LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 103
Midland, Texas 79705
432.704.5178

May 7, 2019

Mr. Bradford Billings
New Mexico Oil Conservation Division
1220 South St. Francis Drive, #3
Santa Fe, New Mexico 87505

RE: Closure Request
BEU-DI-5 #004H
Remediation Permit Number 2RP-3013
Eddy County, New Mexico

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing excavation of impacted soil and confirmation soil sampling activities at the Big Eddy Unit (BEU)-DI-5 #004H (Site) in Unit G, Section 27, Township 20 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 a release from a heater-treater at the Site.

On May 20, 2015, a failed gasket on the heater-treater at the Site caused the release of 12 barrels (bbls) of crude oil and 6 bbls of produced water. The spill affected approximately 4,200 square feet of the earthen containment surrounding the processing equipment on the well pad. A vacuum truck was dispatched to the Site to recover free-standing fluid. Approximately 9 bbls of crude oil and 3 bbls of produced water were recovered. A hydro-vacuum excavator was used to remove saturated soil around the process equipment. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on May 22, 2015, and was assigned Remediation Permit (RP) Number 2RP-3013 (Attachment 1). Although this release occurred while the facility was operated by the previous operator, XTO is the current operator and is committed to addressing any releases that remain unresolved.

The 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 Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The release is categorized as a Tier III site in the Compliance Agreement, meaning remediation of the release began prior to August 14, 2018, the effective date of 19.15.29 NMAC, however remediation was ongoing. Based on the excavation activities and results of the soil sampling events, XTO is submitting this closure report and requesting no further action for this release event.

BACKGROUND

According to Section 12 of 19.15.29 NMAC, LTE applied the closure criteria in accordance with NMOCD Table 1, *Closure Criteria for Soils Impacted by a Release*. Depth to groundwater at the Site is estimated to be between 51 feet and 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well is United States Geological Survey (USGS) well 323307103503901 20S.31E.23.33312, located approximately 3,785 feet northeast of the Site, with a depth to groundwater of 78 feet bgs and a total depth of 156 feet bgs. The water well is approximately 16 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an Office of the State Engineer (OSE) stock pond located approximately 8,003 feet east-northeast 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 located in a low karst area. Based on these criteria, the following NMOCD Table 1 closure criteria were applied: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 1,000 mg/kg total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO); 2,500 mg/kg TPH; and 10,000 mg/kg chloride.

EXCAVATION ACTIVITIES

On April 16 and April 17, 2019, an LTE scientist was on-site to oversee excavation of impacted soil as indicated by information provided on the NMOCD Form C-141 and visual surface staining. To delineate impacts to soil and direct excavation activities, LTE screened soil using a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips. Impacted soil was excavated from the release area to depths ranging from 1.5 feet to 2 feet bgs. Due to the presence of active production equipment in the release area, two separate excavations were completed via hydro-vacuum. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of each excavation. The 5-point composite soil samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. 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. The excavation soil sample locations and depths are presented on Figure 2.

The northern excavation measured approximately 390 square feet in area with depths ranging from 1.5 feet to 2 feet bgs. Composite soil samples SW01 through SW03 were collected from the sidewalls of the excavation from depths ranging from the surface to 1.5 feet to 2 feet bgs.

Composite soil samples FS01 through FS03 were collected from the floor of the excavation from depths ranging from 1.5 feet to 2 feet bgs.

The southern excavation measured approximately 180 square feet in area and was completed to a depth of 2 feet bgs. Composite soil sample SW04 was collected from the sidewalls of the excavation from depths ranging from 0 feet bgs to 2 feet bgs. Composite soil sample FS04 was collected from the floor of the excavation from a depth of 2 feet bgs.

The excavation soil sample locations and the horizontal extents of the excavations are presented on Figure 2. A total of approximately 50 cubic yards of impacted soil were removed from the excavations. The impacted soil will be transported and properly disposed of at Lea Land landfill facility in Hobbs, New Mexico.

Laboratory analytical results indicated that all samples collected from the floor and sidewalls of the final excavation extent were compliant with the NMOCD Table 1 closure criteria for BTEX, GRO/DRO, TPH, and chloride. Laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the laboratory analytical report is included in Attachment 2.

DELINEATION ACTIVITIES

Upon removal of visibly impacted soil, LTE conducted delineation activities in the western and northern areas of the containment to confirm no additional impacted soil remained. Boreholes were advanced via hand auger at four locations (BH01 through BH04). Soil was field screened in each borehole using a PID and Hach® chloride QuanTab® test strips. Two delineation soil samples were collected from each borehole at depths ranging from 1 foot bgs to 4 feet bgs. The delineation soil sample locations and depths are presented on Figure 3, and soil sampling logs are included as Attachment 3. The delineation soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Midland, Texas.

Laboratory analytical results for the delineation soil samples collected from the four borehole locations indicated BTEX, GRO/DRO, TPH, and chloride concentrations are compliant with the NMOCD Table 1 closure criteria. Laboratory analytical results are presented on Figure 3 and summarized in Table 1. The laboratory analytical report is included in Attachment 2.

ANALYTICAL RESULTS

Laboratory analytical results indicated that all excavation soil samples and all borehole delineation soil samples were compliant with the NMOCD Table 1 closure criteria for BTEX, GRO/DRO, TPH, and chloride. Based on the laboratory analytical results, no further excavation was required. Laboratory analytical results are summarized in Table 1, and the laboratory analytical reports are included as Attachment 2.

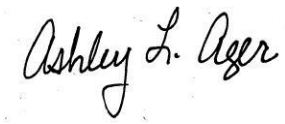
CONCLUSIONS

Impacted soil was excavated from the release area, and laboratory analytical results for the confirmation soil samples collected from the final excavation extent indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for this release. Upon approval of the no further action 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 4.

If you have any questions or comments, please do not hesitate to contact Ms. Ashley Ager at (970) 385-1096 or aager@ltenv.com.

Sincerely,

LT ENVIRONMENTAL, INC.



Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO Energy, Inc.
Jim Amos, U.S. Bureau of Land Management
Crystal Weaver, U.S. Bureau of Land Management
Michael Bratcher, NMOCD
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Attachments:

Figure 1	Site Location Map
Figure 2	Excavation Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-3013)
Attachment 2	Laboratory Analytical Reports
Attachment 3	Soil Samping Logs
Attachment 4	Photographic Log

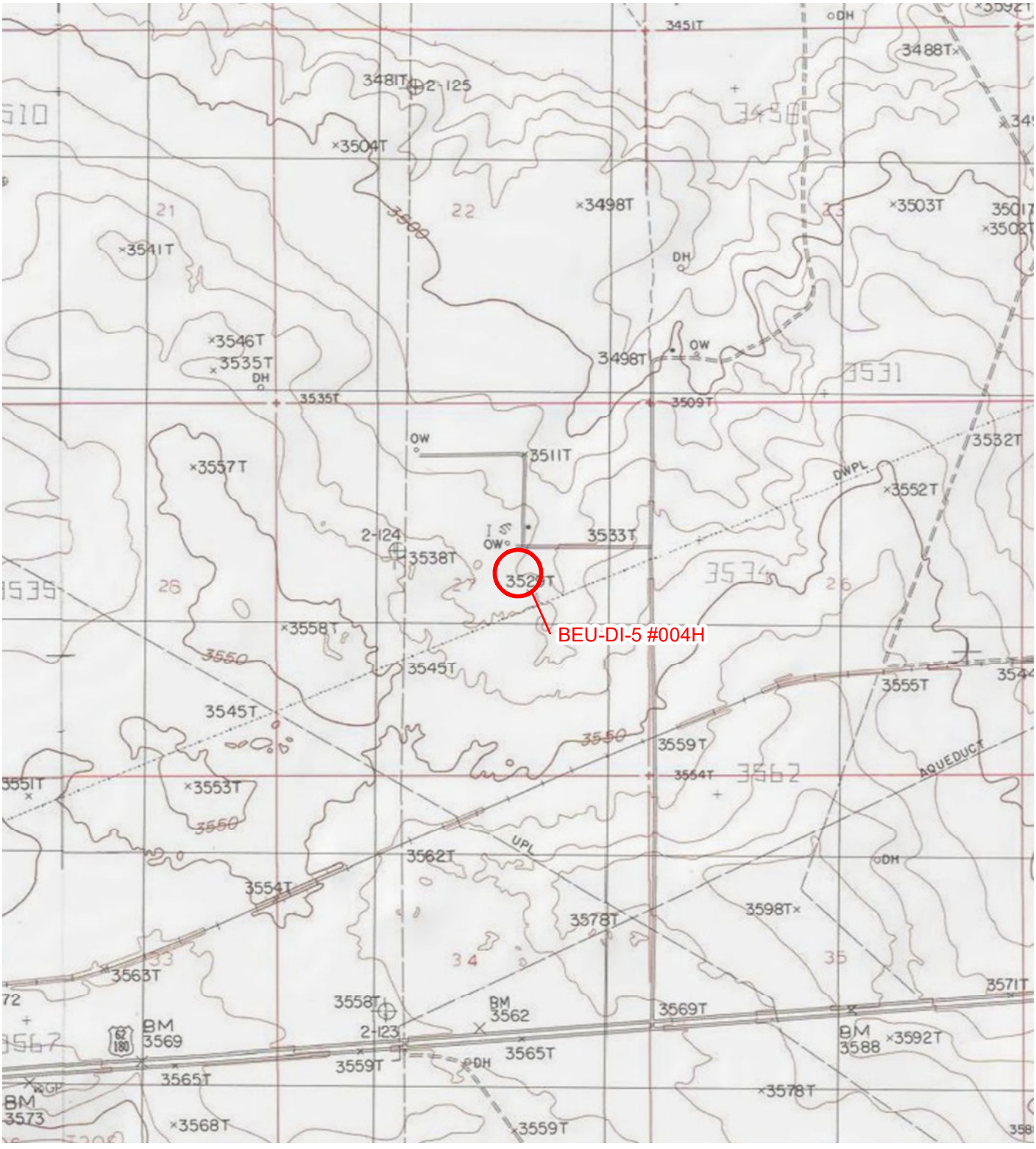


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-3013

FIGURE 1
SITE LOCATION MAP
BEU-DI-5 #004H
UNIT G SEC 27 T20S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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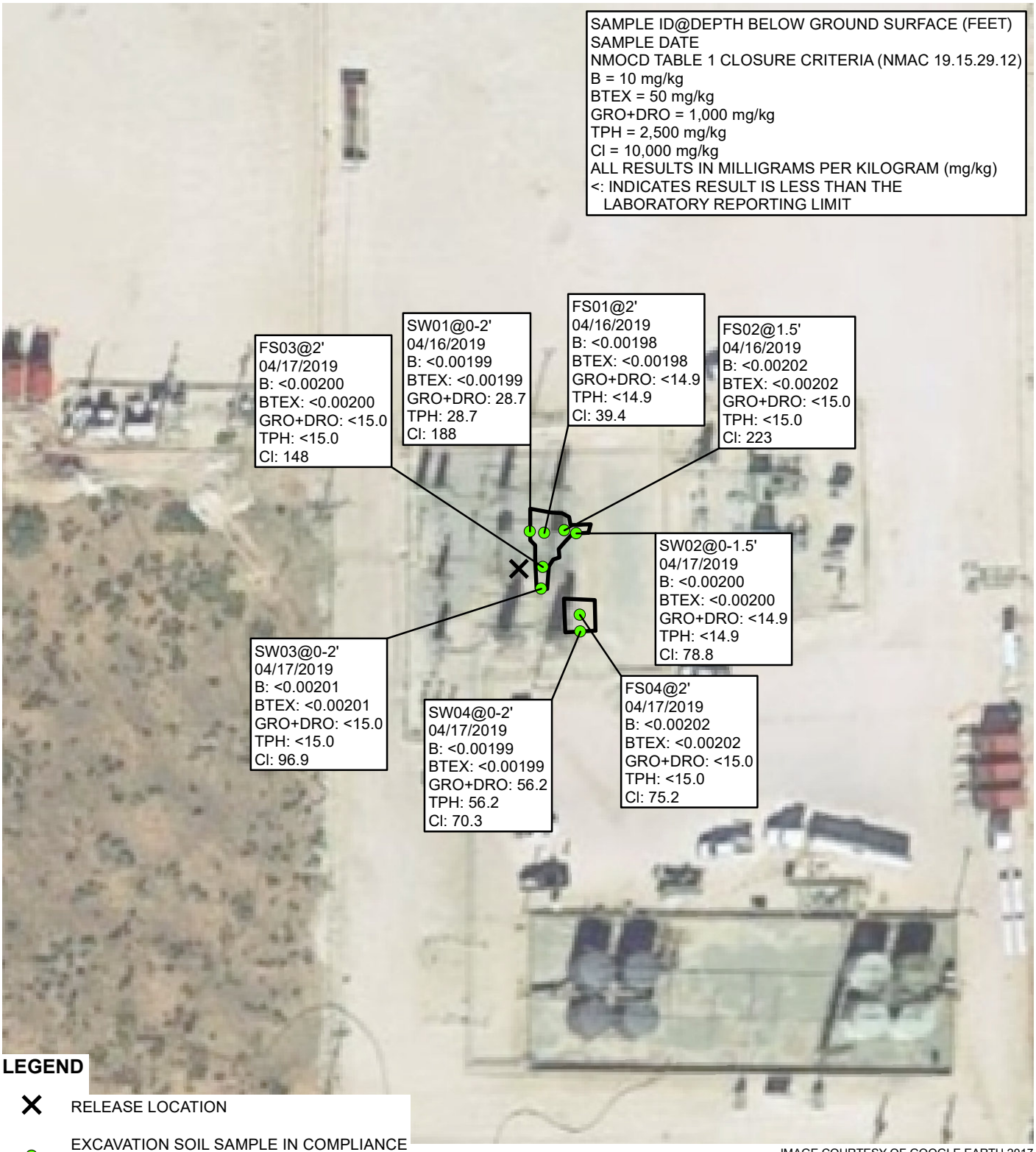
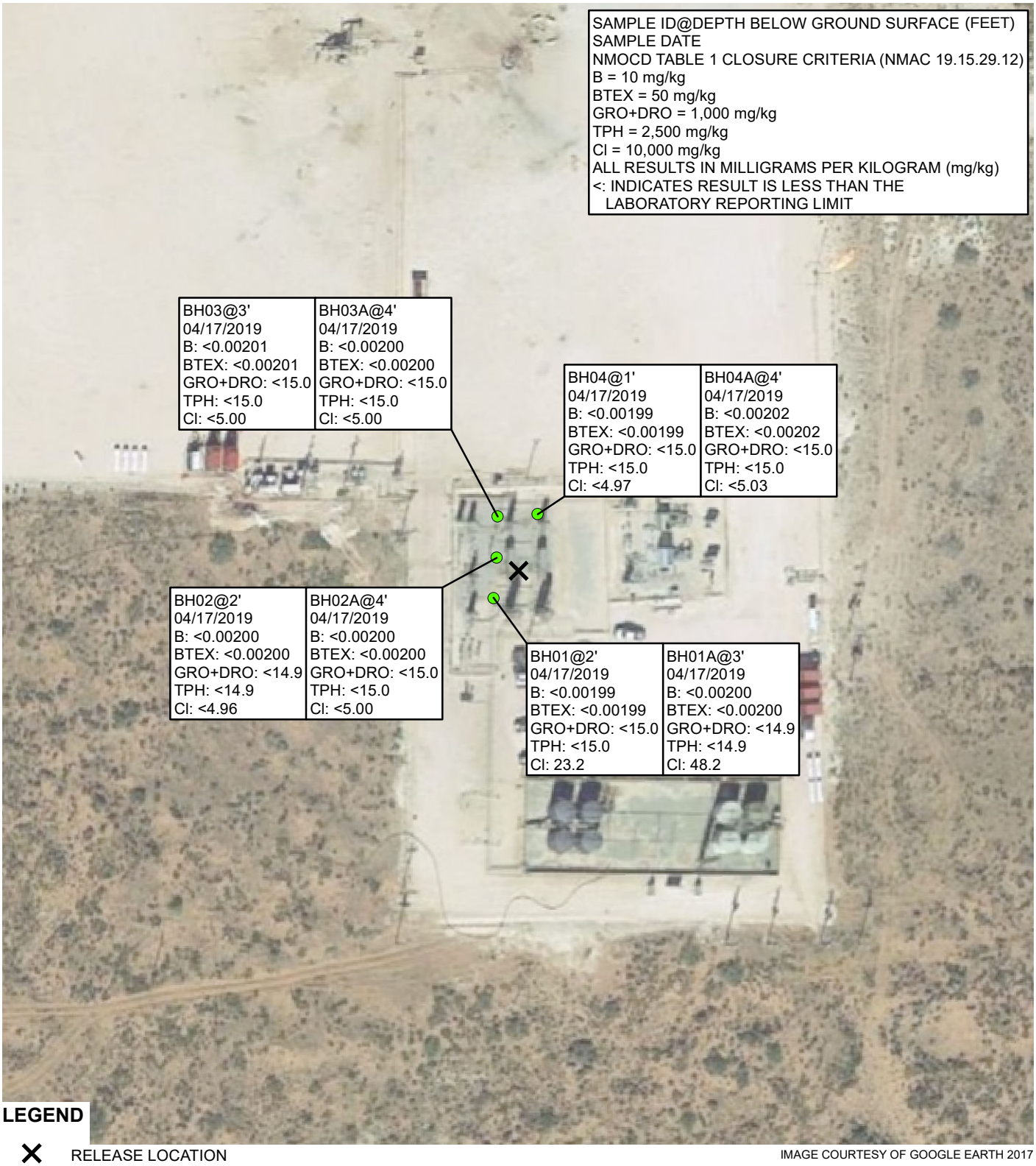


B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO – GASOLINE RANGE ORGANICS
DRO – DIESEL RANGE ORGANICS
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-3013

FIGURE 2
EXCAVATION SOIL SAMPLE LOCATIONS
BEU-DI-5 #004H
UNIT G SEC 27 T20S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918018_BEU-D1-5 #004H_HEATER TREATER\012918018_FIG02_EXC_2019_3013_1.mxd



LEGEND

✕ RELEASE LOCATION

● DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE STANDARDS

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO – GASOLINE RANGE ORGANICS
DRO – DIESEL RANGE ORGANICS
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-3013

IMAGE COURTESY OF GOOGLE EARTH 2017

0 100 200
Feet

N

FIGURE 3
DELINEATION SOIL SAMPLE LOCATIONS
BEU-DI-5 #004H
UNIT G SEC 27 T20S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918018_BEU-D1-5 #004H_HEATER TREATER\012918018_FIG03_DELIN_2019_3013_1.mxd

TABLE 1
SOIL ANALYTICAL RESULTS

BEU-DI-5 #004H
REMEDIATION PERMIT NUMBER 2RP-3013
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
FS01	2	04/16/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	<14.9	<14.9	<14.9	<14.9	39.4
FS02	1.5	04/16/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	223
SW01	0 - 2	04/16/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	28.7	<15.0	28.7	28.7	188
FS03	2	04/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	148
FS04	2	04/17/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	75.2
SW02	0 - 1.5	04/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	78.8
SW03	0 - 2	04/17/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	96.9
SW04	0 - 2	04/17/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	56.2	<15.0	56.2	56.2	70.3
BH01	2	04/17/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	23.2
BH01A	3	04/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	48.2
BH02	2	04/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	<4.96
BH02A	4	04/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
BH03	3	04/17/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
BH03A	4	04/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
BH04	1	04/17/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<4.97
BH04A	4	04/17/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	<5.03
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**10,000**

Notes:

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

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1514635341

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. 260737	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: BEU-DI-5 #004H (Heater-treater)	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-40397

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	27	20S	31E	1980	North	1848	East	Eddy

Latitude N 32.546095° **Longitude** W 103.854466°

NATURE OF RELEASE

Type of Release: Crude oil & produced water	Volume of Release: 12 bbls. oil and 6 bbls PW	Volume Recovered: 9 bbls oil and 3 bbls. PW
Source of Release: Heater-treater	Date and Hour of Occurrence: 5/20/15 time unknown	Date and Hour of Discovery: 5/20/15 at approximately 8:30 p.m.
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☐ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

NM OIL CONSERVATION
ARTESIA DISTRICT
MAY 22 2015
RECEIVED

Describe Cause of Problem and Remedial Action Taken.*
A gasket failed on the heater-treater. The vessel was bypassed. The gasket will be replaced.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 4,200 sq.ft. of caliche pad area inside the earthen containment around the process equipment. The free standing fluid was recovered with a vacuum truck. A hydro-vac will be used to remove the saturated soil around the equipment. Date to start will be based on crew availability. The spill area will be cleaned in accordance to the NMOCD and BLM remediation guidelines.

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.

Signature: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Management and Remediation Specialist

E-mail Address: tasavoie@basspet.com

Date: 5/22/15 Phone: 432-556-8730

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 5/26/15 Expiration Date: N/A

Conditions of Approval:
Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 5/28/15

Attached ☐

2RP-3013

* Attach Additional Sheets If Necessary

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-3013
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 #:
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.546095 Longitude -103.854466
(NAD 83 in decimal degrees to 5 decimal places)

Site Name BEU-DI-5 #004H	Site Type Exploration and Production
Date Release Discovered 5/20/2015	API# *(if applicable)* 30-015-40397

Unit Letter	Section	Township	Range	County
G	27	20S	31E	Eddy

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

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) 12	Volume Recovered (bbls) 9
☒ Produced Water	Volume Released (bbls) 6	Volume Recovered (bbls) 3
	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 gasket failed on the heater-treater. The vessel was bypassed. The gasket will be replaced. The spill impacted approximately 4,200 square feet of caliche pad inside the earthen containment around the processing equipment. The free-standing fluid was recovered with a vacuum truck. A hydro-vacuum will be used to remove the saturated soil around the equipment. Date to start will be based on crew availability. The spill area will be cleaned in accordance to the NMOCD and BLM remediation guidelines.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3013
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? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

Initial Response

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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

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

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 5/08/2019

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3013
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?	51-100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3013
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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 5/08/2019

email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3013
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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 5/08/2019

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

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: Bradford Billings Date: 11/18/2019

Printed Name: Bradford Billings Title: E.Spec.A

NOTE: RP is closed, however, if using most recent Rule for chemistry, other portions of the rule must be used as well. This site report, for example, does not contain geo-located sample positions. Understanding the time issues of when work done, etc.

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

Analytical Report 621576

for

LT Environmental, Inc.

Project Manager: Adrian Baker

BEU DI 5 004H

23-APR-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

23-APR-19

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

Reference: XENCO Report No(s): **621576**
BEU DI 5 004H
Project Address: ---

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) 621576. 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. 621576 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,

Kalei Stout
Carlsbad Laboratory Director

Sample Cross Reference 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	04-16-19 10:40	2 ft	621576-001
FS02	S	04-16-19 08:30	1.5 ft	621576-002
FS03	S	04-17-19 14:30	2 ft	621576-003
FS04	S	04-17-19 16:30	2 ft	621576-004
SW01	S	04-16-19 10:45	0 - 2 ft	621576-005
SW02	S	04-17-19 14:50	0 - 1.5 ft	621576-006
SW03	S	04-17-19 14:35	0 - 2 ft	621576-007
SW04	S	04-17-19 16:15	0 - 2 ft	621576-008

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3086479 BTEX by EPA 8021B

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

Certificate of Analysis Summary 621576

LT Environmental, Inc., Arvada, CO

Project Name: BEU DI 5 004H

Project Id: ---
Contact: Adrian Baker
Project Location: ---

Date Received in Lab: Thu Apr-18-19 12:38 pm
Report Date: 23-APR-19
Project Manager: Kalei Stout

Analysis Requested	*Lab Id:*	621576-001		621576-002		621576-003		621576-004		621576-005		621576-006	
	Field Id:	FS01		FS02		FS03		FS04		SW01		SW02	
	Depth:	2- ft		1.5- ft		2- ft		2- ft		0-2 ft		0-1.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-16-19 10:40		Apr-16-19 08:30		Apr-17-19 14:30		Apr-17-19 16:30		Apr-16-19 10:45		Apr-17-19 14:50	
BTEX by EPA 8021B SUB: T104704400-18-16	*Extracted:*	Apr-19-19 12:45		Apr-19-19 12:45		Apr-19-19 12:45		Apr-19-19 12:45		Apr-19-19 12:45		Apr-19-19 12:45	
	Analyzed:	Apr-19-19 20:08		Apr-19-19 20:27		Apr-19-19 20:46		Apr-19-19 21:05		Apr-19-19 21:24		Apr-19-19 21:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00397	0.00397	<0.00404	0.00404	<0.00400	0.00400	<0.00403	0.00403	<0.00398	0.00398	<0.00400	0.00400
o-Xylene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Chloride by EPA 300 SUB: T104704400-18-16	*Extracted:*	Apr-23-19 09:15		Apr-23-19 09:15		Apr-23-19 09:15		Apr-23-19 09:15		Apr-23-19 09:15		Apr-23-19 09:15	
	Analyzed:	Apr-23-19 11:13		Apr-23-19 11:20		Apr-23-19 11:26		Apr-23-19 11:45		Apr-23-19 11:51		Apr-23-19 12:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		39.4	4.99	223	5.01	148	4.95	75.2	4.99	188	4.95	78.8	4.97
TPH by SW8015 Mod SUB: T104704400-18-16	*Extracted:*	Apr-19-19 17:00		Apr-19-19 17:00		Apr-19-19 17:00		Apr-19-19 17:00		Apr-19-19 17:00		Apr-19-19 17:00	
	Analyzed:	Apr-20-19 01:01		Apr-20-19 01:21		Apr-20-19 02:20		Apr-20-19 02:40		Apr-20-19 03:00		Apr-20-19 03:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Diesel Range Organics (DRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	28.7	15.0	<14.9	14.9
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Total TPH		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	28.7	15.0	<14.9	14.9
Total GRO-DRO		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	28.7	15.0	<14.9	14.9

Kalei Stout
Carlsbad Laboratory Director

Certificate of Analysis Summary 621576

LT Environmental, Inc., Arvada, CO

Project Name: BEU DI 5 004H

Project Id: ---
Contact: Adrian Baker
Project Location: ---

Date Received in Lab: Thu Apr-18-19 12:38 pm
Report Date: 23-APR-19
Project Manager: Kalei Stout

Analysis Requested									
	Lab Id:	621576-007		621576-008					
	Field Id:	SW03		SW04					
	Depth:	0-2 ft		0-2 ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Apr-17-19 14:35		Apr-17-19 16:15					
BTEX by EPA 8021B	***Extracted:***	Apr-19-19 12:45		Apr-19-19 12:45					
SUB: T104704400-18-16	***Analyzed:***	Apr-19-19 22:02		Apr-19-19 22:21					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00201	0.00201	<0.00199	0.00199				
Toluene		<0.00201	0.00201	<0.00199	0.00199				
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199				
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398				
o-Xylene		<0.00201	0.00201	<0.00199	0.00199				
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199				
Total BTEX		<0.00201	0.00201	<0.00199	0.00199				
Chloride by EPA 300	***Extracted:***	Apr-23-19 09:15		Apr-23-19 09:15					
SUB: T104704400-18-16	***Analyzed:***	Apr-23-19 12:17		Apr-23-19 12:23					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		96.9	4.95	70.3	4.95				
TPH by SW8015 Mod	***Extracted:***	Apr-19-19 17:00		Apr-19-19 17:00					
SUB: T104704400-18-16	***Analyzed:***	Apr-20-19 03:40		Apr-20-19 04:01					
	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	56.2	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	56.2	15.0				
Total GRO-DRO		<15.0	15.0	56.2	15.0				

Kalei Stout
Carlsbad Laboratory Director

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-001	Date Collected:	04.16.19 10.40	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.4**	4.99	mg/kg	04.23.19 11.13		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.20.19 01.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.20.19 01.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.20.19 01.01	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.20.19 01.01	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.20.19 01.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	04.20.19 01.01	
o-Terphenyl	84-15-1	83	%	70-135	04.20.19 01.01	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-001	Date Collected:	04.16.19 10.40	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 12.45	Basis:	Wet Weight
Seq Number:	3086479			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.19.19 20.08	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.19.19 20.08	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.19.19 20.08	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.19.19 20.08	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.19.19 20.08	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.19.19 20.08	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.19.19 20.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83	%	70-130	04.19.19 20.08	
4-Bromofluorobenzene	460-00-4	77	%	70-130	04.19.19 20.08	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-002	Date Collected:	04.16.19 08.30	Sample Depth:	1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**223**	5.01	mg/kg	04.23.19 11.20		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.20.19 01.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.20.19 01.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.20.19 01.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.20.19 01.21	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.20.19 01.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	04.20.19 01.21	
o-Terphenyl	84-15-1	88	%	70-135	04.20.19 01.21	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-002	Date Collected:	04.16.19 08.30	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 12.45	Basis:	Wet Weight
Seq Number:	3086479			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.19.19 20.27	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.19.19 20.27	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.19.19 20.27	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.19.19 20.27	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.19.19 20.27	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.19.19 20.27	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.19.19 20.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.19.19 20.27	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.19.19 20.27	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-003	Date Collected:	04.17.19 14.30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**148**	4.95	mg/kg	04.23.19 11.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.20.19 02.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.20.19 02.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.20.19 02.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.20.19 02.20	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.20.19 02.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	04.20.19 02.20	
o-Terphenyl	84-15-1	94	%	70-135	04.20.19 02.20	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-003	Date Collected:	04.17.19 14.30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 12.45	Basis:	Wet Weight
Seq Number:	3086479			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.19.19 20.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.19.19 20.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.19.19 20.46	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.19.19 20.46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.19.19 20.46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.19.19 20.46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.19.19 20.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	04.19.19 20.46	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.19.19 20.46	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-004	Date Collected:	04.17.19 16.30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**75.2**	4.99	mg/kg	04.23.19 11.45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.20.19 02.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.20.19 02.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.20.19 02.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.20.19 02.40	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.20.19 02.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	04.20.19 02.40	
o-Terphenyl	84-15-1	93	%	70-135	04.20.19 02.40	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-004	Date Collected:	04.17.19 16.30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 12.45	Basis:	Wet Weight
Seq Number:	3086479			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.19.19 21.05	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.19.19 21.05	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.19.19 21.05	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.19.19 21.05	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.19.19 21.05	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.19.19 21.05	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.19.19 21.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.19.19 21.05	
4-Bromofluorobenzene	460-00-4	107	%	70-130	04.19.19 21.05	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-005	Date Collected:	04.16.19 10.45	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**188**	4.95	mg/kg	04.23.19 11.51		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.20.19 03.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	**28.7**	15.0	mg/kg	04.20.19 03.00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.20.19 03.00	U	1
Total TPH	PHC635	**28.7**	15.0	mg/kg	04.20.19 03.00		1
Total GRO-DRO	PHC628	**28.7**	15.0	mg/kg	04.20.19 03.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.20.19 03.00	
o-Terphenyl	84-15-1	91	%	70-135	04.20.19 03.00	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-005	Date Collected:	04.16.19 10.45	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 12.45	Basis:	Wet Weight
Seq Number:	3086479			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.19.19 21.24	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.19.19 21.24	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.19.19 21.24	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.19.19 21.24	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.19.19 21.24	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.19.19 21.24	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.19.19 21.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.19.19 21.24	
4-Bromofluorobenzene	460-00-4	103	%	70-130	04.19.19 21.24	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-006	Date Collected:	04.17.19 14.50	Sample Depth:	0 - 1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**78.8**	4.97	mg/kg	04.23.19 12.10		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.20.19 03.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.20.19 03.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.20.19 03.20	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.20.19 03.20	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.20.19 03.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	04.20.19 03.20	
o-Terphenyl	84-15-1	86	%	70-135	04.20.19 03.20	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-006	Date Collected:	04.17.19 14.50	Sample Depth:	0 - 1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 12.45	Basis:	Wet Weight
Seq Number:	3086479			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.19.19 21.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.19.19 21.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.19.19 21.43	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.19.19 21.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.19.19 21.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.19.19 21.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.19.19 21.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.19.19 21.43	
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.19.19 21.43	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-007	Date Collected:	04.17.19 14.35	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**96.9**	4.95	mg/kg	04.23.19 12.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.20.19 03.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.20.19 03.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.20.19 03.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.20.19 03.40	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.20.19 03.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	04.20.19 03.40	
o-Terphenyl	84-15-1	88	%	70-135	04.20.19 03.40	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-007	Date Collected:	04.17.19 14.35	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 12.45	Basis:	Wet Weight
Seq Number:	3086479			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.19.19 22.02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.19.19 22.02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.19.19 22.02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.19.19 22.02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.19.19 22.02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.19.19 22.02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.19.19 22.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	04.19.19 22.02	
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.19.19 22.02	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-008	Date Collected:	04.17.19 16.15	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**70.3**	4.95	mg/kg	04.23.19 12.23		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.20.19 04.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	**56.2**	15.0	mg/kg	04.20.19 04.01		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.20.19 04.01	U	1
Total TPH	PHC635	**56.2**	15.0	mg/kg	04.20.19 04.01		1
Total GRO-DRO	PHC628	**56.2**	15.0	mg/kg	04.20.19 04.01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.20.19 04.01	
o-Terphenyl	84-15-1	91	%	70-135	04.20.19 04.01	

Certificate of Analytical Results 621576

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621576-008	Date Collected:	04.17.19 16.15	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 12.45	Basis:	Wet Weight
Seq Number:	3086479			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.19.19 22.21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.19.19 22.21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.19.19 22.21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.19.19 22.21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.19.19 22.21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.19.19 22.21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.19.19 22.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.19.19 22.21	
4-Bromofluorobenzene	460-00-4	101	%	70-130	04.19.19 22.21	

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

QC Summary 621576

LT Environmental, Inc.

BEU DI 5 004H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3086608 Matrix: Solid Date Prep: 04.23.19
MB Sample Id: 7676337-1-BLK LCS Sample Id: 7676337-1-BKS LCSD Sample Id: 7676337-1-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	252	101	256	102	90-110	2	20	mg/kg	04.23.19 09:45	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3086608 Matrix: Soil Date Prep: 04.23.19
Parent Sample Id: 621574-001 MS Sample Id: 621574-001 S MSD Sample Id: 621574-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.3	249	303	112	298	110	90-110	2	20	mg/kg	04.23.19 10:04	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3086608 Matrix: Soil Date Prep: 04.23.19
Parent Sample Id: 621576-003 MS Sample Id: 621576-003 S MSD Sample Id: 621576-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	148	248	407	104	410	106	90-110	1	20	mg/kg	04.23.19 11:32	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3086485 Matrix: Solid Date Prep: 04.19.19
MB Sample Id: 7676239-1-BLK LCS Sample Id: 7676239-1-BKS LCSD Sample Id: 7676239-1-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	1050	105	1010	101	70-135	4	20	mg/kg	04.19.19 21:05	
Diesel Range Organics (DRO)	<8.13	1000	1120	112	1070	107	70-135	5	20	mg/kg	04.19.19 21:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		123		122		70-135	%	04.19.19 21:05
o-Terphenyl	103		118		126		70-135	%	04.19.19 21:05

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 621576

LT Environmental, Inc.

BEU DI 5 004H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3086485 Matrix: Soil Date Prep: 04.19.19
Parent Sample Id: 621574-001 MS Sample Id: 621574-001 S MSD Sample Id: 621574-001 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)	8.24	999	864	86	864	86	70-135	0	20	mg/kg	04.19.19 22:04	
Diesel Range Organics (DRO)	<8.12	999	905	91	897	90	70-135	1	20	mg/kg	04.19.19 22:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		111		70-135	%	04.19.19 22:04
o-Terphenyl	102		105		70-135	%	04.19.19 22:04

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3086479 Matrix: Solid Date Prep: 04.19.19
MB Sample Id: 7676251-1-BLK LCS Sample Id: 7676251-1-BKS LCSD Sample Id: 7676251-1-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	0.0999	100	0.0833	84	70-130	18	35	mg/kg	04.19.19 13:52	
Toluene	<0.000456	0.100	0.101	101	0.0845	85	70-130	18	35	mg/kg	04.19.19 13:52	
Ethylbenzene	<0.000565	0.100	0.0942	94	0.0782	79	70-130	19	35	mg/kg	04.19.19 13:52	
m,p-Xylenes	<0.00101	0.200	0.186	93	0.154	77	70-130	19	35	mg/kg	04.19.19 13:52	
o-Xylene	<0.000344	0.100	0.0950	95	0.0792	80	70-130	18	35	mg/kg	04.19.19 13:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		101		100		70-130	%	04.19.19 13:52
4-Bromofluorobenzene	86		96		94		70-130	%	04.19.19 13:52

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3086479 Matrix: Soil Date Prep: 04.19.19
Parent Sample Id: 621718-001 MS Sample Id: 621718-001 S MSD Sample Id: 621718-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.0714	72	0.0848	85	70-130	17	35	mg/kg	04.19.19 14:30	
Toluene	<0.000455	0.0998	0.0714	72	0.0854	85	70-130	18	35	mg/kg	04.19.19 14:30	
Ethylbenzene	<0.000564	0.0998	0.0649	65	0.0785	79	70-130	19	35	mg/kg	04.19.19 14:30	X
m,p-Xylenes	<0.00101	0.200	0.128	64	0.154	77	70-130	18	35	mg/kg	04.19.19 14:30	X
o-Xylene	<0.000344	0.0998	0.0655	66	0.0791	79	70-130	19	35	mg/kg	04.19.19 14:30	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		101		70-130	%	04.19.19 14:30
4-Bromofluorobenzene	95		97		70-130	%	04.19.19 14:30

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

Work Order No: 621576

XENCO LABORATORIES

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)

www.xenco.com Page 1 of 1

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrel
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:	Carlsbad NM
Phone:	432.704.5178	Email:	

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	BEU DI 5 004H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP-3013	Rush: 5 day	
Sampler's Name:	Robert M.	Due Date: 04/22/19	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	4	Thermometer ID	TNM007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Total Containers:	8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
FS01	S	04/16/19	1040	2'	1	X	X	X
FS02		04/16/19	0830	1.5'		X	X	X
FS03		04/17/19	1430	2'		X	X	X
FS04		04/17/19	1610	2'		X	X	X
SW01		04/16/19	1045	0-2'		X	X	X
SW02		04/17/19	1450	0-1.5'		X	X	X
SW03		04/17/19	1435	0-2'		X	X	X
SW04		04/17/19	1615	0-2'		X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

composite

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 Tl 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 Tl U **1631 / 245.1 / 7470 / 7471** : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Robert Medlin					
2				Robert Medlin		041819 12:30
3						
4						
5						
6						

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number : 37369

Date/Time: 04/18/19 17:09
Created by: Martha Castro
Please send report to: Kalei Stout

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.:
E-Mail: kalei.stout@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
621576-001	S	FS01	04/16/19 10:40	E300_CL	Chloride by EPA 300	04/22/19	05/14/19	KLS	CL	
621576-001	S	FS01	04/16/19 10:40	SW8021B	BTEX by EPA 8021B	04/22/19	04/30/19	KLS	BR4FBZ BZ BZME EBZ X	
621576-001	S	FS01	04/16/19 10:40	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	04/30/19	KLS	GRO-DRO PHCC10C28 P	
621576-002	S	FS02	04/16/19 08:30	E300_CL	Chloride by EPA 300	04/22/19	05/14/19	KLS	CL	
621576-002	S	FS02	04/16/19 08:30	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	04/30/19	KLS	GRO-DRO PHCC10C28 P	
621576-002	S	FS02	04/16/19 08:30	SW8021B	BTEX by EPA 8021B	04/22/19	04/30/19	KLS	BR4FBZ BZ BZME EBZ X	
621576-003	S	FS03	04/17/19 14:30	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 P	
621576-003	S	FS03	04/17/19 14:30	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	
621576-003	S	FS03	04/17/19 14:30	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621576-004	S	FS04	04/17/19 16:30	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 P	
621576-004	S	FS04	04/17/19 16:30	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	
621576-004	S	FS04	04/17/19 16:30	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621576-005	S	SW01	04/16/19 10:45	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	04/30/19	KLS	GRO-DRO PHCC10C28 P	
621576-005	S	SW01	04/16/19 10:45	E300_CL	Chloride by EPA 300	04/22/19	05/14/19	KLS	CL	
621576-005	S	SW01	04/16/19 10:45	SW8021B	BTEX by EPA 8021B	04/22/19	04/30/19	KLS	BR4FBZ BZ BZME EBZ X	
621576-006	S	SW02	04/17/19 14:50	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	
621576-006	S	SW02	04/17/19 14:50	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 P	
621576-006	S	SW02	04/17/19 14:50	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621576-007	S	SW03	04/17/19 14:35	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621576-007	S	SW03	04/17/19 14:35	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 P	
621576-007	S	SW03	04/17/19 14:35	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	
621576-008	S	SW04	04/17/19 16:15	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 P	
621576-008	S	SW04	04/17/19 16:15	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621576-008	S	SW04	04/17/19 16:15	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	

Inter-Office Shipment

IOS Number : 37369

Date/Time: 04/18/19 17:09
Created by: Martha Castro
Please send report to: Kalei Stout

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.:
E-Mail: kalei.stout@xenco.com

Inter Office Shipment or Sample Comments:

Relinquished By: Martha Castro

Received By: Katie Lowe

Date Relinquished: 04/18/2019

Date Received: 04/19/2019 00:00

Cooler Temperature: 4.0

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 37369

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Martha Castro **Date Sent:** 04/18/2019 05:09 PM

Received By: Katie Lowe **Date Received:** 04/19/2019 12:00 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#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: Katie Lowe Date: 04/19/2019

Katie Lowe

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04/18/2019 12:38:00 PM

Work Order #: 621576

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : TNM007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4
#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**
#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: Martha Castro Date: 04/18/2019

Checklist reviewed by: Kalei Stout Date: 04/19/2019

Analytical Report 621574

for

LT Environmental, Inc.

Project Manager: Adrian Baker

BEU DI 5 004H

23-APR-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

23-APR-19

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

Reference: XENCO Report No(s): **621574**
BEU DI 5 004H
Project Address: ---

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) 621574. 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. 621574 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,

Kalei Stout
Carlsbad Laboratory Director

Sample Cross Reference 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	04-17-19 12:45	2 ft	621574-001
BH01 A	S	04-17-19 12:50	3 ft	621574-002
BH02	S	04-17-19 13:05	2 ft	621574-003
BH02 A	S	04-17-19 13:15	4 ft	621574-004
BH03	S	04-17-19 13:30	3 ft	621574-005
BH03 A	S	04-17-19 13:35	4 ft	621574-006
BH04	S	04-17-19 13:45	1 ft	621574-007
BH04 A	S	04-17-19 14:00	4 ft	621574-008

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3086499 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.
Samples affected are: 621702-009 SD,621574-008,621574-007.

Batch: LBA-3086608 Inorganic Anions by EPA 300
Lab Sample ID 621576-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.
Samples in the analytical batch are: 621574-001, -002, -003, -004, -005, -006, -007, -008.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 621574

LT Environmental, Inc., Arvada, CO

Project Name: BEU DI 5 004H

Project Id: ---
Contact: Adrian Baker
Project Location: ---

Date Received in Lab: Thu Apr-18-19 12:38 pm
Report Date: 23-APR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	621574-001		621574-002		621574-003		621574-004		621574-005		621574-006	
	Field Id:	BH01		BH01 A		BH02		BH02 A		BH03		BH03 A	
	Depth:	2- ft		3- ft		2- ft		4- ft		3- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-17-19 12:45		Apr-17-19 12:50		Apr-17-19 13:05		Apr-17-19 13:15		Apr-17-19 13:30		Apr-17-19 13:35	
BTEX by EPA 8021B SUB: T104704400-18-16	***Extracted:***	Apr-19-19 13:30		Apr-19-19 13:30		Apr-19-19 13:30		Apr-19-19 13:30		Apr-19-19 13:30		Apr-19-19 13:30	
	Analyzed:	Apr-20-19 02:02		Apr-20-19 02:21		Apr-20-19 02:40		Apr-20-19 02:59		Apr-20-19 03:18		Apr-20-19 03:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes		<0.00398	0.00398	<0.00401	0.00401	<0.00399	0.00399	<0.00400	0.00400	<0.00402	0.00402	<0.00401	0.00401
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Chloride by EPA 300 SUB: T104704400-18-16	***Extracted:***	Apr-23-19 09:15		Apr-23-19 09:15		Apr-23-19 09:15		Apr-23-19 09:15		Apr-23-19 09:15		Apr-23-19 09:15	
	Analyzed:	Apr-23-19 09:57		Apr-23-19 10:16		Apr-23-19 10:23		Apr-23-19 10:29		Apr-23-19 10:35		Apr-23-19 10:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		23.3	4.98	48.2	5.03	<4.96	4.96	<5.00	5.00	<5.00	5.00	<5.00	5.00
TPH by SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Apr-19-19 17:00		Apr-19-19 17:00		Apr-19-19 17:00		Apr-19-19 17:00		Apr-19-19 17:00		Apr-19-19 17:00	
	Analyzed:	Apr-19-19 21:44		Apr-19-19 22:43		Apr-19-19 23:02		Apr-19-19 23:22		Apr-19-19 23:42		Apr-20-19 00:01	
	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	<14.9	14.9	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total GRO-DRO		<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0

Kalei Stout
Carlsbad Laboratory Director

Certificate of Analysis Summary 621574

LT Environmental, Inc., Arvada, CO

Project Name: BEU DI 5 004H

Project Id: ---
Contact: Adrian Baker
Project Location: ---

Date Received in Lab: Thu Apr-18-19 12:38 pm
Report Date: 23-APR-19
Project Manager: Kalei Stout

Analysis Requested									
	Lab Id:	621574-007		621574-008					
	Field Id:	BH04		BH04 A					
	Depth:	1- ft		4- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Apr-17-19 13:45		Apr-17-19 14:00					
BTEX by EPA 8021B	***Extracted:***	Apr-19-19 13:30		Apr-19-19 13:30					
SUB: T104704400-18-16	***Analyzed:***	Apr-20-19 03:56		Apr-20-19 04:15					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00202	0.00202				
Toluene		<0.00199	0.00199	<0.00202	0.00202				
Ethylbenzene		<0.00199	0.00199	<0.00202	0.00202				
m,p-Xylenes		<0.00398	0.00398	<0.00403	0.00403				
o-Xylene		<0.00199	0.00199	<0.00202	0.00202				
Total Xylenes		<0.00199	0.00199	<0.00202	0.00202				
Total BTEX		<0.00199	0.00199	<0.00202	0.00202				
Chloride by EPA 300	***Extracted:***	Apr-23-19 09:15		Apr-23-19 09:15					
SUB: T104704400-18-16	***Analyzed:***	Apr-23-19 11:01		Apr-23-19 11:07					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		<4.97	4.97	<5.03	5.03				
TPH by SW8015 Mod	***Extracted:***	Apr-19-19 17:00		Apr-19-19 17:00					
SUB: T104704400-18-16	***Analyzed:***	Apr-20-19 00:21		Apr-20-19 00:41					
	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	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				
Total GRO-DRO		<15.0	15.0	<15.0	15.0				

Kalei Stout
Carlsbad Laboratory Director

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-001	Date Collected:	04.17.19 12.45	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.3**	4.98	mg/kg	04.23.19 09.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.19.19 21.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.19.19 21.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.19.19 21.44	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.19.19 21.44	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.19.19 21.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.19.19 21.44	
o-Terphenyl	84-15-1	91	%	70-135	04.19.19 21.44	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-001	Date Collected:	04.17.19 12.45	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 13.30	Basis:	Wet Weight
Seq Number:	3086499			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.20.19 02.02	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.20.19 02.02	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.20.19 02.02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.20.19 02.02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.20.19 02.02	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.20.19 02.02	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.20.19 02.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	04.20.19 02.02	
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.20.19 02.02	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH01 A**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-002	Date Collected:	04.17.19 12.50	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**48.2**	5.03	mg/kg	04.23.19 10.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.19.19 22.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.19.19 22.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.19.19 22.43	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.19.19 22.43	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.19.19 22.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.19.19 22.43	
o-Terphenyl	84-15-1	91	%	70-135	04.19.19 22.43	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH01 A**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-002	Date Collected:	04.17.19 12.50	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 13.30	Basis:	Wet Weight
Seq Number:	3086499			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.20.19 02.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.20.19 02.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.20.19 02.21	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.20.19 02.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.20.19 02.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.20.19 02.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.20.19 02.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.20.19 02.21	
4-Bromofluorobenzene	460-00-4	126	%	70-130	04.20.19 02.21	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-003	Date Collected:	04.17.19 13.05	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	04.23.19 10.23	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.19.19 23.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.19.19 23.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.19.19 23.02	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.19.19 23.02	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.19.19 23.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.19.19 23.02	
o-Terphenyl	84-15-1	90	%	70-135	04.19.19 23.02	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-003	Date Collected:	04.17.19 13.05	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 13.30	Basis:	Wet Weight
Seq Number:	3086499			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.20.19 02.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.20.19 02.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.20.19 02.40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.20.19 02.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.20.19 02.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.20.19 02.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.20.19 02.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	04.20.19 02.40	
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.20.19 02.40	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH02 A**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-004	Date Collected:	04.17.19 13.15	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	04.23.19 10.29	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.19.19 23.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.19.19 23.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.19.19 23.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.19.19 23.22	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.19.19 23.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.19.19 23.22	
o-Terphenyl	84-15-1	89	%	70-135	04.19.19 23.22	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH02 A**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-004	Date Collected:	04.17.19 13.15	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 13.30	Basis:	Wet Weight
Seq Number:	3086499			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.20.19 02.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.20.19 02.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.20.19 02.59	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.20.19 02.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.20.19 02.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.20.19 02.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.20.19 02.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.20.19 02.59	
4-Bromofluorobenzene	460-00-4	119	%	70-130	04.20.19 02.59	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-005	Date Collected:	04.17.19 13.30	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	04.23.19 10.35	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.19.19 23.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.19.19 23.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.19.19 23.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.19.19 23.42	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.19.19 23.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.19.19 23.42	
o-Terphenyl	84-15-1	90	%	70-135	04.19.19 23.42	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-005	Date Collected:	04.17.19 13.30	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 13.30	Basis:	Wet Weight
Seq Number:	3086499			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.20.19 03.18	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.20.19 03.18	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.20.19 03.18	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.20.19 03.18	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.20.19 03.18	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.20.19 03.18	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.20.19 03.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.20.19 03.18	
4-Bromofluorobenzene	460-00-4	123	%	70-130	04.20.19 03.18	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH03 A**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-006	Date Collected:	04.17.19 13.35	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	04.23.19 10.54	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.20.19 00.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.20.19 00.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.20.19 00.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.20.19 00.01	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.20.19 00.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.20.19 00.01	
o-Terphenyl	84-15-1	88	%	70-135	04.20.19 00.01	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH03 A**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-006	Date Collected:	04.17.19 13.35	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 13.30	Basis:	Wet Weight
Seq Number:	3086499			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.20.19 03.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.20.19 03.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.20.19 03.37	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.20.19 03.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.20.19 03.37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.20.19 03.37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.20.19 03.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	125	%	70-130	04.20.19 03.37	
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.20.19 03.37	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-007	Date Collected:	04.17.19 13.45	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	04.23.19 11.01	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.20.19 00.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.20.19 00.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.20.19 00.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.20.19 00.21	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.20.19 00.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.20.19 00.21	
o-Terphenyl	84-15-1	91	%	70-135	04.20.19 00.21	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-007	Date Collected:	04.17.19 13.45	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 13.30	Basis:	Wet Weight
Seq Number:	3086499			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.20.19 03.56	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.20.19 03.56	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.20.19 03.56	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.20.19 03.56	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.20.19 03.56	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.20.19 03.56	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.20.19 03.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	04.20.19 03.56	
4-Bromofluorobenzene	460-00-4	159	%	70-130	04.20.19 03.56	**

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH04 A**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-008	Date Collected:	04.17.19 14.00	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.23.19 09.15	Basis:	Wet Weight
Seq Number:	3086608			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.03	5.03	mg/kg	04.23.19 11.07	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.19.19 17.00	Basis:	Wet Weight
Seq Number:	3086485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.20.19 00.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.20.19 00.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.20.19 00.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.20.19 00.41	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.20.19 00.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.20.19 00.41	
o-Terphenyl	84-15-1	92	%	70-135	04.20.19 00.41	

Certificate of Analytical Results 621574

LT Environmental, Inc., Arvada, CO

BEU DI 5 004H

Sample Id:	**BH04 A**	Matrix:	Soil	Date Received:	04.18.19 12.38
Lab Sample Id:	621574-008	Date Collected:	04.17.19 14.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.19.19 13.30	Basis:	Wet Weight
Seq Number:	3086499			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.20.19 04.15	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.20.19 04.15	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.20.19 04.15	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.20.19 04.15	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.20.19 04.15	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.20.19 04.15	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.20.19 04.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	142	%	70-130	04.20.19 04.15	**
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.20.19 04.15	

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

QC Summary 621574

LT Environmental, Inc.

BEU DI 5 004H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3086608 Matrix: Solid Date Prep: 04.23.19
MB Sample Id: 7676337-1-BLK LCS Sample Id: 7676337-1-BKS LCSD Sample Id: 7676337-1-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	252	101	256	102	90-110	2	20	mg/kg	04.23.19 09:45	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3086608 Matrix: Soil Date Prep: 04.23.19
Parent Sample Id: 621574-001 MS Sample Id: 621574-001 S MSD Sample Id: 621574-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.3	249	303	112	298	110	90-110	2	20	mg/kg	04.23.19 10:04	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3086608 Matrix: Soil Date Prep: 04.23.19
Parent Sample Id: 621576-003 MS Sample Id: 621576-003 S MSD Sample Id: 621576-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	148	248	407	104	410	106	90-110	1	20	mg/kg	04.23.19 11:32	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3086485 Matrix: Solid Date Prep: 04.19.19
MB Sample Id: 7676239-1-BLK LCS Sample Id: 7676239-1-BKS LCSD Sample Id: 7676239-1-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	1050	105	1010	101	70-135	4	20	mg/kg	04.19.19 21:05	
Diesel Range Organics (DRO)	<8.13	1000	1120	112	1070	107	70-135	5	20	mg/kg	04.19.19 21:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		123		122		70-135	%	04.19.19 21:05
o-Terphenyl	103		118		126		70-135	%	04.19.19 21:05

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 621574

LT Environmental, Inc.

BEU DI 5 004H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3086485 Matrix: Soil Date Prep: 04.19.19
Parent Sample Id: 621574-001 MS Sample Id: 621574-001 S MSD Sample Id: 621574-001 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)	8.24	999	864	86	864	86	70-135	0	20	mg/kg	04.19.19 22:04	
Diesel Range Organics (DRO)	<8.12	999	905	91	897	90	70-135	1	20	mg/kg	04.19.19 22:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		111		70-135	%	04.19.19 22:04
o-Terphenyl	102		105		70-135	%	04.19.19 22:04

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3086499 Matrix: Solid Date Prep: 04.19.19
MB Sample Id: 7676259-1-BLK LCS Sample Id: 7676259-1-BKS LCSD Sample Id: 7676259-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0911	91	0.0925	93	70-130	2	35	mg/kg	04.19.19 23:51	
Toluene	<0.00199	0.0996	0.0952	96	0.0961	96	70-130	1	35	mg/kg	04.19.19 23:51	
Ethylbenzene	<0.00199	0.0996	0.101	101	0.102	102	70-130	1	35	mg/kg	04.19.19 23:51	
m,p-Xylenes	<0.00101	0.199	0.202	102	0.204	102	70-130	1	35	mg/kg	04.19.19 23:51	
o-Xylene	<0.00199	0.0996	0.104	104	0.105	105	70-130	1	35	mg/kg	04.19.19 23:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		96		95		70-130	%	04.19.19 23:51
4-Bromofluorobenzene	106		107		107		70-130	%	04.19.19 23:51

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3086499 Matrix: Soil Date Prep: 04.19.19
Parent Sample Id: 621702-009 MS Sample Id: 621702-009 S MSD Sample Id: 621702-009 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	0.0775	77	0.0351	35	70-130	75	35	mg/kg	04.20.19 00:29	XF
Toluene	<0.000459	0.101	0.0835	83	0.0499	50	70-130	50	35	mg/kg	04.20.19 00:29	XF
Ethylbenzene	<0.000569	0.101	0.0890	88	0.0573	58	70-130	43	35	mg/kg	04.20.19 00:29	XF
m,p-Xylenes	<0.00102	0.202	0.180	89	0.114	58	70-130	45	35	mg/kg	04.20.19 00:29	XF
o-Xylene	<0.000347	0.101	0.0929	92	0.0610	61	70-130	41	35	mg/kg	04.20.19 00:29	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		91		70-130	%	04.20.19 00:29
4-Bromofluorobenzene	115		132	**	70-130	%	04.20.19 00:29

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: 621574

XENCO LABORATORIES

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)

www.xenco.com Page 1 of 1

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrel
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:	Carlsbad NM
Phone:	432.704.5178	Email:	nmcafee@Ltenv.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	BEU DI 5 004H
Project Number:	
P.O. Number:	2RP-3013
Sampler's Name:	Robert M.

Turn Around
Routine ☐
Rush: 5day
Due Date: 04/22/19

SAMPLE RECEIPT				
Temperature (°C):	4	Temp Blank:	Yes (No)	Wet Ice: (Yes) No
Received Intact:	Yes No	Thermometer ID	TNM00	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:	8	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
BH01	S	04/17/19	1245	2'	1	X	X	X
BH01A			1250	3'		X	X	X
BH02			1305	2'		X	X	X
BH02A			1315	4'		X	X	X
BH03			1330	3'		X	X	X
BH03A			1335	4'		X	X	X
BH04			1345	1'		X	X	X
BH04A			1400	4'		X	X	X

Work Order Notes

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

Sample Comments

discrete

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 Tl 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 Tl U **1631 / 245.1 / 7470 / 7471** : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Robert Macfee			2 Robert Macfee	Mark	04/18/19 12:38
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Inter-Office Shipment

IOS Number **37366**

Date/Time: 04/18/19 16:59
Created by: Martha Castro
Please send report to: Kalei Stout

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.:
E-Mail: kalei.stout@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
621574-001	S	BH01	04/17/19 12:45	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	
621574-001	S	BH01	04/17/19 12:45	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621574-001	S	BH01	04/17/19 12:45	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 PI	
621574-002	S	BH01 A	04/17/19 12:50	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	
621574-002	S	BH01 A	04/17/19 12:50	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 PI	
621574-002	S	BH01 A	04/17/19 12:50	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621574-003	S	BH02	04/17/19 13:05	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 PI	
621574-003	S	BH02	04/17/19 13:05	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	
621574-003	S	BH02	04/17/19 13:05	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621574-004	S	BH02 A	04/17/19 13:15	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 PI	
621574-004	S	BH02 A	04/17/19 13:15	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	
621574-004	S	BH02 A	04/17/19 13:15	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621574-005	S	BH03	04/17/19 13:30	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 PI	
621574-005	S	BH03	04/17/19 13:30	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	
621574-005	S	BH03	04/17/19 13:30	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621574-006	S	BH03 A	04/17/19 13:35	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	
621574-006	S	BH03 A	04/17/19 13:35	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 PI	
621574-006	S	BH03 A	04/17/19 13:35	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621574-007	S	BH04	04/17/19 13:45	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621574-007	S	BH04	04/17/19 13:45	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 PI	
621574-007	S	BH04	04/17/19 13:45	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	
621574-008	S	BH04 A	04/17/19 14:00	SW8015MOD_NM	TPH by SW8015 Mod	04/22/19	05/01/19	KLS	GRO-DRO PHCC10C28 PI	
621574-008	S	BH04 A	04/17/19 14:00	SW8021B	BTEX by EPA 8021B	04/22/19	05/01/19	KLS	BR4FBZ BZ BZME EBZ X	
621574-008	S	BH04 A	04/17/19 14:00	E300_CL	Chloride by EPA 300	04/22/19	05/15/19	KLS	CL	

Inter-Office Shipment

IOS Number **37366**

Date/Time: 04/18/19 16:59
Created by: Martha Castro
Please send report to: Kalei Stout

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.:
E-Mail: kalei.stout@xenco.com

Inter Office Shipment or Sample Comments:

Relinquished By: 
Martha Castro

Date Relinquished: 04/18/2019

Received By: 
Katie Lowe

Date Received: 04/19/2019 00:00

Cooler Temperature: 4.0

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04/18/2019 12:38:00 PM

Work Order #: 621574

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : TNM007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4
#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**
#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: Martha Castro Date: 04/18/2019

Checklist reviewed by: Kalei Stout Date: 04/19/2019

ATTACHMENT 3: SOIL SAMPLING LOGS

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: BH01	Date: 04/17/19
Project Name: BEU DI 5 004H	RP Number:
Logged By: Robert M	Method: Hand auger
Hole Diameter: 3"	Total Depth: .

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1240	dry	<124	0.2	N		0–1	1'	S	silty sand PG Reddish Brown
1245	dry	<124	0.3	N		2	2'	S	silty sand PG Reddish Brown
1250	dry		0.1	N		3	3'	S	silty sand PG Reddish Brown
						4			
						5			
						6			Hand Auger Refusal
						7			
						8			
						9			
						10			
						11			
						12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
BH02	04/17/19
Project Name:	**RP Number:**
BEU DI 5 004H	
Logged By: Robert M.	**Method:** Hand Auger
Hole Diameter: 3"	**Total Depth:**

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1300 dry	200	0.2	N		0–1	1'	S	Silty sand PG Reddish Brown
1305 dry	<124	0.4	N		1–2	2'	S	silty sand PG Reddish Brown
1310 dry	<124	0.1	N		2–3	3'	S	silty sand PG Reddish Brown
1315 dry	<124	0.1	N		3–4	4'	S	Sand trace Clay PG Red Brown
					4–5			
					5–6			
					6–7			
					7–8			
					8–9			
					9–10			
					10–11			
					11–12			

LT Environmental, Inc.
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Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: BH03	Date: 04/17/19
Project Name: BEU DI S 004H	RP Number:
Logged By: Robert M	Method: Hand Auger
Hole Diameter: 3"	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1320 dry	<124	0.2	N		0–1	1'	S	silty Sand PG Reddish Brown
1325 dry	<124	0.1	N		2	2'	S	silty sand PG Reddish Brown
1330 dry	<124	0.3	N		3	3'	S	silty sand PG Reddish Brown
1335 dry	<124	0.4	N		4	4'	S	Sand trace Clay PG Red Brown
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
BH04	04/17/19
Project Name:	**RP Number:**
BEU DI 5 004H	
Logged By: Robert M.	**Method:** Hand Auger
Lat/Long:	**Field Screening:**
Hole Diameter: 3"	**Total Depth:**

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1345	dry	<124	0.5	N		0–1	1'	S	Silty sand PG Reddish Brown
1350	dry	<124	0.2	N		2	2'	S	Silty sand PG Reddish Brown
1355	dry	<124	0.2	N		3	3'	S	Silty sand PG Reddish Brown
1400	dry	<124	0.1	N		4	4'	S	Sand trace clay PG Red Brown
						5			
						6			
						7			
						8			
						9			
						10			
						11			
						12			

Western view of the release area prior to excavation activities.

Project: 012918018	XTO Energy, Inc. BEU-DI-5 #004H	LTE Advancing Opportunity
July 13, 2018	Photographic Log	

Western view of the southern excavation extent.

Project: 012918018	XTO Energy, Inc. BEU-DI-5 #004H	LTE Advancing Opportunity
April 17, 2019	Photographic Log	

Western view of the northern excavation extent.

Project: 012918018	XTO Energy, Inc. BEU-DI-5 #004H	LTE Advancing Opportunity
April 17, 2019	Photographic Log	