10.19.18 22.37		5
o-Xylene	95-47-6	13.0	0.0923	mg/kg	10.19.18 22.37		5
Total Xylenes	1330-20-7	48.4	0.0923	mg/kg	10.19.18 22.37		5
Total BTEX		93.9	0.0923	mg/kg	10.19.18 22.37		5
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.19.18 22.37		
a,a,a-Trifluorotoluene	98-08-8	114	%	71-121	10.19.18 22.37		



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SS04**
Lab Sample Id: 602718-004

Matrix: Soil
Date Collected: 10.16.18 15.10

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3067028

Date Prep: 10.19.18 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4030	250	mg/kg	10.19.18 19.49		10

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3067092

Date Prep: 10.19.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	223	15.0	mg/kg	10.20.18 03.31		1
Diesel Range Organics (DRO)	C10C28DRO	1370	15.0	mg/kg	10.20.18 03.31		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	41.9	15.0	mg/kg	10.20.18 03.31		1
Total TPH	PHC635	1630	15.0	mg/kg	10.20.18 03.31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	10.20.18 03.31	
o-Terphenyl	84-15-1	116	%	70-135	10.20.18 03.31	



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackeberry 34 Battery

Sample Id: **SS04**
Lab Sample Id: 602718-004

Matrix: Soil
Date Collected: 10.16.18 15.10

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.19.18 12.30

Basis: Wet Weight

Seq Number: 3067020

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0762	0.0381	mg/kg	10.19.18 23.04		2
Toluene	108-88-3	1.55	0.0381	mg/kg	10.19.18 23.04		2
Ethylbenzene	100-41-4	2.66	0.0381	mg/kg	10.19.18 23.04		2
m,p-Xylenes	179601-23-1	4.90	0.0762	mg/kg	10.19.18 23.04		2
o-Xylene	95-47-6	1.69	0.0381	mg/kg	10.19.18 23.04		2
Total Xylenes	1330-20-7	6.59	0.0381	mg/kg	10.19.18 23.04		2
Total BTEX		10.9	0.0381	mg/kg	10.19.18 23.04		2
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	90	%	68-120	10.19.18 23.04		
a,a,a-Trifluorotoluene	98-08-8	84	%	71-121	10.19.18 23.04		



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: SS05
Lab Sample Id: 602718-005

Matrix: Soil
Date Collected: 10.16.18 15.55

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3067028

Date Prep: 10.19.18 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	120	25.0	mg/kg	10.19.18 20.02		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3067092

Date Prep: 10.19.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.20.18 03.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	35.6	14.9	mg/kg	10.20.18 03.52		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.20.18 03.52	U	1
Total TPH	PHC635	35.6	14.9	mg/kg	10.20.18 03.52		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.20.18 03.52	
o-Terphenyl	84-15-1	100	%	70-135	10.20.18 03.52	



Certificate of Analytical Results 602718



LT Environmental, Inc., Arvada, CO

BEU Hackeberry 34 Battery

Sample Id: SS05
Lab Sample Id: 602718-005

Matrix: Soil
Date Collected: 10.16.18 15.55

Date Received: 10.18.18 10.40
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.19.18 12.30

Basis: Wet Weight

Seq Number: 3067020

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
Toluene	108-88-3	<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
Ethylbenzene	100-41-4	<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
m,p-Xylenes	179601-23-1	<0.0370	0.0370	mg/kg	10.19.18 19.56	U	1
o-Xylene	95-47-6	<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
Total Xylenes	1330-20-7	<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
Total BTEX		<0.0185	0.0185	mg/kg	10.19.18 19.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	68-120	10.19.18 19.56		
a,a,a-Trifluorotoluene	98-08-8	84	%	71-121	10.19.18 19.56		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.

BEU Hackeberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067028

MB Sample Id: 7664554-1-BLK

Matrix: Solid

LCS Sample Id: 7664554-1-BKS

Prep Method: E300P

Date Prep: 10.19.18

LCSD Sample Id: 7664554-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.26	250	246	98	239	96	90-110	3	20	mg/kg	10.19.18 16:43	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067028

Parent Sample Id: 602716-012

Matrix: Soil

MS Sample Id: 602716-012 S

Prep Method: E300P

Date Prep: 10.19.18

MSD Sample Id: 602716-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	383	250	628	98	648	106	80-120	3	20	mg/kg	10.19.18 17:33	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067028

Parent Sample Id: 602719-002

Matrix: Soil

MS Sample Id: 602719-002 S

Prep Method: E300P

Date Prep: 10.19.18

MSD Sample Id: 602719-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	36.9	250	277	96	275	95	80-120	1	20	mg/kg	10.19.18 20:39	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3067092

MB Sample Id: 7664522-1-BLK

Matrix: Solid

LCS Sample Id: 7664522-1-BKS

Prep Method: TX1005P

Date Prep: 10.19.18

LCSD Sample Id: 7664522-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.13	1000	932	93	947	95	70-135	2	20	mg/kg	10.19.18 09:21	
Diesel Range Organics (DRO)	<8.13	1000	932	93	948	95	70-135	2	20	mg/kg	10.19.18 09:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		126		127		70-135	%	10.19.18 09:21
o-Terphenyl	98		103		103		70-135	%	10.19.18 09:21

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.

BEU Hackeberry 34 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3067092

Parent Sample Id: 602722-001

Matrix: Soil

MS Sample Id: 602722-001 S

Prep Method: TX1005P

Date Prep: 10.19.18

MSD Sample Id: 602722-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	14.2	999	918	90	941	93	70-135	2	20	mg/kg	10.19.18 20:12	
Diesel Range Organics (DRO)	<8.12	999	918	92	940	94	70-135	2	20	mg/kg	10.19.18 20:12	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		126		70-135	%	10.19.18 20:12
o-Terphenyl	103		99		70-135	%	10.19.18 20:12

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067020

MB Sample Id: 7664514-1-BLK

Matrix: Solid

LCS Sample Id: 7664514-1-BKS

Prep Method: SW5030B

Date Prep: 10.19.18

LCSD Sample Id: 7664514-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.96	98	1.94	97	55-120	1	20	mg/kg	10.19.18 18:09	
Toluene	<0.0200	2.00	1.84	92	1.76	88	77-120	4	20	mg/kg	10.19.18 18:09	
Ethylbenzene	<0.0200	2.00	1.76	88	1.69	85	77-120	4	20	mg/kg	10.19.18 18:09	
m,p-Xylenes	<0.00682	4.00	3.59	90	3.48	87	78-120	3	20	mg/kg	10.19.18 18:09	
o-Xylene	<0.0200	2.00	1.81	91	1.77	89	78-120	2	20	mg/kg	10.19.18 18:09	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	83		85		89		68-120	%	10.19.18 18:09
a,a,a-Trifluorotoluene	80		86		87		71-121	%	10.19.18 18:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067339

MB Sample Id: 7664683-1-BLK

Matrix: Solid

LCS Sample Id: 7664683-1-BKS

Prep Method: SW5030B

Date Prep: 10.23.18

LCSD Sample Id: 7664683-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.81	91	1.78	89	55-120	2	20	mg/kg	10.23.18 17:53	
Toluene	<0.0200	2.00	1.78	89	1.87	94	77-120	5	20	mg/kg	10.23.18 17:53	
Ethylbenzene	<0.0200	2.00	1.89	95	2.00	100	77-120	6	20	mg/kg	10.23.18 17:53	
m,p-Xylenes	<0.0400	4.00	3.74	94	4.04	101	78-120	8	20	mg/kg	10.23.18 17:53	
o-Xylene	<0.0200	2.00	1.86	93	1.97	99	78-120	6	20	mg/kg	10.23.18 17:53	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	77		106		97		68-120	%	10.23.18 17:53
a,a,a-Trifluorotoluene	77		107		92		71-121	%	10.23.18 17:53

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 $\text{Log Diff.} = \text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



LT Environmental, Inc.

BEU Hackeberry 34 Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067020

Parent Sample Id: 602718-005

Matrix: Soil

MS Sample Id: 602718-005 S

Prep Method: SW5030B

Date Prep: 10.19.18

MSD Sample Id: 602718-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0198	1.98	1.74	88	1.69	91	54-120	3	25	mg/kg	10.19.18 20:23	
Toluene	<0.00462	1.98	1.74	88	1.68	91	57-120	4	25	mg/kg	10.19.18 20:23	
Ethylbenzene	<0.0198	1.98	1.76	89	1.70	92	58-131	3	25	mg/kg	10.19.18 20:23	
m,p-Xylenes	<0.00674	3.95	3.62	92	3.49	95	62-124	4	25	mg/kg	10.19.18 20:23	
o-Xylene	<0.0198	1.98	1.81	91	1.71	92	62-124	6	25	mg/kg	10.19.18 20:23	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	92		94		68-120	%	10.19.18 20:23
a,a,a-Trifluorotoluene	91		90		71-121	%	10.19.18 20:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067339

Parent Sample Id: 602977-001

Matrix: Soil

MS Sample Id: 602977-001 S

Prep Method: SW5030B

Date Prep: 10.23.18

MSD Sample Id: 602977-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0192	1.92	1.65	86	1.60	84	54-120	3	25	mg/kg	10.23.18 20:19	
Toluene	<0.0192	1.92	1.68	88	1.63	86	57-120	3	25	mg/kg	10.23.18 20:19	
Ethylbenzene	0.0138	1.92	1.77	91	1.73	90	58-131	2	25	mg/kg	10.23.18 20:19	
m,p-Xylenes	0.00986	3.85	3.54	92	3.42	90	62-124	3	25	mg/kg	10.23.18 20:19	
o-Xylene	<0.0192	1.92	1.80	94	1.71	90	62-124	5	25	mg/kg	10.23.18 20:19	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		99		68-120	%	10.23.18 20:19
a,a,a-Trifluorotoluene	107		105		71-121	%	10.23.18 20:19

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = $\text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

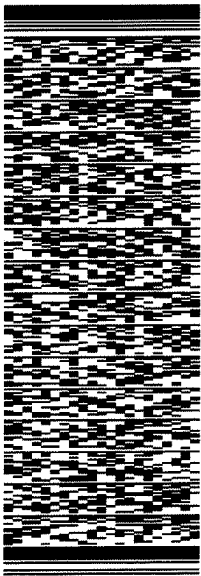
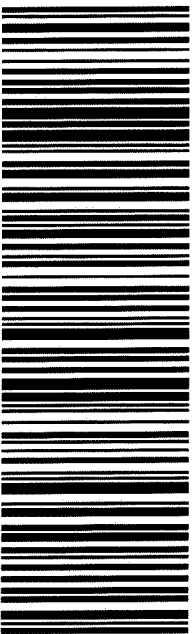
CHAIN OF C STUDY

Page 1 of 1

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes					
Company Name / Branch: L. Fawcett & Co., Inc.				Project Name/Number: BEU Hackberry 34 Battery													
Company Address: 3300 N.W. St. Building Unit 103 Miami, FL 33142				Project Location: Eddy County ARP4399													
Email: ababer@steno.com				Invoice To: XTO: Kyle Littrell													
Phone No: (432) 704-5178																	
Project Contact: Adrian Baker				PO Number:													
Sampler's Name: Anna Byers																	
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH by SW8015 Mod	BTEX by EPA 8021B	Chloride by EPA 300
1	SSØ1	6"	10/16	1045	S	1									X	X	X
2	SSØ2	6"	10/16	1050	S	1									X	X	X
3	SSØ3	6"	10/16	1102	S	1									X	X	X
4	SSØ4	6"	10/16	1510	S	1									X	X	X
5	SSØ5	6"	10/16	1555	S	1									X	X	X
6																	
7																	
8																	
9																	
10																	
Turnaround Time (Business days)				Data Deliverable Information				Notes:									
☐ Same Day TAT				☒ 5 Day TAT				☐ Level II Std QC				☐ Level IV (Full Data Pkg /raw data)					
☐ Next Day EMERGENCY				☐ 7 Day TAT				☐ Level III Std QC+ Forms				☐ TRRP Level IV					
☐ 2 Day EMERGENCY				☐ Contract TAT				☐ Level 3 (CLP Forms)				☐ UST / RG -411					
☐ 3 Day EMERGENCY								☐ TRRP Checklist									
TAT Starts Day received by Lab, if received by 5:00 pm																	
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																	
Relinquished by Sampler:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:			
1 Anna Byers		10/17/18		1 Anna Byers		10/17/18		1 Anna Byers		10/17/18		1 Anna Byers		10/17/18			
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:			
3				3				3				3					
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:			
5				5				5				5					
Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall assume any responsibility for any losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.																	

ORIGIN ID:CAOA (575) 887-6245 XENCO P.O. BOX 111 910 W PIERCE ST CARLSBAD, NM 88220 UNITED STATES US		SHIP DATE: 17/OCT/18 ACTWGT: 56.00 LB CAD: 101813706/NET/4040 DIMS: 26x14x14 IN BILL RECIPIENT
TO: HOLD FOR XENCO FEDEX EXPRESS SHIP CENTER FEDEX SHIP CENTER 3600 COUNTY RD 1276 S MIDLAND TX 79711 (806) 794-1296 INV: REF: DEPT:		
 		
TRK# 7735 0392 4628 0201 THU - 18 OCT HOLD STANDARD OVERNIGHT HLD MAFA TX-US LBB		

552J1/88FB/DC/5

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Inter-Office Shipment

Page 1 of 1

IOS Number **115737**

Date/Time: 10/18/18 14:20

Created by: Brianna Teel

Please send report to: Jessica Kramer

Lab# From: **Midland**

Delivery Priority:

Address: 1211 W. Florida Ave, Midland TX 79701

Lab# To: **Lubbock**

Air Bill No.: 773515268264

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
602718-001	S	SS01	10/16/18 10:45	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602718-001	S	SS01	10/16/18 10:45	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602718-002	S	SS02	10/16/18 10:50	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602718-002	S	SS02	10/16/18 10:50	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602718-003	S	SS03	10/16/18 11:02	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602718-003	S	SS03	10/16/18 11:02	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602718-004	S	SS04	10/16/18 15:10	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602718-004	S	SS04	10/16/18 15:10	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602718-005	S	SS05	10/16/18 15:55	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602718-005	S	SS05	10/16/18 15:55	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By:

Brianna Teel

Received By:

Brenda Ward

Date Relinquished: 10/18/2018

Date Received: 10/19/2018 10:44

Cooler Temperature: 2.9



XENCO Laboratories



Inter Office Report- Sample Receipt Checklist

Sent To: Lubbock

IOS #: 115737

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-3

Sent By: Brianna Teel

Date Sent: 10/18/2018 02:20 PM

Received By: Brenda Ward

Date Received: 10/19/2018 10:44 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.9	
#2 *Shipping container in good condition?	Yes	0
#3 *Samples received with appropriate temperature?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 *Custody Seals Signed and dated for Containers/coolers	Yes	
#6 *IOS present?	No	
#7 Any missing/extra samples?	No	
#8 IOS agrees with sample label(s)/matrix?	Yes	
#9 Sample matrix/ properties agree with IOS?	Yes	
#10 Samples in proper container/ bottle?	Yes	
#11 Samples properly preserved?	Yes	
#12 Sample container(s) intact?	Yes	
#13 Sufficient sample amount for indicated test(s)?	Yes	
#14 All samples received within hold time?	Yes	

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brenda Ward

Date: 10/19/2018



Client: LT Environmental, Inc.

Date/ Time Received: 10/18/2018 10:40:00 AM

Work Order #: 602718

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.2	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6* Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	Yes	Lubbock-BTEX/Chlorides
#18 Water VOC samples have zero headspace?	N/A	

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 10/18/2018

Checklist reviewed by:

Jessica Kramer

Date: 10/18/2018

Analytical Report 608832

for
LT Environmental, Inc.

Project Manager: Adrian Baker
BEU Hackberry 34 Battery

20-DEC-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



20-DEC-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **608832**

BEU Hackberry 34 Battery

Project Address: Eddy County

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 608832. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 608832 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 608832****LT Environmental, Inc., Arvada, CO**

BEU Hackberry 34 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01A	S	12-12-18 10:45	.5 ft	608832-001
PH01B	S	12-13-18 10:46	1 ft	608832-002
PH02A	S	12-13-18 10:15	.5 ft	608832-003
PH02B	S	12-13-18 10:20	1 ft	608832-004
PH03A	S	12-13-18 12:15	1 ft	608832-005
PH03B	S	12-13-18 12:20	2 ft	608832-006

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: BEU Hackberry 34 Battery**

Project ID:
Work Order Number(s): 608832

Report Date: 20-DEC-18
Date Received: 12/15/2018

Sample receipt non conformance and comments:

None

Sample receipt non conformance and comments per sample:

None

Analytical non conformance and comments:

Batch: LBA-3073325 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3073331 BTEX by EPA 8021B

Lab Sample ID 608832-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene recovered below QC limits in the Matrix Spike. Benzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 608832-003, -004, -005, -006.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 608832

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery

Project Id:

Contact: Adrian Baker

Project Location: Eddy County

Date Received in Lab: Sat Dec-15-18 09:30 am

Report Date: 20-DEC-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	608832-001	608832-002	608832-003	608832-004	608832-005	608832-006
	<i>Field Id:</i>	PH01A	PH01B	PH02A	PH02B	PH03A	PH03B
	<i>Depth:</i>	.5- ft	1- ft	.5- ft	1- ft	1- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-12-18 10:45	Dec-13-18 10:46	Dec-13-18 10:15	Dec-13-18 10:20	Dec-13-18 12:15	Dec-13-18 12:20
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-18-18 16:00	Dec-18-18 16:00	Dec-18-18 16:30	Dec-18-18 16:30	Dec-18-18 16:30	Dec-18-18 16:30
	<i>Analyzed:</i>	Dec-18-18 20:48	Dec-18-18 21:07	Dec-19-18 05:54	Dec-19-18 06:13	Dec-19-18 06:32	Dec-19-18 06:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00402 0.00402	<0.00400 0.00400	<0.00400 0.00400	<0.00401 0.00401	<0.00399 0.00399	<0.00402 0.00402
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Inorganic Anions by EPA 300	<i>Extracted:</i>	Dec-17-18 16:00	Dec-17-18 16:00	Dec-17-18 16:00	Dec-17-18 16:00	Dec-17-18 16:00	Dec-17-18 16:00
	<i>Analyzed:</i>	Dec-18-18 02:55	Dec-18-18 03:01	Dec-18-18 03:14	Dec-18-18 03:08	Dec-18-18 03:32	Dec-18-18 03:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		142 5.00	104 5.00	53.1 5.00	70.5 4.95	211 5.00	103 4.95
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-19-18 18:00	Dec-19-18 18:00	Dec-19-18 18:00	Dec-19-18 18:00	Dec-19-18 18:00	Dec-19-18 18:00
	<i>Analyzed:</i>	Dec-19-18 21:59	Dec-19-18 23:00	Dec-19-18 23:21	Dec-19-18 23:42	Dec-20-18 00:03	Dec-20-18 00:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		89.1 15.0	152 15.0	18.8 15.0	16.7 15.0	<15.0 15.0	<14.9 14.9
Motor Oil Range Hydrocarbons (MRO)		39.0 15.0	98.9 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		128 15.0	251 15.0	18.8 15.0	16.7 15.0	<15.0 15.0	<14.9 14.9

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH01A**
 Lab Sample Id: 608832-001

Matrix: Soil
 Date Collected: 12.12.18 10.45

Date Received: 12.15.18 09.30
 Sample Depth: .5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073190

Date Prep: 12.17.18 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	142	5.00	mg/kg	12.18.18 02.55		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073493

Date Prep: 12.19.18 18.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.19.18 21.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	89.1	15.0	mg/kg	12.19.18 21.59		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	39.0	15.0	mg/kg	12.19.18 21.59		1
Total TPH	PHC635	128	15.0	mg/kg	12.19.18 21.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	12.19.18 21.59	
o-Terphenyl	84-15-1	90	%	70-135	12.19.18 21.59	



Certificate of Analytical Results 608832



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH01A**
Lab Sample Id: 608832-001

Matrix: Soil
Date Collected: 12.12.18 10.45

Date Received: 12.15.18 09.30
Sample Depth: .5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.18.18 16.00

Basis: Wet Weight

Seq Number: 3073325

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.18.18 20.48	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.18.18 20.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	12.18.18 20.48		
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.18.18 20.48		



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH01B**
 Lab Sample Id: 608832-002

Matrix: Soil
 Date Collected: 12.13.18 10.46

Date Received: 12.15.18 09.30
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073190

Date Prep: 12.17.18 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	104	5.00	mg/kg	12.18.18 03.01		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073493

Date Prep: 12.19.18 18.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.19.18 23.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	152	15.0	mg/kg	12.19.18 23.00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	98.9	15.0	mg/kg	12.19.18 23.00		1
Total TPH	PHC635	251	15.0	mg/kg	12.19.18 23.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.19.18 23.00	
o-Terphenyl	84-15-1	90	%	70-135	12.19.18 23.00	



Certificate of Analytical Results 608832



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH01B**
Lab Sample Id: 608832-002

Matrix: Soil
Date Collected: 12.13.18 10.46

Date Received: 12.15.18 09.30
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.18.18 16.00

Basis: Wet Weight

Seq Number: 3073325

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.18.18 21.07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.18.18 21.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	12.18.18 21.07		
4-Bromofluorobenzene	460-00-4	98	%	70-130	12.18.18 21.07		



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH02A**
 Lab Sample Id: 608832-003

Matrix: Soil
 Date Collected: 12.13.18 10.15

Date Received: 12.15.18 09.30
 Sample Depth: .5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 12.17.18 16.00

Basis: Wet Weight

Seq Number: 3073190

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	53.1	5.00	mg/kg	12.18.18 03.14		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 12.19.18 18.00

Basis: Wet Weight

Seq Number: 3073493

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.19.18 23.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	18.8	15.0	mg/kg	12.19.18 23.21		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.19.18 23.21	U	1
Total TPH	PHC635	18.8	15.0	mg/kg	12.19.18 23.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	12.19.18 23.21	
o-Terphenyl	84-15-1	90	%	70-135	12.19.18 23.21	



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH02A**
 Lab Sample Id: 608832-003

Matrix: Soil
 Date Collected: 12.13.18 10.15

Date Received: 12.15.18 09.30
 Sample Depth: .5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.18.18 16.30

Basis: Wet Weight

Seq Number: 3073331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.19.18 05.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.19.18 05.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.19.18 05.54		
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.19.18 05.54		



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH02B**
 Lab Sample Id: 608832-004

Matrix: Soil
 Date Collected: 12.13.18 10.20

Date Received: 12.15.18 09.30
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073190

Date Prep: 12.17.18 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	70.5	4.95	mg/kg	12.18.18 03.08		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073493

Date Prep: 12.19.18 18.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.19.18 23.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	16.7	15.0	mg/kg	12.19.18 23.42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.19.18 23.42	U	1
Total TPH	PHC635	16.7	15.0	mg/kg	12.19.18 23.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	12.19.18 23.42	
o-Terphenyl	84-15-1	89	%	70-135	12.19.18 23.42	



Certificate of Analytical Results 608832



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH02B**
Lab Sample Id: 608832-004

Matrix: Soil
Date Collected: 12.13.18 10.20

Date Received: 12.15.18 09.30
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.18.18 16.30

Basis: Wet Weight

Seq Number: 3073331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.19.18 06.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.19.18 06.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.19.18 06.13		
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.19.18 06.13		



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH03A**
 Lab Sample Id: 608832-005

Matrix: Soil
 Date Collected: 12.13.18 12.15

Date Received: 12.15.18 09.30
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073190

Date Prep: 12.17.18 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	211	5.00	mg/kg	12.18.18 03.32		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073493

Date Prep: 12.19.18 18.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.20.18 00.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.20.18 00.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.20.18 00.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.20.18 00.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	12.20.18 00.03	
o-Terphenyl	84-15-1	88	%	70-135	12.20.18 00.03	



Certificate of Analytical Results 608832



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH03A**
Lab Sample Id: 608832-005

Matrix: Soil
Date Collected: 12.13.18 12.15

Date Received: 12.15.18 09.30
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.18.18 16.30

Basis: Wet Weight

Seq Number: 3073331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.19.18 06.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.19.18 06.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	12.19.18 06.32		
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.19.18 06.32		



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH03B**
 Lab Sample Id: 608832-006

Matrix: Soil
 Date Collected: 12.13.18 12.20

Date Received: 12.15.18 09.30
 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073190

Date Prep: 12.17.18 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	103	4.95	mg/kg	12.18.18 03.39		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073493

Date Prep: 12.19.18 18.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.20.18 00.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	12.20.18 00.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.20.18 00.24	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	12.20.18 00.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.20.18 00.24	
o-Terphenyl	84-15-1	91	%	70-135	12.20.18 00.24	



Certificate of Analytical Results 608832

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH03B**
 Lab Sample Id: 608832-006

Matrix: Soil
 Date Collected: 12.13.18 12.20

Date Received: 12.15.18 09.30
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073331

Date Prep: 12.18.18 16.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.19.18 06.51	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.19.18 06.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.19.18 06.51		
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.19.18 06.51		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073190

MB Sample Id: 7668220-1-BLK

Matrix: Solid

LCS Sample Id: 7668220-1-BKS

Prep Method: E300P

Date Prep: 12.17.18

LCSD Sample Id: 7668220-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	274	110	274	110	90-110	0	20	mg/kg	12.18.18 01:30	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073190

Parent Sample Id: 608832-003

Matrix: Soil

MS Sample Id: 608832-003 S

Prep Method: E300P

Date Prep: 12.17.18

MSD Sample Id: 608832-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	53.1	250	289	94	291	95	90-110	1	20	mg/kg	12.18.18 03:20	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073190

Parent Sample Id: 608888-004

Matrix: Soil

MS Sample Id: 608888-004 S

Prep Method: E300P

Date Prep: 12.17.18

MSD Sample Id: 608888-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.850	248	248	100	254	102	90-110	2	20	mg/kg	12.18.18 01:48	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073493

MB Sample Id: 7668405-1-BLK

Matrix: Solid

LCS Sample Id: 7668405-1-BKS

Prep Method: TX1005P

Date Prep: 12.19.18

LCSD Sample Id: 7668405-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	932	93	921	92	70-135	1	20	mg/kg	12.19.18 21:18	
Diesel Range Organics (DRO)	<8.13	1000	973	97	965	97	70-135	1	20	mg/kg	12.19.18 21:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		125		121		70-135	%	12.19.18 21:18
o-Terphenyl	109		106		106		70-135	%	12.19.18 21:18

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.

BEU Hackberry 34 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073493

Parent Sample Id: 608832-001

Matrix: Soil

MS Sample Id: 608832-001 S

Prep Method: TX1005P

Date Prep: 12.19.18

MSD Sample Id: 608832-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.97	996	853	86	868	87	70-135	2	20	mg/kg	12.19.18 22:19	
Diesel Range Organics (DRO)	89.1	996	940	85	954	87	70-135	1	20	mg/kg	12.19.18 22:19	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		107		70-135	%	12.19.18 22:19
o-Terphenyl	96		95		70-135	%	12.19.18 22:19

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073325

MB Sample Id: 7668314-1-BLK

Matrix: Solid

LCS Sample Id: 7668314-1-BKS

Prep Method: SW5030B

Date Prep: 12.18.18

LCSD Sample Id: 7668314-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.104	104	0.0983	98	70-130	6	35	mg/kg	12.18.18 18:17	
Toluene	<0.000457	0.100	0.0939	94	0.0896	90	70-130	5	35	mg/kg	12.18.18 18:17	
Ethylbenzene	<0.000566	0.100	0.102	102	0.0979	98	70-130	4	35	mg/kg	12.18.18 18:17	
m,p-Xylenes	<0.00102	0.200	0.186	93	0.178	89	70-130	4	35	mg/kg	12.18.18 18:17	
o-Xylene	<0.000345	0.100	0.0905	91	0.0865	87	70-130	5	35	mg/kg	12.18.18 18:17	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		104		104		70-130	%	12.18.18 18:17
4-Bromofluorobenzene	82		88		88		70-130	%	12.18.18 18:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073331

MB Sample Id: 7668320-1-BLK

Matrix: Solid

LCS Sample Id: 7668320-1-BKS

Prep Method: SW5030B

Date Prep: 12.18.18

LCSD Sample Id: 7668320-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.0887	89	0.0848	85	70-130	4	35	mg/kg	12.19.18 04:02	
Toluene	<0.000455	0.0998	0.0839	84	0.0803	80	70-130	4	35	mg/kg	12.19.18 04:02	
Ethylbenzene	<0.000564	0.0998	0.0897	90	0.0857	86	70-130	5	35	mg/kg	12.19.18 04:02	
m,p-Xylenes	<0.00101	0.200	0.162	81	0.155	78	70-130	4	35	mg/kg	12.19.18 04:02	
o-Xylene	<0.00200	0.0998	0.0811	81	0.0775	78	70-130	5	35	mg/kg	12.19.18 04:02	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		101		101		70-130	%	12.19.18 04:02
4-Bromofluorobenzene	81		86		86		70-130	%	12.19.18 04:02

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073325

Parent Sample Id: 608779-001

Matrix: Soil

MS Sample Id: 608779-001 S

Prep Method: SW5030B

Date Prep: 12.18.18

MSD Sample Id: 608779-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000388	0.101	0.0904	90	0.0798	80	70-130	12	35	mg/kg	12.18.18 18:55	
Toluene	<0.000459	0.101	0.0781	77	0.0668	67	70-130	16	35	mg/kg	12.18.18 18:55	X
Ethylbenzene	<0.000569	0.101	0.0816	81	0.0672	67	70-130	19	35	mg/kg	12.18.18 18:55	X
m,p-Xylenes	<0.00102	0.202	0.150	74	0.125	63	70-130	18	35	mg/kg	12.18.18 18:55	X
o-Xylene	<0.000347	0.101	0.0748	74	0.0637	64	70-130	16	35	mg/kg	12.18.18 18:55	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		70-130	%	12.18.18 18:55
4-Bromofluorobenzene	89		89		70-130	%	12.18.18 18:55

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073331

Parent Sample Id: 608832-003

Matrix: Soil

MS Sample Id: 608832-003 S

Prep Method: SW5030B

Date Prep: 12.18.18

MSD Sample Id: 608832-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0523	52	0.0615	61	70-130	16	35	mg/kg	12.19.18 04:40	X
Toluene	<0.000456	0.100	0.0541	54	0.0634	63	70-130	16	35	mg/kg	12.19.18 04:40	X
Ethylbenzene	<0.000565	0.100	0.0620	62	0.0708	70	70-130	13	35	mg/kg	12.19.18 04:40	X
m,p-Xylenes	<0.00101	0.200	0.123	62	0.137	68	70-130	11	35	mg/kg	12.19.18 04:40	X
o-Xylene	<0.000344	0.100	0.0626	63	0.0700	69	70-130	11	35	mg/kg	12.19.18 04:40	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		100		70-130	%	12.19.18 04:40
4-Bromofluorobenzene	85		87		70-130	%	12.19.18 04:40

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



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Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

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Page 1 of 1

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

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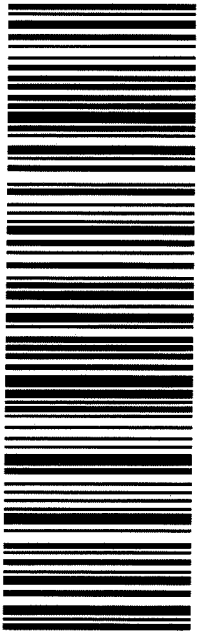
Client / Reporting Information		Project Information		Analytical Information	
Company Name / Branch: <u>LT Environmental, Inc.</u> <u>Pelican Office</u> Company Address: <u>3300 N. St. Building 1 Unit 103</u> <u>Midway, TX 75702</u> Email: <u>adrian.baker@ltenv.com</u> <u>(432) 704-5178</u> Project Contact: <u>Adrian Baker</u> Sampler's Name: <u>Anna Byers</u>		Project Name/Number: <u>BEU Hackberry 34 Battery</u> Project Location: <u>Eddy County</u> Invoice To: <u>Kyle Littrell</u> PO Number:		Matrix Codes W = Water S = Soil/Sediment GW = Ground Water DW = Drinking Water P = Product SW = Surface Water SL = Sludge OW = Ocean/Sea Water WI = Wipe O = Oil WW = Waste Water A = Air	
No. <u>Field ID / Point of Collection</u>		Collection Date		Number of preserved bottles	
1	PH01 A	0.5'	12/12	1045	S 1
2	PH01 B	1.0'	12/13	1046	S 1
3	PH02 A	0.5'		1015	S 1
4	PH02 B	1.0'		1020	S 1
5	PH03 A	1.0'		1215	S 1
6	PH03 B	2.0'		1220	S 1
7					
8					
9					
10					
Turnaround Time (Business days)		Date Deliverable Information		Notes:	
☐ Same Day TAT ☐ Next Day EMERGENCY ☐ 2 Day EMERGENCY ☐ 3 Day EMERGENCY		☒ 6 Day TAT ☐ 7 Day TAT ☐ Level II Std QC ☐ Level III Std QC+ Forms ☐ Level 3 (CLP Forms) ☐ TRRP Checklist		☐ Level IV (Full Data Pkg / raw data) ☐ TRRP Level IV ☐ UST / RG -411	
TAT Starts Day received by Lab, if received by 5:00 pm		FED-EX / UPS: Tracking #			
Relinquished by Sampler: <u>Anna Byers</u> Relinquished by: <u>12/14/18</u> Relinquished by: <u>12/18/18</u> Relinquished by:		Date Time: <u>0700</u> Date Time: <u>12/14/18</u> Date Time: <u>12/18/18</u> Date Time:		Received By: <u>[Signature]</u> Received By: <u>[Signature]</u> Received By: <u>[Signature]</u> Received By:	
Relinquished by: <u>Anna Byers</u> Relinquished by:		Date Time: <u>12/18/18</u> Date Time:		Received By: <u>[Signature]</u> Received By:	
Relinquished by: <u>Anna Byers</u> Relinquished by:		Date Time: <u>12/18/18</u> Date Time:		Received By: <u>[Signature]</u> Received By:	
Relinquished by: <u>Anna Byers</u> Relinquished by:		Date Time: <u>12/18/18</u> Date Time:		Received By: <u>[Signature]</u> Received By:	
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Relinquished by: <u>Anna Byers</u> Relinquished by:		Date Time: <u>12/18/18</u> Date Time:		Received By: <u>[Signature]</u> Received By:	
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Relinquished by: <u>Anna Byers</u> Relinquished by:		Date Time: <u>12/18/18</u> Date Time:		Received By: <u>[Signature]</u> Received By:	
Relinquished by: <u>Anna Byers</u> Relinquished by:		Date Time: <u>12/18/18</u> Date Time:		Received By: <u>[Signature]</u> Received By:	
Relinquished by: <u>Anna Byers</u> Relinquished by:		Date Time: <u>12/18/18</u> Date Time:		Received By: <u>[Signature]</u> Received By:	
Relinquished by: <u>Anna Byers</u> Relinquished by:		Date Time: <u>12/18/18</u> Date Time:		Received By: <u>[Signature]</u> Received By:	
Relinquished by: <u>Anna Byers</u> Relinquished by:		Date Time: <u>12/18/18</u> Date Time:		Received By: <u>[Signature]</u> Received By:	
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Relinquished by: <u>Anna Byers</u> Relinquished by:		Date Time: <u>12/18/18</u> Date Time:		Received By: <u>[Signature]</u> Received	

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On line	Cooler Temp.	Thermo. Corr. Factor
☒	3.8/3.7	R8-0

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ORIGIN ID:CAOA (575) 887-6245 XENCO SATURDAY PAC N MAIL 910 W PIERCE ST CARLSBAD, NM 88220 UNITED STATES US		SHIP DATE: 14DEC18 ACTWGT: 35.00 LB CAD: 101813706NINET 4040 DIMS: 19x13x16 IN BILL RECIPIENT	
TO HOLD FOR XENCO FEDEX OFFICE PRINT & SHIP CENTER FEDEX OFFICE PRINT & SHIP CENTER 200 W INTERSTATE 20 MIDLAND TX 79701 (806) 674-0639 INV/ REF: XENCO PO. DEPT:			
TRK# 7739 8211 8173 0201		SATURDAY HOLD PRIORITY OVERNIGHT HLD MAFKI TX:US LBB	
			

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Client: LT Environmental, Inc.

Date/ Time Received: 12/15/2018 09:30:00 AM

Work Order #: 608832

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.7
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 12/17/2018

Checklist reviewed by:

Jessica Kramer

Date: 12/18/2018

Analytical Report 609034

for
LT Environmental, Inc.

Project Manager: Adrian Baker

BEU Hackberry 34 Battery

2RP5026

27-DEC-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



27-DEC-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **609034**

BEU Hackberry 34 Battery

Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 609034. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 609034 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

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Sample Cross Reference 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01A	S	12-14-18 09:35	0.5 ft	609034-001
BH01B	S	12-14-18 09:40	1 ft	609034-002
BH02A	S	12-14-18 10:40	0.5 ft	609034-003
BH02B	S	12-14-18 10:45	1 ft	609034-004
BH03A	S	12-14-18 12:00	0.5 ft	609034-005
BH03B	S	12-14-18 12:15	1 ft	609034-006
BH04A	S	12-14-18 12:25	0.5 ft	609034-007
BH04B	S	12-14-18 12:35	1 ft	609034-008
BH05A	S	12-14-18 12:45	0.5 ft	609034-009
BH05B	S	12-14-18 12:55	1 ft	609034-010
BH06A	S	12-14-18 14:00	0.5 ft	609034-011
BH06B	S	12-14-18 14:05	1 ft	609034-012
BH07A	S	12-14-18 14:15	0.5 ft	609034-013
BH07B	S	12-14-18 14:25	1 ft	609034-014
BH08A	S	12-14-18 14:30	0.5 ft	609034-015
BH08B	S	12-14-18 14:40	1 ft	609034-016
PH04A	S	12-14-18 14:50	0.5 ft	609034-017
PH04B	S	12-14-18 15:05	1 ft	609034-018
BH09A	S	12-14-18 16:00	3 ft	609034-019
BH09B	S	12-14-18 16:15	3.5 ft	609034-020

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: BEU Hackberry 34 Battery**Project ID: 2RP5026
Work Order Number(s): 609034Report Date: 27-DEC-18
Date Received: 12/18/2018**Sample receipt non conformances and comments:**

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3073519 Inorganic Anions by EPA 300

Chloride recovered above QC limits in the laboratory control sample. Samples in the analytical batch are: 609034-001.

Compound(s) reported above QC limits for the Blank Spike and Blank Spike Duplicate. Batch passes in accordance to Marginal Exceedence (NELAC Quality Systems, Appendix D). Daily CCV and ICV are within QC Limits. Sample data reported as valid.

Batch: LBA-3073556 Inorganic Anions by EPA 300

Lab Sample ID 609034-019 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 609034-002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3073646 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3073659 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3074107 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 609034

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery

Project Id: 2RP5026
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Tue Dec-18-18 12:15 pm
Report Date: 27-DEC-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	609034-001	609034-002	609034-003	609034-004	609034-005	609034-006
	<i>Field Id:</i>	BH01A	BH01B	BH02A	BH02B	BH03A	BH03B
	<i>Depth:</i>	0.5- ft	1- ft	0.5- ft	1- ft	0.5- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-14-18 09:35	Dec-14-18 09:40	Dec-14-18 10:40	Dec-14-18 10:45	Dec-14-18 12:00	Dec-14-18 12:15
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00
	<i>Analyzed:</i>	Dec-20-18 14:09	Dec-20-18 14:30	Dec-20-18 15:57	Dec-20-18 19:43	Dec-20-18 16:40	Dec-20-18 17:01
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Inorganic Anions by EPA 300	<i>Extracted:</i>	Dec-19-18 16:30	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00
	<i>Analyzed:</i>	Dec-20-18 04:37	Dec-20-18 09:15	Dec-20-18 09:33	Dec-20-18 09:39	Dec-20-18 09:45	Dec-20-18 09:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		681 4.98	879 4.96	28.1 4.97	7.91 4.98	80.4 5.00	118 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00
	<i>Analyzed:</i>	Dec-24-18 12:39	Dec-24-18 13:41	Dec-24-18 14:02	Dec-24-18 14:23	Dec-24-18 14:44	Dec-24-18 15:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<14.9 14.9
Diesel Range Organics (DRO)		<15.0 15.0	34.9 15.0	<15.0 15.0	<15.0 15.0	20.9 14.9	72.4 14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	15.1 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<14.9 14.9
Total TPH		<15.0 15.0	50.0 15.0	<15.0 15.0	<15.0 15.0	20.9 14.9	72.4 14.9

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 609034

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery

Project Id: 2RP5026
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Tue Dec-18-18 12:15 pm
Report Date: 27-DEC-18
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	609034-007	609034-008	609034-009	609034-010	609034-011	609034-012
	Field Id:	BH04A	BH04B	BH05A	BH05B	BH06A	BH06B
	Depth:	0.5- ft	1- ft	0.5- ft	1- ft	0.5- ft	1- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Dec-14-18 12:25	Dec-14-18 12:35	Dec-14-18 12:45	Dec-14-18 12:55	Dec-14-18 14:00	Dec-14-18 14:05
BTEX by EPA 8021B	Extracted:	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00	Dec-19-18 16:00
	Analyzed:	Dec-20-18 17:23	Dec-20-18 17:44	Dec-20-18 18:05	Dec-20-18 18:38	Dec-20-18 19:00	Dec-20-18 19:21
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Inorganic Anions by EPA 300	Extracted:	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00
	Analyzed:	Dec-20-18 10:24	Dec-20-18 10:30	Dec-20-18 10:36	Dec-20-18 10:42	Dec-20-18 10:49	Dec-20-18 11:15
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		18.0 5.00	21.8 4.95	10.4 4.98	7.14 4.97	5.64 5.00	32.6 5.00
TPH by SW8015 Mod	Extracted:	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00
	Analyzed:	Dec-24-18 15:27	Dec-24-18 15:49	Dec-24-18 16:10	Dec-24-18 16:31	Dec-24-18 17:34	Dec-24-18 17:54
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		21.2 15.0	17.9 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		21.2 15.0	17.9 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 609034

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery

Project Id: 2RP5026
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Tue Dec-18-18 12:15 pm
Report Date: 27-DEC-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	609034-013	609034-014	609034-015	609034-016	609034-017	609034-018
	<i>Field Id:</i>	BH07A	BH07B	BH08A	BH08B	PH04A	PH04B
	<i>Depth:</i>	0.5- ft	1- ft	0.5- ft	1- ft	0.5- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-14-18 14:15	Dec-14-18 14:25	Dec-14-18 14:30	Dec-14-18 14:40	Dec-14-18 14:50	Dec-14-18 15:05
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-20-18 17:15	Dec-20-18 17:15	Dec-20-18 17:15	Dec-20-18 17:15	Dec-20-18 17:15	Dec-20-18 17:15
	<i>Analyzed:</i>	Dec-21-18 08:24	Dec-21-18 08:46	Dec-21-18 09:09	Dec-21-18 09:30	Dec-21-18 09:51	Dec-21-18 10:14
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Inorganic Anions by EPA 300	<i>Extracted:</i>	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00	Dec-20-18 08:00
	<i>Analyzed:</i>	Dec-20-18 11:36	Dec-20-18 11:42	Dec-20-18 11:49	Dec-20-18 11:55	Dec-20-18 12:01	Dec-20-18 12:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2050 25.0	2080 24.9	3160 24.9	3260 50.0	34.0 4.96	29.8 4.99
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00	Dec-23-18 15:00
	<i>Analyzed:</i>	Dec-24-18 18:15	Dec-24-18 18:35	Dec-24-18 18:56	Dec-24-18 19:17	Dec-24-18 19:38	Dec-24-18 19:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	21.1 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Diesel Range Organics (DRO)		33.9 15.0	<15.0 15.0	195 15.0	180 15.0	25.8 14.9	15.1 15.0
Motor Oil Range Hydrocarbons (MRO)		25.3 15.0	<15.0 15.0	145 15.0	133 15.0	<14.9 14.9	<15.0 15.0
Total TPH		59.2 15.0	<15.0 15.0	361 15.0	313 15.0	25.8 14.9	15.1 15.0

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 609034

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery

Project Id: 2RP5026
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Tue Dec-18-18 12:15 pm
Report Date: 27-DEC-18
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	609034-019	609034-020				
	Field Id:	BH09A	BH09B				
	Depth:	3- ft	3.5- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Dec-14-18 16:00	Dec-14-18 16:15				
BTEX by EPA 8021B	Extracted:	Dec-20-18 17:15	Dec-26-18 15:00				
	Analyzed:	Dec-21-18 10:35	Dec-27-18 11:20				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00200 0.00200	<0.00200 0.00200				
	Toluene	<0.00200 0.00200	<0.00200 0.00200				
	Ethylbenzene	<0.00200 0.00200	<0.00200 0.00200				
	m,p-Xylenes	<0.00400 0.00400	<0.00400 0.00400				
	o-Xylene	<0.00200 0.00200	<0.00200 0.00200				
	Total Xylenes	<0.00200 0.00200	<0.00200 0.00200				
	Total BTEX	<0.00200 0.00200	<0.00200 0.00200				
Inorganic Anions by EPA 300	Extracted:	Dec-20-18 08:00	Dec-20-18 08:00				
	Analyzed:	Dec-20-18 10:55	Dec-20-18 12:13				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	124 4.99	113 5.00				
TPH by SW8015 Mod	Extracted:	Dec-23-18 15:00	Dec-23-18 15:00				
	Analyzed:	Dec-24-18 20:20	Dec-24-18 20:41				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0	<15.0 15.0				
	Diesel Range Organics (DRO)	<15.0 15.0	42.9 15.0				
	Motor Oil Range Hydrocarbons (MRO)	<15.0 15.0	<15.0 15.0				
	Total TPH	<15.0 15.0	42.9 15.0				

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Jessica Kramer
Project Assistant



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH01A**
 Lab Sample Id: 609034-001

Matrix: Soil
 Date Collected: 12.14.18 09.35

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073519

Date Prep: 12.19.18 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	681	4.98	mg/kg	12.20.18 04.37		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 12.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 12.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 12.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 12.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	12.24.18 12.39	
o-Terphenyl	84-15-1	92	%	70-135	12.24.18 12.39	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH01A**
Lab Sample Id: 609034-001

Matrix: Soil
Date Collected: 12.14.18 09.35

Date Received: 12.18.18 12.15
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073646

Date Prep: 12.19.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 14.09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 14.09	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97		%	70-130	12.20.18 14.09	
1,4-Difluorobenzene	540-36-3	97		%	70-130	12.20.18 14.09	



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH01B**
 Lab Sample Id: 609034-002

Matrix: Soil
 Date Collected: 12.14.18 09.40

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	879	4.96	mg/kg	12.20.18 09.15		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 13.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	34.9	15.0	mg/kg	12.24.18 13.41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	15.1	15.0	mg/kg	12.24.18 13.41		1
Total TPH	PHC635	50.0	15.0	mg/kg	12.24.18 13.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	12.24.18 13.41	
o-Terphenyl	84-15-1	86	%	70-135	12.24.18 13.41	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH01B**
Lab Sample Id: 609034-002

Matrix: Soil
Date Collected: 12.14.18 09.40

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 14.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 14.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.20.18 14.30		
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.20.18 14.30		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH02A**
 Lab Sample Id: 609034-003

Matrix: Soil
 Date Collected: 12.14.18 10.40

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.1	4.97	mg/kg	12.20.18 09.33		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 14.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 14.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 14.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 14.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	12.24.18 14.02	
o-Terphenyl	84-15-1	103	%	70-135	12.24.18 14.02	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH02A**
Lab Sample Id: 609034-003

Matrix: Soil
Date Collected: 12.14.18 10.40

Date Received: 12.18.18 12.15
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073646

Date Prep: 12.19.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 15.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 15.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.20.18 15.57		
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.20.18 15.57		



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH02B**
Lab Sample Id: 609034-004

Matrix: Soil
Date Collected: 12.14.18 10.45

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.91	4.98	mg/kg	12.20.18 09.39		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 14.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 14.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 14.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 14.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	104	%	70-135	12.24.18 14.23		
o-Terphenyl	84-15-1	105	%	70-135	12.24.18 14.23		



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH02B**
Lab Sample Id: 609034-004

Matrix: Soil
Date Collected: 12.14.18 10.45

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 19.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 19.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	12.20.18 19.43		
1,4-Difluorobenzene	540-36-3	88	%	70-130	12.20.18 19.43		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH03A**
 Lab Sample Id: 609034-005

Matrix: Soil
 Date Collected: 12.14.18 12.00

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	80.4	5.00	mg/kg	12.20.18 09.45		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.24.18 14.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	20.9	14.9	mg/kg	12.24.18 14.44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.24.18 14.44	U	1
Total TPH	PHC635	20.9	14.9	mg/kg	12.24.18 14.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	12.24.18 14.44	
o-Terphenyl	84-15-1	94	%	70-135	12.24.18 14.44	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH03A**
 Lab Sample Id: 609034-005

Matrix: Soil
 Date Collected: 12.14.18 12.00

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 16.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 16.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	12.20.18 16.40		
1,4-Difluorobenzene	540-36-3	93	%	70-130	12.20.18 16.40		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH03B**
 Lab Sample Id: 609034-006

Matrix: Soil
 Date Collected: 12.14.18 12.15

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	118	5.00	mg/kg	12.20.18 09.52		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.24.18 15.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	72.4	14.9	mg/kg	12.24.18 15.06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.24.18 15.06	U	1
Total TPH	PHC635	72.4	14.9	mg/kg	12.24.18 15.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	12.24.18 15.06	
o-Terphenyl	84-15-1	101	%	70-135	12.24.18 15.06	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH03B**
Lab Sample Id: 609034-006

Matrix: Soil
Date Collected: 12.14.18 12.15

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073646

Date Prep: 12.19.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 17.01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 17.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.20.18 17.01		
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.20.18 17.01		



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH04A**
Lab Sample Id: 609034-007

Matrix: Soil
Date Collected: 12.14.18 12.25

Date Received: 12.18.18 12.15
Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.0	5.00	mg/kg	12.20.18 10.24		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 15.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	21.2	15.0	mg/kg	12.24.18 15.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 15.27	U	1
Total TPH	PHC635	21.2	15.0	mg/kg	12.24.18 15.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	12.24.18 15.27	
o-Terphenyl	84-15-1	93	%	70-135	12.24.18 15.27	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH04A**
Lab Sample Id: 609034-007

Matrix: Soil
Date Collected: 12.14.18 12.25

Date Received: 12.18.18 12.15
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 17.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 17.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	12.20.18 17.23		
1,4-Difluorobenzene	540-36-3	92	%	70-130	12.20.18 17.23		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH04B**
 Lab Sample Id: 609034-008

Matrix: Soil
 Date Collected: 12.14.18 12.35

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.8	4.95	mg/kg	12.20.18 10.30		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 15.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	17.9	15.0	mg/kg	12.24.18 15.49		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 15.49	U	1
Total TPH	PHC635	17.9	15.0	mg/kg	12.24.18 15.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.24.18 15.49	
o-Terphenyl	84-15-1	95	%	70-135	12.24.18 15.49	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH04B**
 Lab Sample Id: 609034-008

Matrix: Soil
 Date Collected: 12.14.18 12.35

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 17.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 17.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	12.20.18 17.44		
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.20.18 17.44		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH05A**
 Lab Sample Id: 609034-009

Matrix: Soil
 Date Collected: 12.14.18 12.45

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.4	4.98	mg/kg	12.20.18 10.36		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 16.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 16.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 16.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 16.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.24.18 16.10	
o-Terphenyl	84-15-1	91	%	70-135	12.24.18 16.10	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH05A**
Lab Sample Id: 609034-009

Matrix: Soil
Date Collected: 12.14.18 12.45

Date Received: 12.18.18 12.15
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073646

Date Prep: 12.19.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 18.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 18.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.20.18 18.05		
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.20.18 18.05		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH05B**
 Lab Sample Id: 609034-010

Matrix: Soil
 Date Collected: 12.14.18 12.55

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.14	4.97	mg/kg	12.20.18 10.42		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 16.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 16.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 16.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 16.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	96	%	70-135	12.24.18 16.31		
o-Terphenyl	84-15-1	97	%	70-135	12.24.18 16.31		



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH05B**
Lab Sample Id: 609034-010

Matrix: Soil
Date Collected: 12.14.18 12.55

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 18.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 18.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.20.18 18.38		
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.20.18 18.38		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH06A**
 Lab Sample Id: 609034-011

Matrix: Soil
 Date Collected: 12.14.18 14.00

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.64	5.00	mg/kg	12.20.18 10.49		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 17.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 17.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 17.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 17.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	12.24.18 17.34	
o-Terphenyl	84-15-1	92	%	70-135	12.24.18 17.34	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH06A**
Lab Sample Id: 609034-011

Matrix: Soil
Date Collected: 12.14.18 14.00

Date Received: 12.18.18 12.15
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073646

Date Prep: 12.19.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 19.00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 19.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.20.18 19.00		
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.20.18 19.00		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH06B**
 Lab Sample Id: 609034-012

Matrix: Soil
 Date Collected: 12.14.18 14.05

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.6	5.00	mg/kg	12.20.18 11.15		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.24.18 17.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	12.24.18 17.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.24.18 17.54	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	12.24.18 17.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	12.24.18 17.54	
o-Terphenyl	84-15-1	93	%	70-135	12.24.18 17.54	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH06B**
Lab Sample Id: 609034-012

Matrix: Soil
Date Collected: 12.14.18 14.05

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 16.00

Basis: Wet Weight

Seq Number: 3073646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 19.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 19.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.20.18 19.21		
1,4-Difluorobenzene	540-36-3	90	%	70-130	12.20.18 19.21		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH07A**
 Lab Sample Id: 609034-013

Matrix: Soil
 Date Collected: 12.14.18 14.15

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2050	25.0	mg/kg	12.20.18 11.36		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 18.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	33.9	15.0	mg/kg	12.24.18 18.15		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	25.3	15.0	mg/kg	12.24.18 18.15		1
Total TPH	PHC635	59.2	15.0	mg/kg	12.24.18 18.15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.24.18 18.15	
o-Terphenyl	84-15-1	97	%	70-135	12.24.18 18.15	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH07A**
Lab Sample Id: 609034-013

Matrix: Soil
Date Collected: 12.14.18 14.15

Date Received: 12.18.18 12.15
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Date Prep: 12.20.18 17.15

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 08.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 08.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.21.18 08.24		
4-Bromofluorobenzene	460-00-4	110	%	70-130	12.21.18 08.24		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH07B**
 Lab Sample Id: 609034-014

Matrix: Soil
 Date Collected: 12.14.18 14.25

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2080	24.9	mg/kg	12.20.18 11.42		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 18.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 18.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 18.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 18.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.24.18 18.35	
o-Terphenyl	84-15-1	94	%	70-135	12.24.18 18.35	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH07B**
Lab Sample Id: 609034-014

Matrix: Soil
Date Collected: 12.14.18 14.25

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Date Prep: 12.20.18 17.15

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 08.46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 08.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.21.18 08.46		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.21.18 08.46		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH08A**
 Lab Sample Id: 609034-015

Matrix: Soil
 Date Collected: 12.14.18 14.30

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3160	24.9	mg/kg	12.20.18 11.49		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	21.1	15.0	mg/kg	12.24.18 18.56		1
Diesel Range Organics (DRO)	C10C28DRO	195	15.0	mg/kg	12.24.18 18.56		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	145	15.0	mg/kg	12.24.18 18.56		1
Total TPH	PHC635	361	15.0	mg/kg	12.24.18 18.56		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-135	12.24.18 18.56		
o-Terphenyl	84-15-1	100	%	70-135	12.24.18 18.56		



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH08A**
Lab Sample Id: 609034-015

Matrix: Soil
Date Collected: 12.14.18 14.30

Date Received: 12.18.18 12.15
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Date Prep: 12.20.18 17.15

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 09.09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 09.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.21.18 09.09		
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.21.18 09.09		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH08B**
 Lab Sample Id: 609034-016

Matrix: Soil
 Date Collected: 12.14.18 14.40

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3260	50.0	mg/kg	12.20.18 11.55		10

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 19.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	180	15.0	mg/kg	12.24.18 19.17		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	133	15.0	mg/kg	12.24.18 19.17		1
Total TPH	PHC635	313	15.0	mg/kg	12.24.18 19.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	12.24.18 19.17	
o-Terphenyl	84-15-1	95	%	70-135	12.24.18 19.17	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH08B**
Lab Sample Id: 609034-016

Matrix: Soil
Date Collected: 12.14.18 14.40

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.20.18 17.15

Basis: Wet Weight

Seq Number: 3073659

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 09.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 09.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	12.21.18 09.30		
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.21.18 09.30		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH04A**
 Lab Sample Id: 609034-017

Matrix: Soil
 Date Collected: 12.14.18 14.50

Date Received: 12.18.18 12.15
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.0	4.96	mg/kg	12.20.18 12.01		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.24.18 19.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	25.8	14.9	mg/kg	12.24.18 19.38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.24.18 19.38	U	1
Total TPH	PHC635	25.8	14.9	mg/kg	12.24.18 19.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	12.24.18 19.38	
o-Terphenyl	84-15-1	91	%	70-135	12.24.18 19.38	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH04A**
Lab Sample Id: 609034-017

Matrix: Soil
Date Collected: 12.14.18 14.50

Date Received: 12.18.18 12.15
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Date Prep: 12.20.18 17.15

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 09.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 09.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	12.21.18 09.51		
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.21.18 09.51		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH04B**
 Lab Sample Id: 609034-018

Matrix: Soil
 Date Collected: 12.14.18 15.05

Date Received: 12.18.18 12.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.8	4.99	mg/kg	12.20.18 12.07		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 19.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	15.1	15.0	mg/kg	12.24.18 19.59		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 19.59	U	1
Total TPH	PHC635	15.1	15.0	mg/kg	12.24.18 19.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	12.24.18 19.59	
o-Terphenyl	84-15-1	89	%	70-135	12.24.18 19.59	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **PH04B**
Lab Sample Id: 609034-018

Matrix: Soil
Date Collected: 12.14.18 15.05

Date Received: 12.18.18 12.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073659

Date Prep: 12.20.18 17.15

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 10.14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 10.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	113	%	70-130	12.21.18 10.14		
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.21.18 10.14		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH09A**
 Lab Sample Id: 609034-019

Matrix: Soil
 Date Collected: 12.14.18 16.00

Date Received: 12.18.18 12.15
 Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	124	4.99	mg/kg	12.20.18 10.55		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 20.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.24.18 20.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 20.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.24.18 20.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	91	%	70-135	12.24.18 20.20		
o-Terphenyl	84-15-1	92	%	70-135	12.24.18 20.20		



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH09A**
Lab Sample Id: 609034-019

Matrix: Soil
Date Collected: 12.14.18 16.00

Date Received: 12.18.18 12.15
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.20.18 17.15

Basis: Wet Weight

Seq Number: 3073659

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.21.18 10.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.18 10.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.21.18 10.35		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.21.18 10.35		



Certificate of Analytical Results 609034

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH09B**
 Lab Sample Id: 609034-020

Matrix: Soil
 Date Collected: 12.14.18 16.15

Date Received: 12.18.18 12.15
 Sample Depth: 3.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073556

Date Prep: 12.20.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	113	5.00	mg/kg	12.20.18 12.13		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073958

Date Prep: 12.23.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.24.18 20.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	42.9	15.0	mg/kg	12.24.18 20.41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.24.18 20.41	U	1
Total TPH	PHC635	42.9	15.0	mg/kg	12.24.18 20.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.24.18 20.41	
o-Terphenyl	84-15-1	91	%	70-135	12.24.18 20.41	



Certificate of Analytical Results 609034



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH09B**
Lab Sample Id: 609034-020

Matrix: Soil
Date Collected: 12.14.18 16.15

Date Received: 12.18.18 12.15
Sample Depth: 3.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.26.18 15.00

Basis: Wet Weight

Seq Number: 3074107

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.27.18 11.20	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.27.18 11.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	12.27.18 11.20		
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.27.18 11.20		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073519

MB Sample Id: 7668399-1-BLK

Matrix: Solid

LCS Sample Id: 7668399-1-BKS

Prep Method: E300P

Date Prep: 12.19.18

LCSD Sample Id: 7668399-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	312	125	273	109	90-110	13	20	mg/kg	12.20.18 01:28	H

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073556

MB Sample Id: 7668400-1-BLK

Matrix: Solid

LCS Sample Id: 7668400-1-BKS

Prep Method: E300P

Date Prep: 12.20.18

LCSD Sample Id: 7668400-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	255	102	257	103	90-110	1	20	mg/kg	12.20.18 09:02	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073519

Parent Sample Id: 609032-005

Matrix: Soil

MS Sample Id: 609032-005 S

Prep Method: E300P

Date Prep: 12.19.18

MSD Sample Id: 609032-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.855	249	268	108	273	110	90-110	2	20	mg/kg	12.20.18 01:46	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073519

Parent Sample Id: 609033-006

Matrix: Soil

MS Sample Id: 609033-006 S

Prep Method: E300P

Date Prep: 12.19.18

MSD Sample Id: 609033-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.27	250	274	109	274	109	90-110	0	20	mg/kg	12.20.18 03:18	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073556

Parent Sample Id: 609034-002

Matrix: Soil

MS Sample Id: 609034-002 S

Prep Method: E300P

Date Prep: 12.20.18

MSD Sample Id: 609034-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	879	248	1090	85	1090	85	90-110	0	20	mg/kg	12.20.18 09:21	X

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073556

Parent Sample Id: 609034-019

Matrix: Soil

MS Sample Id: 609034-019 S

Prep Method: E300P

Date Prep: 12.20.18

MSD Sample Id: 609034-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	124	250	379	102	387	105	90-110	2	20	mg/kg	12.20.18 11:01	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073958

MB Sample Id: 7668691-1-BLK

Matrix: Solid

LCS Sample Id: 7668691-1-BKS

Prep Method: TX1005P

Date Prep: 12.23.18

LCSD Sample Id: 7668691-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	970	97	932	93	70-135	4	20	mg/kg	12.24.18 11:59	
Diesel Range Organics (DRO)	<8.13	1000	996	100	980	98	70-135	2	20	mg/kg	12.24.18 11:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		123		122		70-135	%	12.24.18 11:59
o-Terphenyl	112		119		110		70-135	%	12.24.18 11:59

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073958

Parent Sample Id: 609034-001

Matrix: Soil

MS Sample Id: 609034-001 S

Prep Method: TX1005P

Date Prep: 12.23.18

MSD Sample Id: 609034-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	996	100	902	90	70-135	10	20	mg/kg	12.24.18 13:00	
Diesel Range Organics (DRO)	13.3	998	1010	100	907	90	70-135	11	20	mg/kg	12.24.18 13:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		104		70-135	%	12.24.18 13:00
o-Terphenyl	99		92		70-135	%	12.24.18 13:00

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073646

MB Sample Id: 7668531-1-BLK

Matrix: Solid

LCS Sample Id: 7668531-1-BKS

Prep Method: SW5030B

Date Prep: 12.19.18

LCSD Sample Id: 7668531-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.113	113	0.126	126	70-130	11	35	mg/kg	12.19.18 09:32	
Toluene	<0.00200	0.100	0.101	101	0.102	102	70-130	1	35	mg/kg	12.19.18 09:32	
Ethylbenzene	<0.00200	0.100	0.111	111	0.127	127	70-130	13	35	mg/kg	12.19.18 09:32	
m,p-Xylenes	<0.00400	0.200	0.228	114	0.259	130	70-130	13	35	mg/kg	12.19.18 09:32	
o-Xylene	<0.00200	0.100	0.107	107	0.122	122	70-130	13	35	mg/kg	12.19.18 09:32	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	91		103		111		70-130			%	12.19.18 09:32	
4-Bromofluorobenzene	100		89		96		70-130			%	12.19.18 09:32	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073659

MB Sample Id: 7668541-1-BLK

Matrix: Solid

LCS Sample Id: 7668541-1-BKS

Prep Method: SW5030B

Date Prep: 12.20.18

LCSD Sample Id: 7668541-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0978	98	0.0858	86	70-130	13	35	mg/kg	12.20.18 20:51	
Toluene	<0.00200	0.100	0.0825	83	0.0847	85	70-130	3	35	mg/kg	12.20.18 20:51	
Ethylbenzene	<0.00200	0.100	0.100	100	0.0914	91	70-130	9	35	mg/kg	12.20.18 20:51	
m,p-Xylenes	<0.00400	0.200	0.203	102	0.191	96	70-130	6	35	mg/kg	12.20.18 20:51	
o-Xylene	<0.00200	0.100	0.0962	96	0.0889	89	70-130	8	35	mg/kg	12.20.18 20:51	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date	Flag		
1,4-Difluorobenzene	112		128		100		70-130	%	12.20.18 20:51			
4-Bromofluorobenzene	121		111		81		70-130	%	12.20.18 20:51			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3074107

MB Sample Id: 7668790-1-BLK

Matrix: Solid

LCS Sample Id: 7668790-1-BKS

Prep Method: SW5030B

Date Prep: 12.26.18

LCSD Sample Id: 7668790-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.113	113	0.104	104	70-130	8	35	mg/kg	12.27.18 09:27	
Toluene	<0.000456	0.100	0.0947	95	0.0905	91	70-130	5	35	mg/kg	12.27.18 09:27	
Ethylbenzene	<0.000565	0.100	0.0991	99	0.0952	95	70-130	4	35	mg/kg	12.27.18 09:27	
m,p-Xylenes	<0.00101	0.200	0.179	90	0.173	87	70-130	3	35	mg/kg	12.27.18 09:27	
o-Xylene	<0.000344	0.100	0.0885	89	0.0865	87	70-130	2	35	mg/kg	12.27.18 09:27	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date	Flag		
1,4-Difluorobenzene	105		107		106		70-130	%	12.27.18 09:27			
4-Bromofluorobenzene	79		85		88		70-130	%	12.27.18 09:27			

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073646

Parent Sample Id: 608880-021

Matrix: Soil

MS Sample Id: 608880-021 S

Prep Method: SW5030B

Date Prep: 12.19.18

MSD Sample Id: 608880-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0633	63	0.0835	84	70-130	28	35	mg/kg	12.20.18 09:27	X
Toluene	<0.00200	0.100	0.0556	56	0.0767	77	70-130	32	35	mg/kg	12.20.18 09:27	X
Ethylbenzene	<0.00200	0.100	0.0675	68	0.0851	85	70-130	23	35	mg/kg	12.20.18 09:27	X
m,p-Xylenes	<0.00400	0.200	0.123	62	0.159	80	70-130	26	35	mg/kg	12.20.18 09:27	X
o-Xylene	<0.00200	0.100	0.0673	67	0.0825	83	70-130	20	35	mg/kg	12.20.18 09:27	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	122		115		70-130	%	12.20.18 09:27
4-Bromofluorobenzene	109		110		70-130	%	12.20.18 09:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073659

Parent Sample Id: 609503-001

Matrix: Soil

MS Sample Id: 609503-001 S

Prep Method: SW5030B

Date Prep: 12.20.18

MSD Sample Id: 609503-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.104	104	0.0980	98	70-130	6	35	mg/kg	12.20.18 22:03	
Toluene	<0.00200	0.100	0.0868	87	0.0824	82	70-130	5	35	mg/kg	12.20.18 22:03	
Ethylbenzene	<0.00200	0.100	0.105	105	0.100	100	70-130	5	35	mg/kg	12.20.18 22:03	
m,p-Xylenes	<0.00400	0.200	0.213	107	0.202	101	70-130	5	35	mg/kg	12.20.18 22:03	
o-Xylene	<0.00200	0.100	0.102	102	0.0978	98	70-130	4	35	mg/kg	12.20.18 22:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	122		122		70-130	%	12.20.18 22:03
4-Bromofluorobenzene	119		123		70-130	%	12.20.18 22:03

Analytical Method: BTEX by EPA 8021B

Seq Number: 3074107

Parent Sample Id: 609206-043

Matrix: Soil

MS Sample Id: 609206-043 S

Prep Method: SW5030B

Date Prep: 12.26.18

MSD Sample Id: 609206-043 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0903	90	0.0986	98	70-130	9	35	mg/kg	12.27.18 10:05	
Toluene	<0.000457	0.100	0.0800	80	0.0854	85	70-130	7	35	mg/kg	12.27.18 10:05	
Ethylbenzene	<0.000566	0.100	0.0847	85	0.0902	89	70-130	6	35	mg/kg	12.27.18 10:05	
m,p-Xylenes	<0.00102	0.200	0.154	77	0.164	81	70-130	6	35	mg/kg	12.27.18 10:05	
o-Xylene	<0.000345	0.100	0.0765	77	0.0802	79	70-130	5	35	mg/kg	12.27.18 10:05	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	12.27.18 10:05
4-Bromofluorobenzene	88		88		70-130	%	12.27.18 10:05

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Chain of Custody

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) El Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Work Order No: 609034

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTD Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	abaker@ltenv.com

Project Name:	BEU Hackberry 34 Battery	Turn Around	
Project Number:	2885026	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT		Temp Blank:	Yes ☒ No ☐
Temperature (°C):	101.5	Thermometer ID	R8
Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.1
Cooler Custody Seals:	Yes ☐ No ☒ N/A	Total Containers:	
Sample Custody Seals:	Yes ☐ No ☒ N/A		

Sample Identification				ANALYSIS REQUEST				Work Order Notes	
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
BH01A	S	12/14	0935	0.5'	1	X	X	X	
BH01B	S		0940	1.5'	1	X	X	X	
BH02A	S		1040	0.5'	1	X	X	X	
BH02B	S		1045	1.5'	1	X	X	X	
BH03A	S		1200	0.5'	1	X	X	X	
BH03B	S		1215	1.0'	1	X	X	X	
BH04A	S		1225	0.5'	1	X	X	X	
BH04B	S		1235	1.0'	1	X	X	X	
BH05A	S		1245	0.5'	1	X	X	X	
BH05B	S		1255	1.0'	1	X	X	X	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed: TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time



Chain of Custody

Work Order No: 609034

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 565-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480) 385-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 233-3927
Hobbs, NM (575) 392-7550

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Page 2 of 2

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	abaker@xtoenergy.com

Work Order Comments									
Program: UST/PST ☐ RP ☐ Rowfields ☐ C ☐ perfund ☐									
State of Project:									
Reporting Level: II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐									
Deliverables: EDD ☐ ADAPT ☐ Other:									

Project Name:	BEU Hackberry 84 Battery	Turn Around	
Project Number:	2RP506	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Jana Byes	Due Date:	
SAMPLE RECEIPT		Temp Blank:	Yes ☐ No ☒
Temperature (°C):	1.0/1.5	Thermometer ID	
Received Intact:	Yes ☒ No ☐		
Cooler Custody Seals:	Yes ☒ No ☒ N/A ☒	Correction Factor:	-0.1
Sample Custody Seals:	Yes ☐ No ☒ N/A ☒	Total Containers:	
Number of Containers			
EPA 8015)			
EPA 8021)			
e (EPA 300.0)			
ANALYSIS REQUEST			
Work Order Notes			
TAT starts the day received by the lab, if received by 4:30pm			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Samples	TPH (PPM)	BTEX (PPM)	Chlorides (PPM)	Other	Sample Comments
BH06 A	S	12/14	1400	0.5'	1	X	X	X		
BH06 B	S	1	1405	1.5'	1	X	X	X		
BH07 A	S		1415	0.5'	1	X	X	X		
BH07 B	S		1425	1.0'	1	X	X	X		
BH08 A	S		1430	0.5'	1	X	X	X		
BH08 B	S		1440	1.0'	1	X	X	X		
PH04 A	S		1450	0.5'	1	X	X	X		
PH04 B	S		1505	1.0'	1	X	X	X		
BH09 A	S		16:00	3.0'	1	X	X	X		
BH09 B	S		16:15	3.5'	1	X	X	X		

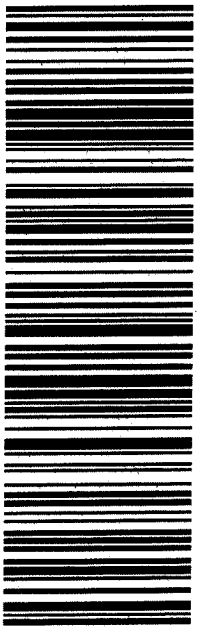
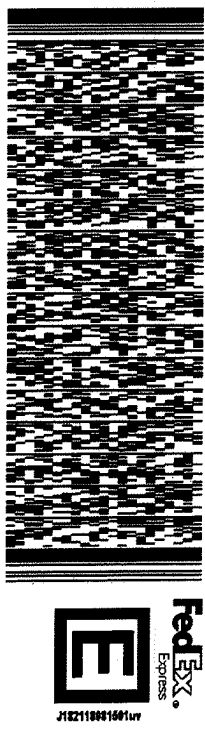
Total 200.7 / 6010 200.8 / 6020:

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Ho

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>Angela Bowers</i>	<i>BT</i>	12/14/18 19:00	2 <i>BT</i>	<i>Paul Miller</i>	12/17/18 0935
3 <i>Paul Miller</i>		12/17/18 15:30	4	<i>Paul Miller</i>	12/18/18 1215
5			6		

ORIGIN ID:CAOA (375) 887-6245 XENCO PAC N MAIL 910 W PIERCE ST CARLSBAD NM 88220 UNITED STATES US	SHIP DATE: 17DEC18 ACTWGT: 14.00 LB CAD: 101813/06INET4040 DIMS: 26x14x15 IN BILL RECIPIENT
TO HOLD FOR XENCO FEDEX EXPRESS SHIP CENTER FEDEX SHIP CENTER 3600 COUNTY RD 1276 S MIDLAND TX 79711 (806) 794-1296 REF: NV: DEPT:	
TRK# 7739 9868 0930 0201 TUE - 18 DEC HOLD STANDARD OVERNIGHT HLD MAFA TX-US LBB 41 MAFA 	
	

552J2/E4AF/DCA5

After printing this label:

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3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Client: LT Environmental, Inc.

Date/ Time Received: 12/18/2018 12:15:00 PM

Work Order #: 609034

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 12/18/2018

Checklist reviewed by:

Jessica Kramer

Date: 12/18/2018

Analytical Report 609172

for
LT Environmental, Inc.

Project Manager: Adrian Baker
BEU Hackberry 34 Battery

27-DEC-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



27-DEC-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **609172**

BEU Hackberry 34 Battery

Project Address: Eddy County 2RP5026

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 609172. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 609172 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 609172****LT Environmental, Inc., Arvada, CO**

BEU Hackberry 34 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH10A	S	12-17-18 09:35	0.5 ft	609172-001
BH10B	S	12-17-18 10:30	4.5 ft	609172-002
BH11A	S	12-17-18 11:20	0.5 ft	609172-003
BH11B	S	12-17-18 11:40	2 ft	609172-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU Hackberry 34 Battery

Project ID:
Work Order Number(s): 609172

Report Date: 27-DEC-18
Date Received: 12/19/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3073589 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 609172

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery

Project Id:

Contact: Adrian Baker

Project Location: Eddy County 2RP5026

Date Received in Lab: Wed Dec-19-18 10:30 am

Report Date: 27-DEC-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	609172-001	609172-002	609172-003	609172-004		
	<i>Field Id:</i>	BH10A	BH10B	BH11A	BH11B		
	<i>Depth:</i>	0.5- ft	4.5- ft	0.5- ft	2- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Dec-17-18 09:35	Dec-17-18 10:30	Dec-17-18 11:20	Dec-17-18 11:40		
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-19-18 14:30	Dec-19-18 14:30	Dec-19-18 14:30	Dec-19-18 14:30		
	<i>Analyzed:</i>	Dec-20-18 20:24	Dec-20-18 20:44	Dec-20-18 21:03	Dec-20-18 21:22		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Toluene		0.00592 0.00200	<0.00200 0.00200	<0.00200 0.00200	0.00738 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	0.00361 0.00200		
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400		
o-Xylene		0.0102 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		0.0102 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total BTEX		0.0161 0.00200	<0.00200 0.00200	<0.00200 0.00200	0.0110 0.00200		
Inorganic Anions by EPA 300	<i>Extracted:</i>	Dec-20-18 14:30	Dec-20-18 14:30	Dec-20-18 14:30	Dec-20-18 14:30		
	<i>Analyzed:</i>	Dec-21-18 02:47	Dec-21-18 02:53	Dec-21-18 02:59	Dec-21-18 03:06		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		1240 4.99	1940 24.9	34.6 4.95	12.2 5.00		
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-21-18 17:00	Dec-21-18 17:00	Dec-21-18 17:00	Dec-21-18 17:00		
	<i>Analyzed:</i>	Dec-22-18 17:41	Dec-22-18 18:01	Dec-22-18 19:02	Dec-22-18 19:23		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		257 15.0	<14.9 14.9	280 15.0	18.6 15.0		
Motor Oil Range Hydrocarbons (MRO)		46.6 15.0	<14.9 14.9	55.3 15.0	<15.0 15.0		
Total TPH		304 15.0	<14.9 14.9	335 15.0	18.6 15.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH10A**
 Lab Sample Id: 609172-001

Matrix: Soil
 Date Collected: 12.17.18 09.35

Date Received: 12.19.18 10.30
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073884

Date Prep: 12.20.18 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1240	4.99	mg/kg	12.21.18 02.47		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073906

Date Prep: 12.21.18 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.22.18 17.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	257	15.0	mg/kg	12.22.18 17.41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	46.6	15.0	mg/kg	12.22.18 17.41		1
Total TPH	PHC635	304	15.0	mg/kg	12.22.18 17.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.22.18 17.41	
o-Terphenyl	84-15-1	108	%	70-135	12.22.18 17.41	



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH10A**
 Lab Sample Id: 609172-001

Matrix: Soil
 Date Collected: 12.17.18 09.35

Date Received: 12.19.18 10.30
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 14.30

Basis: Wet Weight

Seq Number: 3073589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 20.24	U	1
Toluene	108-88-3	0.00592	0.00200	mg/kg	12.20.18 20.24		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 20.24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 20.24	U	1
o-Xylene	95-47-6	0.0102	0.00200	mg/kg	12.20.18 20.24		1
Total Xylenes	1330-20-7	0.0102	0.00200	mg/kg	12.20.18 20.24		1
Total BTEX		0.0161	0.00200	mg/kg	12.20.18 20.24		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.20.18 20.24		
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.20.18 20.24		



Certificate of Analytical Results 609172



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH10B**
Lab Sample Id: 609172-002

Matrix: Soil
Date Collected: 12.17.18 10.30

Date Received: 12.19.18 10.30
Sample Depth: 4.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073884

Date Prep: 12.20.18 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1940	24.9	mg/kg	12.21.18 02.53		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073906

Date Prep: 12.21.18 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.22.18 18.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	12.22.18 18.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.22.18 18.01	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	12.22.18 18.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-135	12.22.18 18.01		
o-Terphenyl	84-15-1	101	%	70-135	12.22.18 18.01		



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH10B**
 Lab Sample Id: 609172-002

Matrix: Soil
 Date Collected: 12.17.18 10.30

Date Received: 12.19.18 10.30
 Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 14.30

Basis: Wet Weight

Seq Number: 3073589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 20.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 20.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.20.18 20.44		
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.20.18 20.44		



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH11A**
 Lab Sample Id: 609172-003

Matrix: Soil
 Date Collected: 12.17.18 11.20

Date Received: 12.19.18 10.30
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073884

Date Prep: 12.20.18 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.6	4.95	mg/kg	12.21.18 02.59		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073906

Date Prep: 12.21.18 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.22.18 19.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	280	15.0	mg/kg	12.22.18 19.02		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	55.3	15.0	mg/kg	12.22.18 19.02		1
Total TPH	PHC635	335	15.0	mg/kg	12.22.18 19.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.22.18 19.02	
o-Terphenyl	84-15-1	108	%	70-135	12.22.18 19.02	



Certificate of Analytical Results 609172



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH11A**
Lab Sample Id: 609172-003

Matrix: Soil
Date Collected: 12.17.18 11.20

Date Received: 12.19.18 10.30
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3073589

Date Prep: 12.19.18 14.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 21.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.18 21.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.20.18 21.03		
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.20.18 21.03		



Certificate of Analytical Results 609172

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH11B**
 Lab Sample Id: 609172-004

Matrix: Soil
 Date Collected: 12.17.18 11.40

Date Received: 12.19.18 10.30
 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3073884

Date Prep: 12.20.18 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.2	5.00	mg/kg	12.21.18 03.06		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3073906

Date Prep: 12.21.18 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.22.18 19.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	18.6	15.0	mg/kg	12.22.18 19.23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.22.18 19.23	U	1
Total TPH	PHC635	18.6	15.0	mg/kg	12.22.18 19.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.22.18 19.23	
o-Terphenyl	84-15-1	100	%	70-135	12.22.18 19.23	



Certificate of Analytical Results 609172



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **BH11B**
Lab Sample Id: 609172-004

Matrix: Soil
Date Collected: 12.17.18 11.40

Date Received: 12.19.18 10.30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.19.18 14.30

Basis: Wet Weight

Seq Number: 3073589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.18 21.22	U	1
Toluene	108-88-3	0.00738	0.00200	mg/kg	12.20.18 21.22		1
Ethylbenzene	100-41-4	0.00361	0.00200	mg/kg	12.20.18 21.22		1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.20.18 21.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.18 21.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.18 21.22	U	1
Total BTEX		0.0110	0.00200	mg/kg	12.20.18 21.22		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	12.20.18 21.22		
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.20.18 21.22		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073884

MB Sample Id: 7668542-1-BLK

Matrix: Solid

LCS Sample Id: 7668542-1-BKS

Prep Method: E300P

Date Prep: 12.20.18

LCSD Sample Id: 7668542-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	268	107	272	109	90-110	1	20	mg/kg	12.20.18 23:59	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073884

Parent Sample Id: 609123-014

Matrix: Soil

MS Sample Id: 609123-014 S

Prep Method: E300P

Date Prep: 12.20.18

MSD Sample Id: 609123-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	511	249	738	91	725	86	90-110	2	20	mg/kg	12.21.18 00:19	X

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3073884

Parent Sample Id: 609123-020

Matrix: Soil

MS Sample Id: 609123-020 S

Prep Method: E300P

Date Prep: 12.20.18

MSD Sample Id: 609123-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	28.4	250	299	108	296	107	90-110	1	20	mg/kg	12.21.18 01:52	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073906

MB Sample Id: 7668683-1-BLK

Matrix: Solid

LCS Sample Id: 7668683-1-BKS

Prep Method: TX1005P

Date Prep: 12.21.18

LCSD Sample Id: 7668683-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	975	98	1150	115	70-135	16	20	mg/kg	12.22.18 13:18	
Diesel Range Organics (DRO)	9.78	1000	977	98	1160	116	70-135	17	20	mg/kg	12.22.18 13:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		126		121		70-135	%	12.22.18 13:18
o-Terphenyl	94		114		126		70-135	%	12.22.18 13:18

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.

BEU Hackberry 34 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3073906

Parent Sample Id: 609031-001

Matrix: Soil

MS Sample Id: 609031-001 S

Prep Method: TX1005P

Date Prep: 12.21.18

MSD Sample Id: 609031-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	947	95	963	96	70-135	2	20	mg/kg	12.22.18 14:20	
Diesel Range Organics (DRO)	43.7	999	993	95	1000	96	70-135	1	20	mg/kg	12.22.18 14:20	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		123		70-135	%	12.22.18 14:20
o-Terphenyl	103		107		70-135	%	12.22.18 14:20

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073589

MB Sample Id: 7668445-1-BLK

Matrix: Solid

LCS Sample Id: 7668445-1-BKS

Prep Method: SW5030B

Date Prep: 12.19.18

LCSD Sample Id: 7668445-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0864	86	0.0806	81	70-130	7	35	mg/kg	12.20.18 00:00	
Toluene	<0.000457	0.100	0.0805	81	0.0766	77	70-130	5	35	mg/kg	12.20.18 00:00	
Ethylbenzene	<0.000566	0.100	0.0867	87	0.0830	83	70-130	4	35	mg/kg	12.20.18 00:00	
m,p-Xylenes	<0.00102	0.200	0.157	79	0.151	76	70-130	4	35	mg/kg	12.20.18 00:00	
o-Xylene	<0.000345	0.100	0.0783	78	0.0754	75	70-130	4	35	mg/kg	12.20.18 00:00	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		103		101		70-130	%	12.20.18 00:00
4-Bromofluorobenzene	76		84		83		70-130	%	12.20.18 00:00

Analytical Method: BTEX by EPA 8021B

Seq Number: 3073589

Parent Sample Id: 609031-001

Matrix: Soil

MS Sample Id: 609031-001 S

Prep Method: SW5030B

Date Prep: 12.19.18

MSD Sample Id: 609031-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0994	0.0574	58	0.0549	55	70-130	4	35	mg/kg	12.20.18 12:15	X
Toluene	<0.000453	0.0994	0.0492	49	0.0431	43	70-130	13	35	mg/kg	12.20.18 12:15	X
Ethylbenzene	<0.000561	0.0994	0.0520	52	0.0484	48	70-130	7	35	mg/kg	12.20.18 12:15	X
m,p-Xylenes	<0.00101	0.199	0.0960	48	0.0891	45	70-130	7	35	mg/kg	12.20.18 12:15	X
o-Xylene	<0.000342	0.0994	0.0544	55	0.0538	54	70-130	1	35	mg/kg	12.20.18 12:15	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	12.20.18 12:15
4-Bromofluorobenzene	85		87		70-130	%	12.20.18 12:15

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec

Phoenix, Arizona (480-355-0900)

CHAIN OF C STUDY

Page 1 Of 1

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes	
Company Name / Branch: <u>IT Services, Inc.</u> <u>Pelican Office</u> Company Address: <u>3300 N. St. Building 1 Unit 103</u> <u>Midway, TX 79702</u> Email: <u>adrian@itsec.com</u> <u>(432) 704-5178</u> Project Contact: <u>Adrian Baker</u> Sampler's Name: <u>Anna Byers</u>		Project Name/Number: <u>BEU Haulback 34 Battery</u> Project Location: <u>Eddy County 2 RD 502a</u> Invoice To: <u>XTO Kyle Littell</u> PO Number:		CHLORIDE (EPA 300.0) BTEX (EPA 802.1) TPH (EPA 801.5)		W = Water S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wipe O = Oil WW = Waste Water A = Air	
No. _____ Field ID / Point of Collection _____		Sample Depth _____ Date _____ Time _____ Matrix _____ # of bottles _____ HCl _____ NaOH/Zn Acetate _____ HNO3 _____ H2SO4 _____ NaOH _____ NaHSO4 _____ MEQH _____ NONE _____		Date Time: _____ Date Time: _____		Date Time: _____ Date Time: _____	
1 BH10A 0.5' 12/13 0935 S 1 2 BH10B 4.5' 1030 S 1 3 BH11A 0.5' 1120 S 1 4 BH11B 3.0' 1140 S 1		5 _____ 6 _____ 7 _____ 8 _____ 9 _____ 10 _____		12/18/18 15:30 12/18/18 15:30 12/18/18 15:30 12/18/18 15:30		12/18/18 9:50 12/18/18 9:50 12/18/18 9:50 12/18/18 9:50	
Turnaround Time (Business days) _____		Data Deliverable Information _____		Notes: _____		Field Comments: <u>hot TPH</u> <u>hot TPH</u>	
☐ Same Day TAT ☐ Next Day EMERGENCY ☐ 2 Day EMERGENCY ☐ 3 Day EMERGENCY		☒ 5 Day TAT ☐ 7 Day TAT ☐ Contract TAT		☐ Level II Std QC ☐ Level III Std QC+ Forms ☐ Level 3 (CLP Forms) ☐ TRRP Checklist		☐ Level IV (Full Data Pkg / raw data) ☐ TRRP Level IV ☐ UST / RG -411	
TAT Starts Day received by Lab, if received by 5:00 pm		SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY		FED-EX / UPS: Tracking # <u>7740 1240 2102</u>		On Ice ☒ Cooler Temp. _____ Thermo. Corr. Factor _____	
Relinquished by Sampler: <u>Anna Byers</u> Relinquished by: <u>Adrian Baker</u> Relinquished by: _____		Received By: <u>Adrian Baker</u> Received By: <u>Adrian Baker</u> Received By: _____		Date Time: _____ Date Time: _____ Date Time: _____ Date Time: _____ Date Time: _____ Date Time: _____		Received By: <u>Adrian Baker</u> Received By: <u>Adrian Baker</u> Received By: _____	

Notices: Notice: Signature of this document and relinquishing of samples constitutes a valid purchase order from client company to Xenko, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenko will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenko. A minimum charge of \$75 will be applied to each project. Xenko's liability will be limited to the cost of samples. Any samples received by Xenko but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

ORIGIN ID: CMOA (575) 887-6245 XENCO PAC N MAIL 810 W PIERCE ST CARLSBAD, NM 88220 UNITED STATES US		SHIP DATE: 18DEC18 ACT WT: 34.00 LB CAD: 101813705NEM/4040 DIMS: 18x12x15 IN BILL RECIPIENT	
TO HOLD FOR XENCO FEDEX EXPRESS SHIP CENTER FEDEX SHIP CENTER 3600 COUNTY RD 1276 S MIDLAND TX 79711 (806) 794-1296 NV: REF: DEPT:			
TRK# 7740 1246 2162 0201 41 MAFA TX-US LBB WED - 19 DEC HOLD STANDARD OVERNIGHT HLD			

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3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Client: LT Environmental, Inc.

Date/ Time Received: 12/19/2018 10:30:00 AM

Work Order #: 609172

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.7
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 12/19/2018

Checklist reviewed by:

Jessica Kramer

Date: 12/19/2018

Analytical Report 609695

for
LT Environmental, Inc.

Project Manager: Adrian Baker

BEU Hackberry 34 Battery

02-JAN-19

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



02-JAN-19

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **609695**

BEU Hackberry 34 Battery

Project Address: Eddy County

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 609695. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 609695 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 609695****LT Environmental, Inc., Arvada, CO**

BEU Hackberry 34 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	12-19-18 14:30	2.5 ft	609695-001
FS02	S	12-19-18 15:20	4 ft	609695-002
SW01	S	12-19-18 14:50	1 ft	609695-003
SW02	S	12-19-18 15:50	2.5 ft	609695-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU Hackberry 34 Battery

Project ID:

Work Order Number(s): 609695

Report Date: 02-JAN-19

Date Received: 12/22/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3074107 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 609695

LT Environmental, Inc., Arvada, CO

Project Name: BEU Hackberry 34 Battery

Project Id:

Contact: Adrian Baker

Project Location: Eddy County

Date Received in Lab: Sat Dec-22-18 01:15 pm

Report Date: 02-JAN-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	609695-001	609695-002	609695-003	609695-004		
	<i>Field Id:</i>	FS01	FS02	SW01	SW02		
	<i>Depth:</i>	2.5- ft	4- ft	1- ft	2.5- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Dec-19-18 14:30	Dec-19-18 15:20	Dec-19-18 14:50	Dec-19-18 15:50		
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-26-18 15:00	Dec-26-18 15:00	Dec-26-18 15:00	Dec-26-18 15:00		
	<i>Analyzed:</i>	Dec-27-18 16:03	Dec-27-18 16:22	Dec-27-18 17:02	Dec-27-18 17:21		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
m,p-Xylenes		<0.00401 0.00401	<0.00399 0.00399	<0.00400 0.00400	<0.00403 0.00403		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		
Inorganic Anions by EPA 300	<i>Extracted:</i>	Dec-28-18 18:00	Dec-28-18 18:00	Dec-28-18 18:00	Dec-28-18 18:00		
	<i>Analyzed:</i>	Dec-29-18 05:09	Dec-29-18 05:15	Dec-29-18 05:21	Dec-29-18 05:28		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		29.2 4.95	12.5 4.98	876 4.98	11.4 4.99		
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-31-18 11:00	Dec-31-18 11:00	Dec-31-18 11:00	Dec-31-18 11:00		
	<i>Analyzed:</i>	Dec-31-18 21:06	Dec-31-18 21:26	Dec-31-18 21:47	Dec-31-18 22:07		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		<15.0 15.0	19.6 15.0	<15.0 15.0	<15.0 15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total TPH		<15.0 15.0	19.6 15.0	<15.0 15.0	<15.0 15.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant



Certificate of Analytical Results 609695



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **FS01**
Lab Sample Id: 609695-001

Matrix: Soil
Date Collected: 12.19.18 14.30

Date Received: 12.22.18 13.15
Sample Depth: 2.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3074480

Date Prep: 12.28.18 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.2	4.95	mg/kg	12.29.18 05.09		1

Analytical Method: TPH by SW8015 Mod

Tech: ALJ

Analyst: ALJ

Seq Number: 3074476

Date Prep: 12.31.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.31.18 21.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.31.18 21.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.31.18 21.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.31.18 21.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	12.31.18 21.06	
o-Terphenyl	84-15-1	102	%	70-135	12.31.18 21.06	



Certificate of Analytical Results 609695



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **FS01**
Lab Sample Id: 609695-001

Matrix: Soil
Date Collected: 12.19.18 14.30

Date Received: 12.22.18 13.15
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.26.18 15.00

Basis: Wet Weight

Seq Number: 3074107

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.27.18 16.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.27.18 16.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	12.27.18 16.03		
1,4-Difluorobenzene	540-36-3	111	%	70-130	12.27.18 16.03		



Certificate of Analytical Results 609695

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **FS02**
 Lab Sample Id: 609695-002

Matrix: Soil
 Date Collected: 12.19.18 15.20

Date Received: 12.22.18 13.15
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3074480

Date Prep: 12.28.18 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.5	4.98	mg/kg	12.29.18 05.15		1

Analytical Method: TPH by SW8015 Mod

Tech: ALJ

Analyst: ALJ

Seq Number: 3074476

Date Prep: 12.31.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.31.18 21.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	19.6	15.0	mg/kg	12.31.18 21.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.31.18 21.26	U	1
Total TPH	PHC635	19.6	15.0	mg/kg	12.31.18 21.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.31.18 21.26	
o-Terphenyl	84-15-1	105	%	70-135	12.31.18 21.26	



Certificate of Analytical Results 609695



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **FS02**
Lab Sample Id: 609695-002

Matrix: Soil
Date Collected: 12.19.18 15.20

Date Received: 12.22.18 13.15
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.26.18 15.00

Basis: Wet Weight

Seq Number: 3074107

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.27.18 16.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.27.18 16.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	12.27.18 16.22		
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.27.18 16.22		



Certificate of Analytical Results 609695



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SW01**
Lab Sample Id: 609695-003

Matrix: Soil
Date Collected: 12.19.18 14.50

Date Received: 12.22.18 13.15
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3074480

Date Prep: 12.28.18 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	876	4.98	mg/kg	12.29.18 05.21		1

Analytical Method: TPH by SW8015 Mod

Tech: ALJ

Analyst: ALJ

Seq Number: 3074476

Date Prep: 12.31.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.31.18 21.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.31.18 21.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.31.18 21.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.31.18 21.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	12.31.18 21.47	
o-Terphenyl	84-15-1	113	%	70-135	12.31.18 21.47	



Certificate of Analytical Results 609695



LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SW01**
Lab Sample Id: 609695-003

Matrix: Soil
Date Collected: 12.19.18 14.50

Date Received: 12.22.18 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.26.18 15.00

Basis: Wet Weight

Seq Number: 3074107

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.27.18 17.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.27.18 17.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.27.18 17.02		
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.27.18 17.02		



Certificate of Analytical Results 609695

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SW02**
 Lab Sample Id: 609695-004

Matrix: Soil
 Date Collected: 12.19.18 15.50

Date Received: 12.22.18 13.15
 Sample Depth: 2.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3074480

Date Prep: 12.28.18 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.4	4.99	mg/kg	12.29.18 05.28		1

Analytical Method: TPH by SW8015 Mod

Tech: ALJ

Analyst: ALJ

Seq Number: 3074476

Date Prep: 12.31.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.31.18 22.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.31.18 22.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.31.18 22.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.31.18 22.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	12.31.18 22.07	
o-Terphenyl	84-15-1	104	%	70-135	12.31.18 22.07	



Certificate of Analytical Results 609695

LT Environmental, Inc., Arvada, CO

BEU Hackberry 34 Battery

Sample Id: **SW02**
 Lab Sample Id: 609695-004

Matrix: Soil
 Date Collected: 12.19.18 15.50

Date Received: 12.22.18 13.15
 Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.26.18 15.00

Basis: Wet Weight

Seq Number: 3074107

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.27.18 17.21	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.27.18 17.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.27.18 17.21		
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.27.18 17.21		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.
BEU Hackberry 34 Battery

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3074480

MB Sample Id: 7668969-1-BLK

Matrix: Solid

LCS Sample Id: 7668969-1-BKS

Prep Method: E300P

Date Prep: 12.28.18

LCSD Sample Id: 7668969-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	273	109	273	109	90-110	0	20	mg/kg	12.29.18 02:28	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3074480

Parent Sample Id: 609587-026

Matrix: Soil

MS Sample Id: 609587-026 S

Prep Method: E300P

Date Prep: 12.28.18

MSD Sample Id: 609587-026 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.2	248	285	110	281	109	90-110	1	20	mg/kg	12.29.18 02:47	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3074480

Parent Sample Id: 609587-035

Matrix: Soil

MS Sample Id: 609587-035 S

Prep Method: E300P

Date Prep: 12.28.18

MSD Sample Id: 609587-035 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.7	248	312	113	253	89	90-110	21	20	mg/kg	12.29.18 04:17	XF

Analytical Method: TPH by SW8015 Mod

Seq Number: 3074476

MB Sample Id: 7669016-1-BLK

Matrix: Solid

LCS Sample Id: 7669016-1-BKS

Prep Method: TX1005P

Date Prep: 12.31.18

LCSD Sample Id: 7669016-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	861	86	884	88	70-135	3	20	mg/kg	12.31.18 13:45	
Diesel Range Organics (DRO)	<8.12	999	971	97	984	98	70-135	1	20	mg/kg	12.31.18 13:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		125		133		70-135	%	12.31.18 13:45
o-Terphenyl	100		112		112		70-135	%	12.31.18 13:45

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.

BEU Hackberry 34 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3074476

Parent Sample Id: 609634-001

Matrix: Soil

MS Sample Id: 609634-001 S

Prep Method: TX1005P

Date Prep: 12.31.18

MSD Sample Id: 609634-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.98	997	908	91	895	90	70-135	1	20	mg/kg	12.31.18 14:26	
Diesel Range Organics (DRO)	<8.10	997	1030	103	1020	102	70-135	1	20	mg/kg	12.31.18 14:26	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	132		129		70-135	%	12.31.18 14:26
o-Terphenyl	121		118		70-135	%	12.31.18 14:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3074107

MB Sample Id: 7668790-1-BLK

Matrix: Solid

LCS Sample Id: 7668790-1-BKS

Prep Method: SW5030B

Date Prep: 12.26.18

LCSD Sample Id: 7668790-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.113	113	0.104	104	70-130	8	35	mg/kg	12.27.18 09:27	
Toluene	<0.000456	0.100	0.0947	95	0.0905	91	70-130	5	35	mg/kg	12.27.18 09:27	
Ethylbenzene	<0.000565	0.100	0.0991	99	0.0952	95	70-130	4	35	mg/kg	12.27.18 09:27	
m,p-Xylenes	<0.00101	0.200	0.179	90	0.173	87	70-130	3	35	mg/kg	12.27.18 09:27	
o-Xylene	<0.000344	0.100	0.0885	89	0.0865	87	70-130	2	35	mg/kg	12.27.18 09:27	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		107		106		70-130	%	12.27.18 09:27
4-Bromofluorobenzene	79		85		88		70-130	%	12.27.18 09:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3074107

Parent Sample Id: 609206-043

Matrix: Soil

MS Sample Id: 609206-043 S

Prep Method: SW5030B

Date Prep: 12.26.18

MSD Sample Id: 609206-043 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0903	90	0.0986	98	70-130	9	35	mg/kg	12.27.18 10:05	
Toluene	<0.000457	0.100	0.0800	80	0.0854	85	70-130	7	35	mg/kg	12.27.18 10:05	
Ethylbenzene	<0.000566	0.100	0.0847	85	0.0902	89	70-130	6	35	mg/kg	12.27.18 10:05	
m,p-Xylenes	<0.00102	0.200	0.154	77	0.164	81	70-130	6	35	mg/kg	12.27.18 10:05	
o-Xylene	<0.000345	0.100	0.0765	77	0.0802	79	70-130	5	35	mg/kg	12.27.18 10:05	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	12.27.18 10:05
4-Bromofluorobenzene	88		88		70-130	%	12.27.18 10:05

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

San Antonio, Texas (210-508-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

CHAIN OF C STUDY
Page 1 of 1

Page 1 of 1

Client / Reporting Information Company Name / Branch: <u>Polina, Office</u> Company Address: <u>3300 W 8th St. Building 1 Unit 103 Midway, TX 75270</u> Email: <u>adrian.baker@polina.com</u> Phone No: <u>(432) 704-5178</u> Project Contact: <u>Adrian Baker</u> Samples Name: <u>Anna Byers</u>		Project Information Project Name/Number: <u>BEU Hackberry Bl Battery</u> Project Location: <u>Eddy County</u> Invoice To: <u>KTD : Kyle Littrell</u> PO Number:																																																																																																																																																																						
No. Field ID / Point of Collection <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>No.</th> <th>Field ID / Point of Collection</th> <th>Sample Depth</th> <th>Date</th> <th>Time</th> <th>Matrix</th> <th># of bottles</th> <th>HCl</th> <th>NaOH/Zn Acetate</th> <th>HNO3</th> <th>H2SO4</th> <th>NaOH</th> <th>NaHSO4</th> <th>MeOH</th> <th>None</th> </tr> <tr> <td>1</td> <td>ES01</td> <td>2.5'</td> <td>12/19</td> <td>14:30</td> <td>S</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>ES02</td> <td>4'</td> <td></td> <td>15:20</td> <td>S</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>SW01</td> <td>1'</td> <td></td> <td>14:50</td> <td>S</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>SW02</td> <td>2.5'</td> <td></td> <td>15:50</td> <td>S</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MeOH	None	1	ES01	2.5'	12/19	14:30	S	1									2	ES02	4'		15:20	S	1									3	SW01	1'		14:50	S	1									4	SW02	2.5'		15:50	S	1									5															6															7															8															9															10															Analytical Information BTEX (only BTEX) 8021 TPH/DRO GRO MRO 8015 Chloride (300.00)	
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Relinquished by Sampler: 1. <u>Anna Byers</u> Relinquished by: 2. <u>Anna Byers</u> Relinquished by: 3. <u>Anna Byers</u>		DATE TIME SAMPLES CHANGE POSSESSION, INCLUDING COLUMEN DELIVERY <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Date Time:</th> <th>Received By:</th> <th>Relinquished By:</th> <th>Date Time:</th> <th>Received By:</th> <th>Relinquished By:</th> </tr> <tr> <td>12/19/18 1820</td> <td><u>[Signature]</u></td> <td><u>[Signature]</u></td> <td>12/19/18 1530</td> <td><u>[Signature]</u></td> <td><u>[Signature]</u></td> </tr> <tr> <td>12/20/18 1530</td> <td><u>[Signature]</u></td> <td><u>[Signature]</u></td> <td>12/20/18 1530</td> <td><u>[Signature]</u></td> <td><u>[Signature]</u></td> </tr> </table>		Date Time:	Received By:	Relinquished By:	Date Time:	Received By:	Relinquished By:	12/19/18 1820	<u>[Signature]</u>	<u>[Signature]</u>	12/19/18 1530	<u>[Signature]</u>	<u>[Signature]</u>	12/20/18 1530	<u>[Signature]</u>	<u>[Signature]</u>	12/20/18 1530	<u>[Signature]</u>	<u>[Signature]</u>																																																																																																																																																			
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Relinquished by: 4. <u>Anna Byers</u>		Field Comments Composite sample Composite sample Composite sample Composite sample Composite sample * average depth																																																																																																																																																																						
Matrix Codes W = Water S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wipe O = Oil WW = Waste Water A = Air		Matrix Codes W = Water S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wipe O = Oil WW = Waste Water A = Air																																																																																																																																																																						

losses or expenses incurred by the Client. Such losses are due to circumstances beyond the control of Xenovo. A minimum charge of \$75 will be applied to each project. Xenovo's liability will be limited to the cost of samples. Any samples received by Xenovo but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



Client: LT Environmental, Inc.

Date/ Time Received: 12/22/2018 01:15:00 PM

Work Order #: 609695

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 12/26/2018

Checklist reviewed by:

Jessica Kramer

Date: 12/26/2018

ATTACHMENT 3: PHOTO LOG





View west of bermed process equipment area

Project: 012918169	XTO Energy, Inc. BEU Hackberry 34 Federal Battery #1	 <i>Advancing Opportunity</i>
December 13, 2018	Photographic Log	



View south of excavation around surface lines within both release areas (2RP-4399 and 2RP-5026)

Project: 012918169	XTO Energy, Inc. BEU Hackberry 34 Federal Battery #1	 Advancing Opportunity
December 17, 2018	Photographic Log	



View northeast of excavation within both release areas (2RP-4399 and 2RP-5026)

Project: 012918169	XTO Energy, Inc. BEU Hackberry 34 Federal Battery #1	 Advancing Opportunity
December 21, 2018	Photographic Log	



APPENDIX D

NMOCD Notifications

From: [Green, Garrett J](#)
To: [Tacoma Morrissey](#); [Ben Belill](#)
Cc: [DelawareSpills /SM](#)
Subject: FW: XTO - Sampling Notification (Week of 3/20/23 - 3/24/23)
Date: Thursday, March 16, 2023 10:53:00 AM

[**EXTERNAL EMAIL**]

From: Green, Garrett J
Sent: Thursday, March 16, 2023 9:52 AM
To: 'Enviro, OCD, EMNRD' <OCD.Enviro@emnrd.nm.gov>; 'Bratcher, Michael, EMNRD' <mike.bratcher@emnrd.nm.gov>; 'Harimon, Jocelyn, EMNRD' <Jocelyn.Harimon@emnrd.nm.gov>; 'Hamlet, Robert, EMNRD' <Robert.Hamlet@emnrd.nm.gov>
Subject: XTO - Sampling Notification (Week of 3/20/23 - 3/24/23)

All,

XTO plans to complete final sampling activities at the additional site the week of Mar 20, 2023.

-
- PLU 27 BD 163 / nAPP2226337852
- PLU CVX JV BS 008H / NAB1602154960
- PLU 420H / nAB1834656162
- Perla Verde 31 State battery/ nAPP2303444414
- BEU Hackberry / nAB1726335399
- Remuda 500 CTB / nAPP2303854000 & nAPP2306544797
- Indian Deep Com 7/ NAPP2301152626
- Nash Unit 36 / nAPP2224236187

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

From: [Collins, Melanie](#)
To: [Morgan, Crisha A](#); "[CFO_Spill, BLM_NM](#)"
Cc: [Green, Garrett J](#); [Tacoma Morrissey](#); [Ashley Ager](#); [DelawareSpills /SM](#)
Subject: XTO- Remediation Work Plan - BEU Hackberry 34 Federal 001- Incident Number NAB1726335399
Date: Friday, May 26, 2023 9:36:58 AM
Attachments: [image001.png](#)
[XTO_Remediation Work Plan_BEU Hackberry 34 Federal 001 \(Incident Number NAB1726335399\).pdf](#)

[**EXTERNAL EMAIL**]

All,

The XTO- Remediation Work Plan - BEU Hackberry 34 Federal 001- Incident Number NAB1726335399 has been uploaded to the NMOCD online portal with PO# PQAG0-230526-C-1410. Please reach out with questions or concerns.

BLM Summary:

On August 6, 2017, a Victaulic connection on the separator dump line failed and 18.79 barrels (bbls) of crude oil and 1.1 bbls of produced water were released within an unlined earthen containment berm. The release was included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018. During October and December 2018, delineation and excavation activities were conducted at the Site to address the impacted soil resulting from the August 6, 2017, crude oil and produced water release. Impacted soil was excavated to the extent possible; however, an estimated 250 cubic yards of impacted soil were left in place for compliance with XTO safety policy regarding earth-moving activities within two feet of active production equipment and pipelines. The impacted soil left in place was laterally and vertically delineated to below the Site Closure Criteria. A Deferral Request documenting the work completed was submitted January 3, 2019. On February 27, 2023, NMOCD denied the Deferral Request requesting additional horizontal delineation. While reviewing the Site following the NMOCD denial of the *Deferral Request*, XTO noted that the production equipment in the deferral area was relocated to the southern boundary of the well pad, which allows access to excavate the impacted soil that was left in place in 2018. Based on the relocation of production equipment, XTO proposes to excavate the impacted soil that was left in-place as described in the January 3, 2019, *Deferral Request* and complete the horizontal delineation as requested in the NMOCD denial language.

Thank you,

Melanie Collins



Environmental Technician

melanie.collins@exxonmobil.com

432-556-3756

From: [Green, Garrett J](#)
To: [Enviro, OCD, EMNRD](#); [Bratcher, Michael, EMNRD](#)
Cc: [DelawareSpills /SM](#); [Tacoma Morrissey](#)
Subject: XTO - Sampling Notification (Week of 6/12/23 - 6/16/23)
Date: Thursday, June 8, 2023 2:47:59 PM

[**EXTERNAL EMAIL **]

All,

XTO plans to complete final sampling activities at the sites listed below for the week of June 12, 2023.

Monday

- BEU Hackberry 34 / NAB1726335399

Tuesday

- BEU Hackberry 34 / NAB1726335399

Thursday

- PLU 224 / nAPP2310050120

Friday

- PLU 224 / nAPP2310050120

Thank you,

Garrett Green

Environmental Coordinator

Delaware Business Unit

(575) 200-0729

Garrett.Green@ExxonMobil.com

XTO Energy, Inc.

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District II
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Phone:(575) 748-1283 Fax:(575) 748-9720
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Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 247755

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 247755
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	Closure approved. Site will need to meet the requirements of 19.15.29.13 NMAC at time of plugging and abandonment.	9/6/2023