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

May 10, 2019

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

RE: Closure Request
Poker Lake Unit Ross Ranch 33-25-30 USA Battery
Remediation Permit Number 2RP-4450
Eddy County, New Mexico

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), is pleased to present the following Closure Request report detailing remediation activities, specifically delineation and excavation of impacted soil, at the Poker Lake Unit (PLU) Ross Ranch 33-25-30 USA Battery (Site) in Unit D, Section 33, Township 25 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of remediation activities at the Site was to address impacts to soil after a 4-inch steel nipple from a saltwater disposal (SWD) pipeline riser failed due to corrosion and released approximately 255 barrels (bbls) of produced water and crude oil mixture on the southwestern side of the metal aboveground storage tank (AST) containment berm and beyond to the south, approximately 30 feet onto neighboring pasture land. The Site is federal land under the jurisdiction of the United States Bureau of Land Management (BLM). The release was discovered on September 21, 2017. Produced water and crude oil were vacuumed to the maximum extent practicable, which resulted in the recovery of approximately 240 bbls of produced water and crude oil mixture. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on September 22, 2017 and on a Release Notification and Corrective Action Form C-141 on October 20, 2017. NMOCD assigned the Site Remediation Permit (RP) Number 2RP-4450 (Attachment 1).

BACKGROUND

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and NMOCD effective November 13, 2018. The purpose of the Compliance Agreement is to ensure 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 excavation activities and results of confirmation soil

sampling, XTO is submitting this Closure Request report describing completed remediation activities to date and requesting site closure.

CLOSURE CRITERIA

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*. Below is a summary of the site characterization evaluation:

- Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well is New Mexico Office of the State Engineer (OSE) Pod Number POD-1, revised to C-3832-POD 2, located approximately 605 feet north of the Site, with a depth to groundwater of approximately 277 feet bgs. The total depth of the water well is approximately 805 feet bgs. The water well is approximately 1-foot lower in elevation than the Site.
- Water well C-3832-POD 2 is within 1,000 feet of the Site. The well was originally permitted as an exploratory well (POD 1) to be plugged within 10 days. An application to utilize the exploratory well for use in exploration and development resulted in renumbering the well to POD 2. Although a well log was provided, the conditions granted under the permit indicate no water can be diverted from the well unless a permit to use water is acquired. Therefore, XTO does not consider the well a freshwater well.
- The nearest continuously flowing water or significant watercourse to the Site is a water body located approximately 3,164 feet northwest 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.
- The Site is not within a 100-year floodplain or overlying a subsurface mine.
- The Site is located in a low karst potential zone.

Based on the site characterization evaluation, the following site-specific 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 20,000 mg/kg chloride. A chloride standard of 600 mg/kg was applied to the top four feet of impact in the pasture according to 19.15.29.13.D(1).

INITIAL EXCAVATION ACTIVITIES

On April 16, 2018, LTE initiated remediation activities at the Site, specifically overseeing excavation of impacted soil as indicated by field screening and visual staining. Excavation

activities were conducted between April 2018 and June 2018 in three locations; directly south of the tank battery containment berm up to an existing active gas pipeline (northern excavation extent), just south of the existing active gas pipeline and extending onto the pasture (southern excavation extent), and an area just west of the other two excavation extents within the pasture (western excavation extent). Based on the revised 19.15.29 NMAC in August 2018, LTE revisited the Site for additional delineation and excavation activities in April 2019.

DELINEATION ACTIVITIES

From April 24 to April 30, 2019, LTE personnel returned to the Site to oversee additional delineation and excavation activities as indicated by visible hydrocarbon staining, field screening, and laboratory analytical results from initial excavation samples collected in 2018. To delineate impacts to soil and direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride using a field calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively.

On April 24, 2019, seven potholes (PH01 through PH07) were advance via backhoe in the vicinity of the former excavation extents in order to delineate soil impacts prior to soil removal. Discrete pothole samples were collected from approximately 0.5 feet to 4.5 feet bgs.

Additional delineation was completed on April 26, 2019, utilizing a hand auger. Borehole BH01 was completed to a depth of approximately 4 feet bgs. Discrete borehole samples were collected at approximately 2 feet bgs (BH01) and 4 feet bgs (BH01A).

Boreholes BH02 and BH03, utilizing a hand auger, were completed on April 30, 2019 and April 29, 2019, respectively. These boreholes were advanced in order to complete all delineation activities related to RP Number 2RP-4450. Discrete borehole samples were collected at approximately 1-foot bgs (BH02), 4 feet bgs (BH02A), and 6.5 feet bgs (BH03).

All soil samples for laboratory analysis were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler initials, method of analysis, and immediately placed on ice. The soil samples were shipped at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Method 8021B, total petroleum hydrocarbons-gasoline range organics (TPH-GRO), total petroleum hydrocarbons-diesel range organics (TPH-DRO), and total petroleum hydrocarbons-oil range organics (TPH-ORO) by USEPA Method 8015M/D, and chloride by USEPA Method 300.0.

The delineation soil sample locations and depths are presented on Figure 2. A summary of the laboratory analytical results is presented in Table 1. Soil sampling logs are included as Attachment 2.

EXCAVATION ACTIVITIES

Based on field screening results and visual staining, soil was excavated from the three excavations to depths ranging from approximately 1.5 feet to 4.5 feet bgs. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavations. 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 following composite floor soil samples were collected on April 26, 2019:

- FS01 at approximately 1.5 feet bgs within the southern excavation extent;
- FS02 at approximately 1.5 feet bgs within the southern excavation extent;
- FS03 at approximately 4.5 feet bgs within the northern excavation extent; and
- FS04 at approximately 4.5 feet bgs within the northern excavation extent.

The following composite sidewall soil samples were collected on April 26, 2019:

- SW01 from ground surface to approximately 1.5 bgs within the southern excavation extent;
- SW02 from ground surface to approximately 1.5 feet bgs within the southern excavation extent;
- SW03 from ground surface to approximately 4.5 feet bgs within the northern excavation extent; and
- SW04 from ground surface to approximately 4.5 feet bgs within the northern excavation extent.

The northern excavation extent was limited to the north by the existing metal containment berm and to the south by the existing active gas pipeline. XTO safety policy restricts soil disturbing activities to a 2-foot radius of any on-site storage tanks or process equipment. This safety policy is established to protect workers and to reduce the likelihood of compromising the foundation of the storage tanks and/or process equipment. This policy had to be enforced along the northern and southern sidewalls of the northern excavation extent.

Additional soil removal within the western excavation extent was completed and confirmation soil samples were collected on April 29, 2019. The following confirmation floor soil sample was collected within the western excavation extent:

- FS05 at approximately 3 feet bgs.

The following confirmation sidewall soil samples were collected within the western excavation extent:

- SW05 from ground surface to approximately 3 feet bgs; and
- SW06 from ground surface to approximately 3 feet bgs.

All confirmation soil samples were collected, handled, and analyzed in a similar manner as the delineation soil samples and submitted to Xenco in Midland, Texas for the same analyses.

The excavation soil sample locations and depths are presented on Figure 3. A summary of the laboratory analytical results is presented in Table 1. A photographic log of the Site is included in Attachment 4.

The final excavation extent dimensions are listed below:

- Northern Excavation Extent: Approximately 605 square feet in area with a total depth of approximately 4.5 feet.
- Southern Excavation Extent: Approximately 519 square feet in area with a total depth of approximately 1.5 feet bgs.
- Western Excavation Extent: Approximately 474 square feet in area with a depth of approximately 3 feet bgs.

The horizontal extent of the excavation is illustrated on Figure 3.

Approximately 183 cubic yards of impacted soil were removed from the three excavations via hydro-vacuum and backhoe. The impacted soil is currently stockpiled onsite and will be transported and properly disposed of at the Lea Landfill, LLC Oil Field Waste Landfill, located in Carlsbad, New Mexico.

ANALYTICAL RESULTS

Delineation Soil Samples

Laboratory analytical results indicated all soil samples were below applicable NMOCD Table 1 closure criteria limits. Impacted soil was excavated from the three excavation extents to the extent practicable and according to XTO safety policy around the active gas pipeline.

Southern Excavation Extent

Laboratory analytical results indicated confirmation floor soil samples FS01 and FS02 and confirmation sidewall samples SW01 and SW02 were below applicable NMOCD Table 1 closure criteria limits. Since the southern excavation was located on pasture land, which is regulated by the BLM, the chloride limit is set at 600 milligrams per kilogram (mg/kg) within the top 4 feet of soil. Laboratory analytical results of chloride from all soil samples collected from the southern excavation extent were below the BLM limit.

Northern Excavation Extent

Laboratory analytical results indicated confirmation floor soil samples FS03 and FS04 and confirmation sidewall soil samples SW03 and SW04 were below applicable NMOCD Table 1 closure criteria limits.

Western Excavation Extent

Laboratory analytical results indicated confirmation floor soil sample FS05 and confirmation sidewall soil samples SW05 and SW06 were below applicable NMOCD Table 1 closure criteria limits. The western excavation is located on pasture land and as such, laboratory analytical results of chloride indicated all soil samples from the western excavation extent were below the BLM limit.

Soil sample locations are presented on Figures 2 and 3 and laboratory analytical results are summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

CLOSURE REQUEST

A total of 183 cubic yards of impacted soil were excavated from the Site. Laboratory analytical results of all soil samples from the three excavations indicated concentrations were below all applicable NMOCD Table 1 closure criteria limits. The western and southern excavation extents were located on pasture land, which has a more stringent chloride limit of 600 mg/kg in the top 4 feet of soil based on BLM requirements. Laboratory analytical results of chloride from the western and southern excavation extents were below the BLM limit. Excavation activities removed soil impacts to below applicable NMOCD Table 1 closure criteria limits based on field screening, field observations, and laboratory analytical results. As a result, XTO respectfully requests closure for the Site and to backfill the existing excavations. Upon approval of this closure request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing conditions. An updated NMOCD Form C-141 is included in Attachment 1.

If you have any questions or comments, please do not hesitate to contact me, Ms. Ashley Ager, at (970) 385-1096 or aager@ltenv.com or Mr. Kyle Littrell at XTO Energy at 432-221-7331.

Sincerely,

LT ENVIRONMENTAL, INC.

Ashley L. Ager

Ashley L. Ager, P.G.
Senior Geologist

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

Attachments:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-3176)
Attachment 2	Soil Sampling Logs
Attachment 3	Laboratory Analytical Reports
Attachment 4	Photographic Log

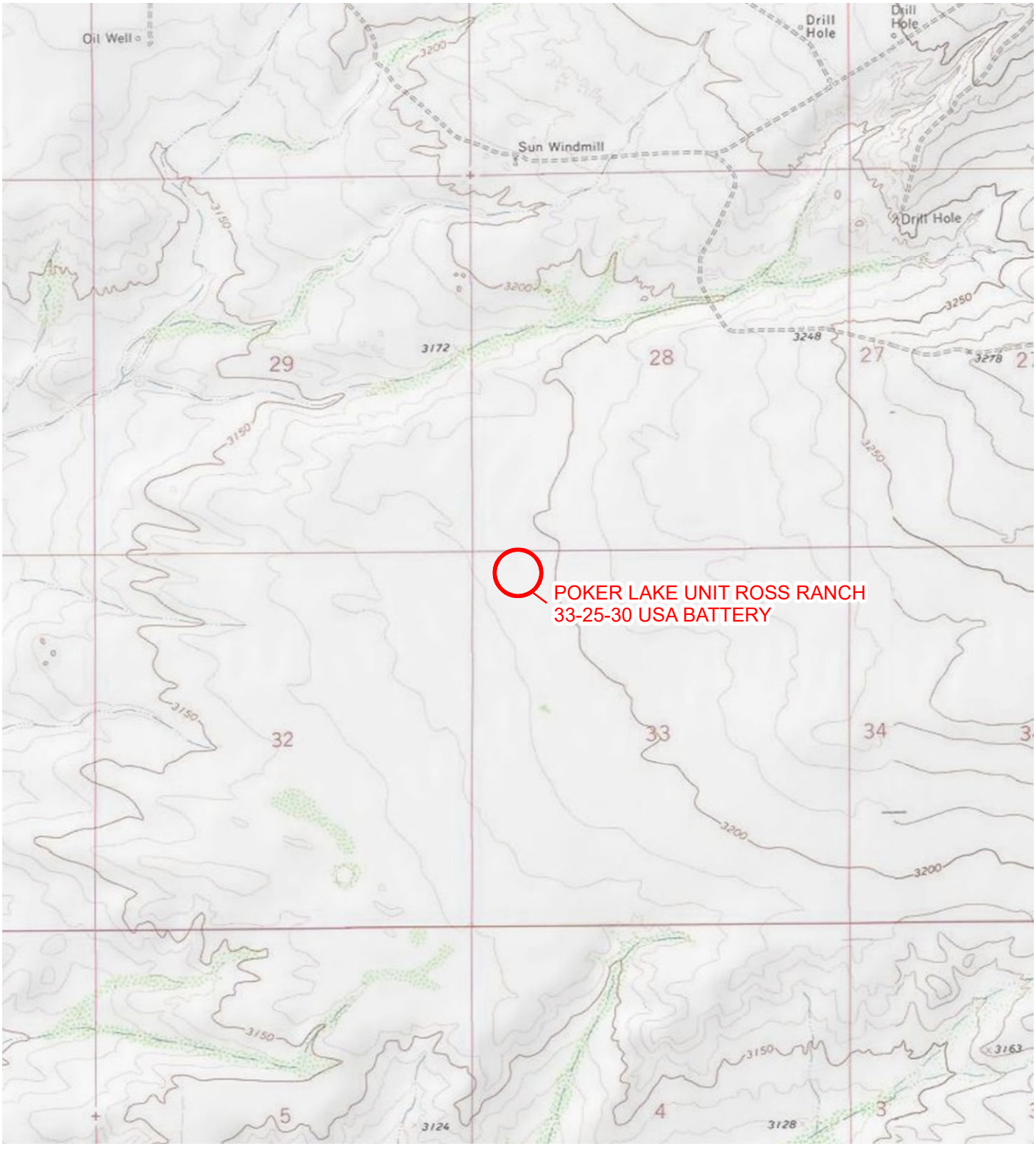

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-4450

FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT ROSS RANCH 33-25-30 USA BATTERY
UNIT D SEC 33 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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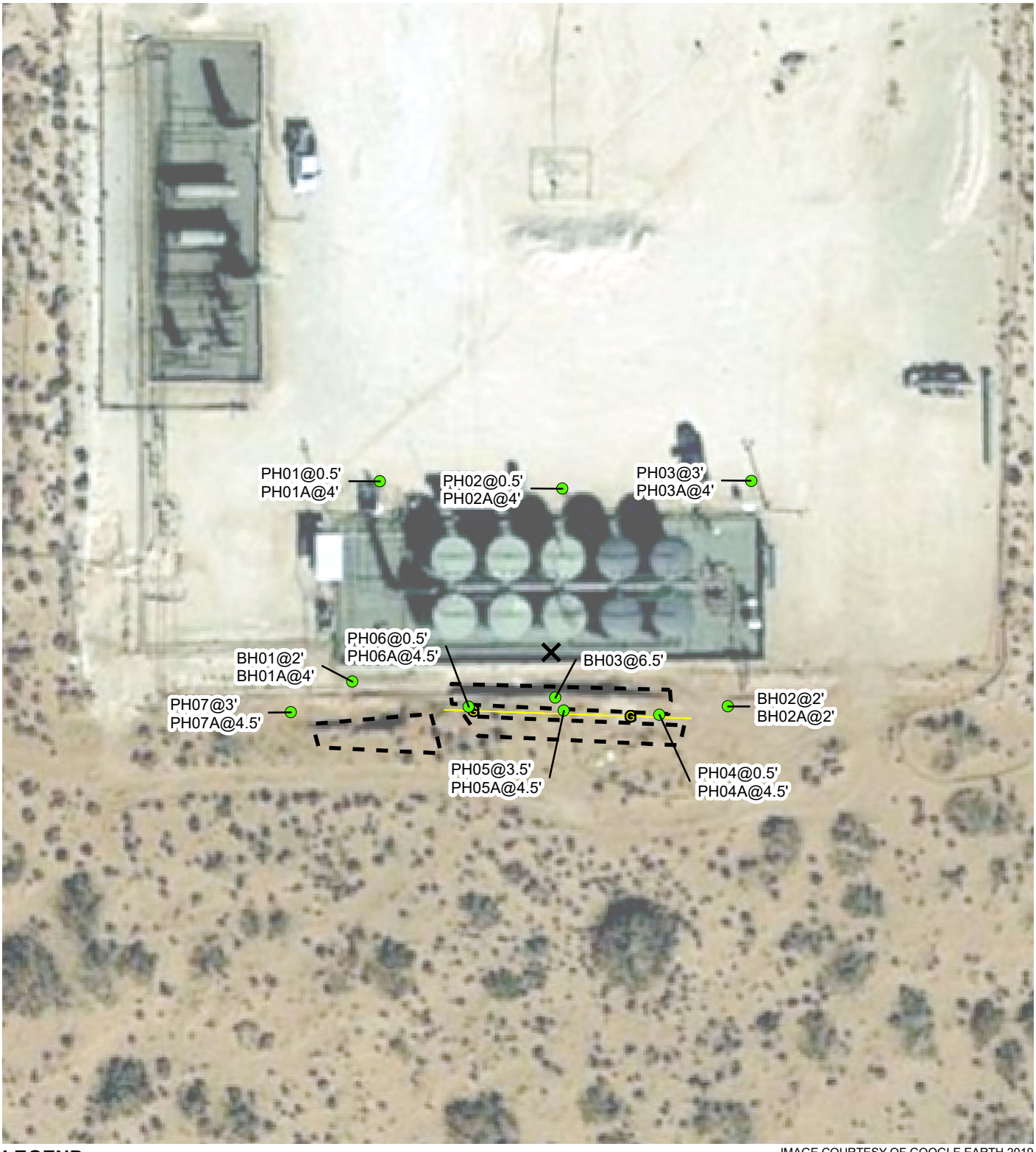

IMAGE COURTESY OF GOOGLE EARTH 2019

LEGEND

- RELEASE LOCATION
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE STANDARDS
- GAS LINE
- EXCAVATION EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 2RP-4450

0 50 100
Feet

N

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT
ROSS RANCH 33-25-30 USA BATTERY
UNIT D SEC 33 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012917041_PLU ROSS RANCH_33-25-30 TB\012917041_FIG02_DELINEATION_2019_4450_NO DATA.mxd

LEGEND

- RELEASE LOCATION
- EXCAVATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE STANDARDS
- GAS LINE
- EXCAVATION EXTENT

IMAGE COURTESY OF GOOGLE EARTH 2019

0 50 100

Feet

N

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 2RP-4450

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT
ROSS RANCH 33-25-30 USA BATTERY
UNIT D SEC 33 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT ROSS RANCH 33-25-30 USA BATTERY
REMEDIATION PERMIT NUMBER 2RP-4450
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)	MRO (mg/kg)	Total GRO + DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
PH01	0.5	04/24/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	20.8	<15.0	20.8	126
PH01A	4	04/24/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	24.7
PH02	0.5	04/24/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	18.1	<15.0	18.1	18.1	164
PH02A	4	04/24/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	24.7
PH03	3	04/24/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	145
PH03A	4	04/24/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	37.8
PH04	0.5	04/24/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	<14.9	<14.9	<14.9	<14.9	6.60*
PH04A	4.5	04/24/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.04*
PH05	3.5	04/24/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	162*
PH05A	4.5	04/24/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	283*
PH06	0.5	04/24/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.02*
PH06A	4.5	04/24/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<5.04*
PH07	3	04/24/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	177*
PH07A	4.5	04/24/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	60.1*
FS01	1.5	04/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	12.2*
FS02	1.5	04/26/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	<4.97*
FS03	4.5	04/26/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	197	40.6	238	197	847
FS04	4.5	04/26/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	132	35.8	168	132	1,830
SW01	0-1.5	04/26/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	44.2*
SW02	0-1.5	04/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	606	85.4	691	606	49.5*
SW03	0-4.5	04/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	251	34.4	285	251	935
SW04	0-4.5	04/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	4,570
BH01	2	04/26/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	11.1
BH01A	4	04/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	147
SW05	0-3	04/29/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	6.35*
SW06	0-3	04/29/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	24.4	<15.0	24.4	24.4	453*
FS05	3	04/29/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	131	26.6	158	131	88.0*
BH03	6.5	04/29/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	102	27.5	130	102	408*
BH02	1	04/30/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<4.96*
BH02A	4	04/30/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	<4.99*
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**

Notes:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilogram
MRO - motor oil range organics
NMAC - New Mexico Administrative Code
NMOCD - New Mexico Oil Conservation Division
NE - not established
TPH - total petroleum hydrocarbons
< - indicates result is below laboratory reporting limits
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018
* - indicates sample was collected in area to be reclaimed after remediation is complete; closure criteria for chloride concentrationin the top 4 feet of soil is 600 mg/kg

NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 20 2017
RECEIVED

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

nAB1729751689 (BOPCO) GRID# 260737

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy	Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: PLU Ross Ranch 33-25-30 USA Battery (API for well Poker Lake Unit CVX JV RR #007H)	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-40762

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	33	25S	30E	330	North	680	West	Eddy

Latitude 32.092806° **Longitude** -103.892550°

NATURE OF RELEASE

Type of Release: Produced Water and Crude Oil	Volume of Release 255 bbls	Volume Recovered 240 bbls
Source of Release: SWD riser	Date and Hour of Occurrence 9/21/2017 time unknown	Date and Hour of Discovery 9/21/2017 10:45 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher/Crystal Weaver (NMOCD), Jim Amos/Shelly Tucker (BLM)	
By Whom? Jacob Foust	Date and Hour 9/22/2017 at 7:05 am by email	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Spill originated at riser due to corrosion to 4" steel pipe nipple. Well was temporarily shut in and nipple was replaced.

Describe Area Affected and Cleanup Action Taken.*
The spill was on the southern edge of the location, and ran east to west along the berm. The majority of the fluid was contained, but a small amount flowed about 30' west into the pasture. Vacuum truck recovered standing fluid.

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:	OIL CONSERVATION DIVISION
Printed Name: Amy C. Ruth	Approved by Environmental Specialist:
Title: Environmental Coordinator	Approval Date: 10/24/17 Expiration Date: N/A
E-mail Address: Amy_Ruth@xtoenergy.com	Conditions of Approval: See attached Attached ☒ 2RP-4450
Date: 10/20/2017 Phone: 432-661-0571	

* Attach Additional Sheets If Necessary

10/24/17 AB

Please refer to the New Mexico Oil Conservation Division Website for updated form(s) at: http://www.emnrd.state.nm.us/OCD/forms.html Thank you

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-4450
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 32.092806 Longitude -103.892550

(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU Ross Ranch 33-25-30 USA Battery	Site Type Exploration and Production
Date Release Discovered 9/21/2017	API# *(if applicable)* 30-015-40762 (API for well Poker Lake Unit CVX JV RR #007H

Unit Letter	Section	Township	Range	County
D	33	25S	30E	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) 64	Volume Recovered (bbls) 60
☒ Produced Water	Volume Released (bbls) 191	Volume Recovered (bbls) 180
	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 4-inch steel pipe nipple corroded on a saltwater disposal pipeline riser, releasing produced water and crude oil to the ground surface. The well was temporarily shut in and the nipple was replaced. The spill impacted the caliche pad and pasture land to the south. A vacuum truck removed the free-standing fluid, the stained soil was left in place until the area could be cleaned up in accordance to the NMOCD remediation rules.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4450
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? Volume of release exceeded 25 bbls of produced water and crude oil mixture.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes – Ms. Amy C. Ruth, Environmental Coordinator with XTO Energy contacted Ms. Shelly Tucker, Mr. Mike Bratcher, Ms. Crystal Weaver, and Mr. Jim Amos via email on September 22, 2017 at 7:05 am.	

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: N/A

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: 5/10/2019

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-4450
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4450
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: 5/10/2019

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-4450
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: 5/10/2019

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: 11/19/2019

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

ATTACHMENT 2: SOIL SAMPLING LOGS

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

Identifier: BH01	Date: 04/26/19
Project Name: PLU RR 33-25-36	RP Number: 2RP 4450
Logged By: Robert M.	Method: Hand Auger
Hole Diameter: 3"	Total Depth: 4'

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
1140 dry	<124	0.1	N		0–1	1'	S	Silty sand trace clay PG Brown
1145 dry	<124	0.7	N		1–2	2'	S	Sand trace silt trace clay Brown red PG — BH01
1150 dry	<124	0.2	N		2–3	3'	S	Clayey sand red Brown PG
1208 dry	196	0.3	N		3–4	4'	S	Clayey sand red Brown PG — BH01A
					4–5			
					5–6			
					6–7			
					7–8			
					8–9			
					9–10			
					10–11			
					11–12			

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

Identifier: BH02	Date: 04/30/19
Project Name: PLU RR 33-23-30	RP Number: 2RP 4450
Logged By: Robert M.	Method: Hand Auger
Hole Diameter: 3"	Total Depth: 4'

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
dry	<124	0.5	N		0–1	1'	S	silty sand trace Caliche Brown PG
dry	<124	0.8	N		2	2'	S	Sand trace silt trace Clay PG Brown red
dry	<124	1.6	N		3	3'	S	Clayey sand red Brown PG
dry	<124	0.4	N		4	4'	S	Clayey Sand red Brown PG

1400 BH02

1405

1410

1420 ~~1415~~

BH02A

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

Identifier: BH03	Date: 04/29/19
Project Name: PLU RR 33-25-30	RP Number:
Logged By: Robert M.	Method: Hand Auger
Hole Diameter: 3"	Total Depth: 6.5'

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
					0			
					1			
					2			
					3			
					4	4.5'		Excavation depth
1230 dry	200	0.8	N		5	6.5'	S	Clayey Sand Red Brown PG
					6			
					7			
					8			
					9			
					10			
					11			
					12			

BH03

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:	Date:
PH01	4/24/2019
Project Name:	RP Number:
PLU RR 33-25-30	2RP-4450

LITHOLOGIC / SOIL SAMPLING LOG

Logged By:	Method:
AB	backhoe

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
	PID/HACH	NA	4.5 ft bgs

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	ND	<15.0	no	PH01	0–1		s	caliche
dry	ND	<15.0	no		2		s	brown, sand, poorly graded
moist	ND	<15.0	no		3		s	reddish/brown, silty sand, poorly graded
moist	ND	<15.0	no	PH01A	4		s	reddish/brown, silty sand, poorly graded
					5–12			Total Depth 4.5 feet bgs

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:	Date:
PH02	4/24/2019
Project Name:	RP Number:
PLU RR 33-25-30	2RP-4450

LITHOLOGIC / SOIL SAMPLING LOG

Logged By:	Method:
AB	backhoe

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
	PID/HACH	NA	4.5 ft bgs

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	ND	<15.0	no	PH02	0–1		s	caliche
dry	ND	<15.0	no		2		s	brown, sand, poorly graded
moist	ND	<15.0	no		3		s	reddish/brown, silty sand, poorly graded
moist	ND	<15.0	no	PH02A	4		s	reddish/brown, silty sand, poorly graded
					5–12			Total Depth 4.5 feet bgs

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

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Identifier:	Date:
PH03	4/24/2019
Project Name:	RP Number:
PLU RR 33-25-30	2RP-4450

LITHOLOGIC / SOIL SAMPLING LOG

Logged By:	Method:
AB	backhoe

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
	PID/HACH	NA	4.5 ft bgs

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
moist	1.0	<15.0	no		1		s	caliche, brown, silty sand, moldable, poorly graded
moist	1.6	<15.0	no		2		s	caliche, brown, silty sand, moldable, poorly graded
moist	1.8	<15.0	no	PH03	3		s	caliche, brown, silty sand, moldable, poorly graded
moist	1.0	<15.0	no	PH03A	4		s	caliche, brown, silty sand, moldable, poorly graded
								Total Depth 4.5 feet bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:	Date:
PH04	4/24/2019
Project Name:	RP Number:
PLU RR 33-25-30	2RP-4450

LITHOLOGIC / SOIL SAMPLING LOG

Logged By:	Method:
AB	backhoe

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
	PID/HACH	NA	4.5 ft bgs

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
moist	ND	<15.0	no		1		s	caliche, brown, silty sand, poorly graded
moist	ND	<15.0	no		2		s	caliche, brown, silty sand, poorly graded
moist	ND	<15.0	no	PH04	3		s	caliche, brown, silty sand, poorly graded
moist	ND	<15.0	no	PH04A	4		s	caliche, brown, silty sand, poorly graded
								Total Depth 4.5 feet bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:	Date:
PH05	4/24/2019
Project Name:	RP Number:
PLU RR 33-25-30	2RP-4450

LITHOLOGIC / SOIL SAMPLING LOG

Logged By:	Method:
AB	backhoe

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
	PID/HACH	NA	4.5 ft bgs

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
moist	ND	<15.0	no		1		s	caliche, brown, silty sand, poorly graded
moist	1.0	<15.0	no		2		s	caliche, brown, silty sand, poorly graded
					3			
moist	2.0	<15.0	no	PH05			s	caliche, brown, silty sand, poorly graded
					4			
moist	2.8	<15.0	no	PH05A			s	caliche, brown, silty sand, poorly graded
								Total Depth 4.5 feet bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:	Date:
PH06	4/24/2019
Project Name:	RP Number:
PLU RR 33-25-30	2RP-4450

LITHOLOGIC / SOIL SAMPLING LOG

Logged By:	Method:
AB	backhoe

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
	PID/HACH	NA	4.5 ft bgs

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	ND	<15.0	no	PH06	0–1		s	sand, poorly graded
moist	ND	<15.0	no		2		s	sand, poorly graded, less moldable
moist	ND	<15.0	no		3		s	sand, poorly graded, moldable
moist	ND	<15.0	no	PH06A	4		s	silty sand, poorly graded
					5–12			Total Depth 4.5 feet bgs

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:	Date:
PH07	4/24/2019
Project Name:	RP Number:
PLU RR 33-25-30	2RP-4450

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: AB	Method: backhoe

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
	PID/HACH	NA	4.5 ft bgs

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
moist	ND	<15.0	no		1		s	silty sand, poorly graded
moist	1.0	<15.0	no		2		s	silty sand, poorly graded
moist	1.8	<15.0	no	PH07	3		s	clayey sand, moldable
moist	1.2	<15.0	no	PH07A	4		s	clayey sand, moldable
								Total Depth 4.5 feet bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

Analytical Report 622389

for

LT Environmental, Inc.

Project Manager: Ashley Ager

PLU RR 3-25-30

30-APR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

30-APR-19

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

Reference: XENCO Report No(s): **622389**
PLU RR 3-25-30
Project Address: Delaware Basin

Ashley Ager:

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) 622389. 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. 622389 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,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 622389

LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	04-24-19 10:30	0.5 ft	622389-001
PH01A	S	04-24-19 10:40	4 ft	622389-002
PH02	S	04-24-19 10:50	0.5 ft	622389-003
PH02A	S	04-24-19 11:00	4 ft	622389-004
PH03	S	04-24-19 11:22	3 ft	622389-005
PH03A	S	04-24-19 11:25	4 ft	622389-006

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3087352 BTEX by EPA 8021B

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

Certificate of Analysis Summary 622389

LT Environmental, Inc., Arvada, CO

Project Name: PLU RR 3-25-30

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Fri Apr-26-19 11:30 am
Report Date: 30-APR-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	622389-001		622389-002		622389-003		622389-004		622389-005		622389-006	
	Field Id:	PH01		PH01A		PH02		PH02A		PH03		PH03A	
	Depth:	0.5- ft		4- ft		0.5- ft		4- ft		3- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-24-19 10:30		Apr-24-19 10:40		Apr-24-19 10:50		Apr-24-19 11:00		Apr-24-19 11:22		Apr-24-19 11:25	
BTEX by EPA 8021B	***Extracted:***	Apr-29-19 10:00		Apr-29-19 10:00		Apr-29-19 10:00		Apr-29-19 10:00		Apr-29-19 10:00		Apr-29-19 10:00	
	Analyzed:	Apr-29-19 14:32		Apr-29-19 14:52		Apr-29-19 15:12		Apr-29-19 15:32		Apr-29-19 15:52		Apr-29-19 16:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202
m,p-Xylenes		<0.00399	0.00399	<0.00400	0.00400	<0.00403	0.00403	<0.00402	0.00402	<0.00398	0.00398	<0.00404	0.00404
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	Apr-26-19 17:00		Apr-26-19 17:00		Apr-26-19 17:00		Apr-26-19 17:00		Apr-26-19 17:00		Apr-26-19 17:00	
	Analyzed:	Apr-26-19 22:22		Apr-26-19 23:28		Apr-26-19 23:35		Apr-26-19 23:42		Apr-26-19 23:49		Apr-26-19 23:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		126	4.98	24.7	4.98	164	4.97	24.7	4.97	145	4.96	37.8	5.00
TPH by SW8015 Mod	***Extracted:***	Apr-27-19 11:00		Apr-27-19 11:00		Apr-27-19 11:00		Apr-27-19 11:00		Apr-27-19 11:00		Apr-27-19 11:00	
	Analyzed:	Apr-27-19 18:31		Apr-27-19 18:51		Apr-27-19 19:12		Apr-27-19 19:32		Apr-27-19 19:52		Apr-27-19 20:12	
	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	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9	18.1	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		20.8	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Total TPH		20.8	15.0	<14.9	14.9	18.1	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Total GRO-DRO		<15.0	15.0	<14.9	14.9	18.1	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0

Jessica Kramer
Project Assistant

Certificate of Analytical Results 622389

LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-001	Date Collected:	04.24.19 10.30	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.00	Basis:	Wet Weight
Seq Number:	3087124				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**126**	4.98	mg/kg	04.26.19 22.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 11.00	Basis:	Wet Weight
Seq Number:	3087229				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.27.19 18.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.27.19 18.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**20.8**	15.0	mg/kg	04.27.19 18.31		1
Total TPH	PHC635	**20.8**	15.0	mg/kg	04.27.19 18.31		1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.27.19 18.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.27.19 18.31	
o-Terphenyl	84-15-1	96	%	70-135	04.27.19 18.31	

Certificate of Analytical Results 622389

LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-001	Date Collected:	04.24.19 10.30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.29.19 14.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.29.19 14.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.29.19 14.32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.29.19 14.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.29.19 14.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.29.19 14.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.29.19 14.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.29.19 14.32	
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.29.19 14.32	

Certificate of Analytical Results 622389

LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-002	Date Collected:	04.24.19 10.40	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.00	Basis:	Wet Weight
Seq Number:	3087124				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24.7**	4.98	mg/kg	04.26.19 23.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 11.00	Basis:	Wet Weight
Seq Number:	3087229				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.27.19 18.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.27.19 18.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.27.19 18.51	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.27.19 18.51	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.27.19 18.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	04.27.19 18.51	
o-Terphenyl	84-15-1	92	%	70-135	04.27.19 18.51	

Certificate of Analytical Results 622389

LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-002	Date Collected:	04.24.19 10.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.29.19 14.52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.29.19 14.52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.29.19 14.52	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.29.19 14.52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.29.19 14.52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.29.19 14.52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.29.19 14.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.29.19 14.52	
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.29.19 14.52	

Certificate of Analytical Results 622389

LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-003	Date Collected:	04.24.19 10.50	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.00	Basis:	Wet Weight
Seq Number:	3087124				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**164**	4.97	mg/kg	04.26.19 23.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 11.00	Basis:	Wet Weight
Seq Number:	3087229				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.27.19 19.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	**18.1**	15.0	mg/kg	04.27.19 19.12		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.27.19 19.12	U	1
Total TPH	PHC635	**18.1**	15.0	mg/kg	04.27.19 19.12		1
Total GRO-DRO	PHC628	**18.1**	15.0	mg/kg	04.27.19 19.12		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	04.27.19 19.12	
o-Terphenyl	84-15-1	92	%	70-135	04.27.19 19.12	

Certificate of Analytical Results 622389

LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-003	Date Collected:	04.24.19 10.50	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.29.19 15.12	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.29.19 15.12	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.29.19 15.12	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.29.19 15.12	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.29.19 15.12	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.29.19 15.12	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.29.19 15.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	04.29.19 15.12	
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.29.19 15.12	

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LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-004	Date Collected:	04.24.19 11.00	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.00	Basis:	Wet Weight
Seq Number:	3087124				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24.7**	4.97	mg/kg	04.26.19 23.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 11.00	Basis:	Wet Weight
Seq Number:	3087229				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.27.19 19.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.27.19 19.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.27.19 19.32	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.27.19 19.32	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.27.19 19.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	04.27.19 19.32	
o-Terphenyl	84-15-1	93	%	70-135	04.27.19 19.32	

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LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-004	Date Collected:	04.24.19 11.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.29.19 15.32	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.29.19 15.32	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.29.19 15.32	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.29.19 15.32	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.29.19 15.32	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.29.19 15.32	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.29.19 15.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.29.19 15.32	
4-Bromofluorobenzene	460-00-4	106	%	70-130	04.29.19 15.32	

Certificate of Analytical Results 622389

LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-005	Date Collected:	04.24.19 11.22	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.00	Basis:	Wet Weight
Seq Number:	3087124				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**145**	4.96	mg/kg	04.26.19 23.49		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 11.00	Basis:	Wet Weight
Seq Number:	3087229				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.27.19 19.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.27.19 19.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.27.19 19.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.27.19 19.52	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.27.19 19.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.27.19 19.52	
o-Terphenyl	84-15-1	97	%	70-135	04.27.19 19.52	

Certificate of Analytical Results 622389

LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-005	Date Collected:	04.24.19 11.22	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.29.19 15.52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.29.19 15.52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.29.19 15.52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.29.19 15.52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.29.19 15.52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.29.19 15.52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.29.19 15.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	04.29.19 15.52	
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.29.19 15.52	

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LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-006	Date Collected:	04.24.19 11.25	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.00	Basis:	Wet Weight
Seq Number:	3087124				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**37.8**	5.00	mg/kg	04.26.19 23.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 11.00	Basis:	Wet Weight
Seq Number:	3087229				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.27.19 20.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.27.19 20.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.27.19 20.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.27.19 20.12	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.27.19 20.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	04.27.19 20.12	
o-Terphenyl	84-15-1	98	%	70-135	04.27.19 20.12	

Certificate of Analytical Results 622389

LT Environmental, Inc., Arvada, CO

PLU RR 3-25-30

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622389-006	Date Collected:	04.24.19 11.25	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.29.19 16.11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.29.19 16.11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.29.19 16.11	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.29.19 16.11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.29.19 16.11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.29.19 16.11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.29.19 16.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	70-130	04.29.19 16.11	
1,4-Difluorobenzene	540-36-3	86	%	70-130	04.29.19 16.11	

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 622389

LT Environmental, Inc.

PLU RR 3-25-30

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087124 Matrix: Solid Date Prep: 04.26.19
MB Sample Id: 7676645-1-BLK LCS Sample Id: 7676645-1-BKS LCSD Sample Id: 7676645-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	251	100	253	101	90-110	1	20	mg/kg	04.26.19 22:01	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087124 Matrix: Soil Date Prep: 04.26.19
Parent Sample Id: 622388-004 MS Sample Id: 622388-004 S MSD Sample Id: 622388-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	92.7	253	334	95	337	97	90-110	1	20	mg/kg	04.26.19 22:30	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087124 Matrix: Soil Date Prep: 04.26.19
Parent Sample Id: 622389-006 MS Sample Id: 622389-006 S MSD Sample Id: 622389-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	37.8	250	278	96	278	96	90-110	0	20	mg/kg	04.27.19 00:04	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3087229 Matrix: Solid Date Prep: 04.27.19
MB Sample Id: 7676732-1-BLK LCS Sample Id: 7676732-1-BKS LCSD Sample Id: 7676732-1-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	879	88	910	91	70-135	3	20	mg/kg	04.27.19 11:45	
Diesel Range Organics (DRO)	<8.13	1000	885	89	912	91	70-135	3	20	mg/kg	04.27.19 11:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		105		106		70-135	%	04.27.19 11:45
o-Terphenyl	86		82		85		70-135	%	04.27.19 11:45

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 622389

LT Environmental, Inc.

PLU RR 3-25-30

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3087229 Matrix: Soil Date Prep: 04.27.19
Parent Sample Id: 622065-001 MS Sample Id: 622065-001 S MSD Sample Id: 622065-001 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)	9.88	999	823	81	795	79	70-135	3	20	mg/kg	04.27.19 12:45	
Diesel Range Organics (DRO)	13.0	999	824	81	793	78	70-135	4	20	mg/kg	04.27.19 12:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		95		70-135	%	04.27.19 12:45
o-Terphenyl	80		76		70-135	%	04.27.19 12:45

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3087352 Matrix: Solid Date Prep: 04.29.19
MB Sample Id: 7676744-1-BLK LCS Sample Id: 7676744-1-BKS LCSD Sample Id: 7676744-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000382	0.0992	0.105	106	0.113	112	70-130	7	35	mg/kg	04.29.19 12:37	
Toluene	<0.000452	0.0992	0.100	101	0.107	106	70-130	7	35	mg/kg	04.29.19 12:37	
Ethylbenzene	<0.000560	0.0992	0.106	107	0.113	112	70-130	6	35	mg/kg	04.29.19 12:37	
m,p-Xylenes	<0.00101	0.198	0.223	113	0.238	118	70-130	7	35	mg/kg	04.29.19 12:37	
o-Xylene	<0.000342	0.0992	0.109	110	0.117	116	70-130	7	35	mg/kg	04.29.19 12:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		100		101		70-130	%	04.29.19 12:37
4-Bromofluorobenzene	87		99		98		70-130	%	04.29.19 12:37

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3087352 Matrix: Soil Date Prep: 04.29.19
Parent Sample Id: 622389-001 MS Sample Id: 622389-001 S MSD Sample Id: 622389-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000388	0.101	0.109	108	0.105	105	70-130	4	35	mg/kg	04.29.19 13:15	
Toluene	<0.000459	0.101	0.103	102	0.100	100	70-130	3	35	mg/kg	04.29.19 13:15	
Ethylbenzene	<0.000569	0.101	0.109	108	0.106	106	70-130	3	35	mg/kg	04.29.19 13:15	
m,p-Xylenes	<0.00102	0.202	0.230	114	0.223	112	70-130	3	35	mg/kg	04.29.19 13:15	
o-Xylene	0.000359	0.101	0.112	111	0.109	109	70-130	3	35	mg/kg	04.29.19 13:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		100		70-130	%	04.29.19 13:15
4-Bromofluorobenzene	106		104		70-130	%	04.29.19 13:15

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

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)

Work Order No: 622389

www.xenco.com Page 1 of 1

Project Manager:	Ashley Ager	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental Inc.	Company Name:	XTO
Address:	3300 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	970 385 1096	Email:	aager@ltenv.com trabyers@ltenv.com

Work Order Comments

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

Project Name:	PLU RR 33-25-30	Turn Around	
Project Number:		Routine	☒
P.O. Number:	2RP-4450	Rush:	
Sampler's Name:	Anna Byers	Due Date:	4/30/19

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	3.1/3.0	Thermometer ID	R8	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1	
Sample Custody Seals:	Yes No (N/A)	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
PH01	S	4/24/19	1030	0.5'	1			
PH01A	S		1040	4.0'	1			
PH02	S		1050	0.5'	1			
PH02A	S		1100	4.0'	1			
PH03	S		1122	3.0'	1			
PH03A	S	↓	1125	4.0'	1			

04/24/19

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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	Anna Byers		4/25/19 1233	2	FedEx	4/25/19 14:00
3			4/26/19 1130	4		
5				6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04/26/2019 11:30:00 AM

Work Order #: 622389

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

Temperature Measuring device used : R8

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

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

Analyst:

PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 04/26/2019

Checklist reviewed by: Jessica Kramer Date: 04/29/2019

Jessica Kramer

Analytical Report 622390

for

LT Environmental, Inc.

Project Manager: Ashley Ager

PLU RR 33-25-30

30-APR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

30-APR-19

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

Reference: XENCO Report No(s): **622390**
PLU RR 33-25-30
Project Address: Delaware Basin

Ashley Ager:

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) 622390. 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. 622390 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,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 622390

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH04	S	04-24-19 12:30	0.5 ft	622390-001
PH04A	S	04-24-19 12:40	4.5 ft	622390-002
PH05	S	04-24-19 13:17	3.5 ft	622390-003
PH05A	S	04-24-19 13:20	4.5 ft	622390-004
PH06	S	04-24-19 13:55	0.5 ft	622390-005
PH06A	S	04-24-19 14:05	4.5 ft	622390-006
PH07	S	04-24-19 14:43	3 ft	622390-007
PH07A	S	04-24-19 14:45	4.5 ft	622390-008

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3087123 Chloride by EPA 300

Lab Sample ID 622390-008 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 622390-007, -008.

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

Batch: LBA-3087352 BTEX by EPA 8021B

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

Certificate of Analysis Summary 622390

LT Environmental, Inc., Arvada, CO

Project Name: PLU RR 33-25-30

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Fri Apr-26-19 11:30 am
Report Date: 30-APR-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	622390-001		622390-002		622390-003		622390-004		622390-005		622390-006	
	Field Id:	PH04		PH04A		PH05		PH05A		PH06		PH06A	
	Depth:	0.5- ft		4.5- ft		3.5- ft		4.5- ft		0.5- ft		4.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-24-19 12:30		Apr-24-19 12:40		Apr-24-19 13:17		Apr-24-19 13:20		Apr-24-19 13:55		Apr-24-19 14:05	
BTEX by EPA 8021B	***Extracted:***	Apr-29-19 10:00		Apr-29-19 10:00		Apr-29-19 10:00		Apr-29-19 10:00		Apr-29-19 10:00		Apr-29-19 10:00	
	Analyzed:	Apr-29-19 16:31		Apr-29-19 16:51		Apr-29-19 17:12		Apr-29-19 17:32		Apr-29-19 18:46		Apr-29-19 19:05	
	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	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
m,p-Xylenes		<0.00397	0.00397	<0.00401	0.00401	<0.00398	0.00398	<0.00399	0.00399	<0.00400	0.00400	<0.00402	0.00402
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Chloride by EPA 300	***Extracted:***	Apr-26-19 18:00		Apr-26-19 18:00		Apr-26-19 17:00		Apr-26-19 17:00		Apr-26-19 17:00		Apr-26-19 17:00	
	Analyzed:	Apr-27-19 18:34		Apr-27-19 20:16		Apr-27-19 00:18		Apr-27-19 00:26		Apr-27-19 00:47		Apr-27-19 00:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6.60	5.02	<5.04	5.04	162	5.02	283	4.97	<5.02	5.02	<5.04	5.04
TPH by SW8015 Mod	***Extracted:***	Apr-27-19 09:00		Apr-27-19 09:00		Apr-27-19 09:00		Apr-27-19 09:00		Apr-27-19 09:00		Apr-27-19 09:00	
	Analyzed:	Apr-28-19 08:27		Apr-28-19 08:47		Apr-28-19 09:06		Apr-28-19 09:26		Apr-28-19 09:46		Apr-28-19 10:06	
	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	<15.0	15.0
Diesel Range Organics (DRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
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	<15.0	15.0
Total TPH		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total GRO-DRO		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 622390

LT Environmental, Inc., Arvada, CO

Project Name: PLU RR 33-25-30

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Fri Apr-26-19 11:30 am
Report Date: 30-APR-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	622390-007		622390-008					
	Field Id:	PH07		PH07A					
	Depth:	3- ft		4.5- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Apr-24-19 14:43		Apr-24-19 14:45					
BTEX by EPA 8021B	***Extracted:***	Apr-29-19 10:00		Apr-29-19 10:00					
	Analyzed:	Apr-29-19 19:24		Apr-29-19 19:43					
	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-26-19 17:30		Apr-26-19 17:30					
	Analyzed:	Apr-26-19 19:18		Apr-26-19 20:42					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		177	5.05	60.1	5.02				
TPH by SW8015 Mod	***Extracted:***	Apr-27-19 09:00		Apr-27-19 09:00					
	Analyzed:	Apr-28-19 10:26		Apr-28-19 10:47					
	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				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 622390

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-001	Date Collected:	04.24.19 12.30	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 18.00	Basis:	Wet Weight
Seq Number:	3087137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.60**	5.02	mg/kg	04.27.19 18.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 09.00	Basis:	Wet Weight
Seq Number:	3087225				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.28.19 08.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.28.19 08.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.28.19 08.27	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.28.19 08.27	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.28.19 08.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.28.19 08.27	
o-Terphenyl	84-15-1	95	%	70-135	04.28.19 08.27	

Certificate of Analytical Results 622390

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-001	Date Collected:	04.24.19 12.30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.29.19 16.31	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.29.19 16.31	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.29.19 16.31	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.29.19 16.31	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.29.19 16.31	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.29.19 16.31	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.29.19 16.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	04.29.19 16.31	
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.29.19 16.31	

Certificate of Analytical Results 622390

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-002	Date Collected:	04.24.19 12.40	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 18.00	Basis:	Wet Weight
Seq Number:	3087137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.04	5.04	mg/kg	04.27.19 20.16	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 09.00	Basis:	Wet Weight
Seq Number:	3087225				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.28.19 08.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.28.19 08.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.28.19 08.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.28.19 08.47	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.28.19 08.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	04.28.19 08.47	
o-Terphenyl	84-15-1	93	%	70-135	04.28.19 08.47	

Certificate of Analytical Results 622390

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-002	Date Collected:	04.24.19 12.40	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.29.19 16.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.29.19 16.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.29.19 16.51	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.29.19 16.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.29.19 16.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.29.19 16.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.29.19 16.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	04.29.19 16.51	
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.29.19 16.51	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-003	Date Collected:	04.24.19 13.17	Sample Depth:	3.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.00	Basis:	Wet Weight
Seq Number:	3087124				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**162**	5.02	mg/kg	04.27.19 00.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 09.00	Basis:	Wet Weight
Seq Number:	3087225				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.28.19 09.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.28.19 09.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.28.19 09.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.28.19 09.06	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.28.19 09.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	04.28.19 09.06	
o-Terphenyl	84-15-1	103	%	70-135	04.28.19 09.06	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-003	Date Collected:	04.24.19 13.17	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.29.19 17.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.29.19 17.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.29.19 17.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.29.19 17.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.29.19 17.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.29.19 17.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.29.19 17.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	04.29.19 17.12	
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.29.19 17.12	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-004	Date Collected:	04.24.19 13.20	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.00	Basis:	Wet Weight
Seq Number:	3087124				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**283**	4.97	mg/kg	04.27.19 00.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 09.00	Basis:	Wet Weight
Seq Number:	3087225				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.28.19 09.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.28.19 09.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.28.19 09.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.28.19 09.26	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.28.19 09.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	04.28.19 09.26	
o-Terphenyl	84-15-1	97	%	70-135	04.28.19 09.26	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-004	Date Collected:	04.24.19 13.20	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.29.19 17.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.29.19 17.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.29.19 17.32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.29.19 17.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.29.19 17.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.29.19 17.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.29.19 17.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	04.29.19 17.32	
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.29.19 17.32	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-005	Date Collected:	04.24.19 13.55	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.00	Basis:	Wet Weight
Seq Number:	3087124				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.02	5.02	mg/kg	04.27.19 00.47	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 09.00	Basis:	Wet Weight
Seq Number:	3087225				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.28.19 09.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.28.19 09.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.28.19 09.46	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.28.19 09.46	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.28.19 09.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	04.28.19 09.46	
o-Terphenyl	84-15-1	104	%	70-135	04.28.19 09.46	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-005	Date Collected:	04.24.19 13.55	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.29.19 18.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.29.19 18.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.29.19 18.46	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.29.19 18.46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.29.19 18.46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.29.19 18.46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.29.19 18.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.29.19 18.46	
4-Bromofluorobenzene	460-00-4	101	%	70-130	04.29.19 18.46	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-006	Date Collected:	04.24.19 14.05	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.00	Basis:	Wet Weight
Seq Number:	3087124				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.04	5.04	mg/kg	04.27.19 00.55	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 09.00	Basis:	Wet Weight
Seq Number:	3087225				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.28.19 10.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.28.19 10.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.28.19 10.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.28.19 10.06	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.28.19 10.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	04.28.19 10.06	
o-Terphenyl	84-15-1	103	%	70-135	04.28.19 10.06	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-006	Date Collected:	04.24.19 14.05	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.29.19 19.05	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.29.19 19.05	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.29.19 19.05	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.29.19 19.05	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.29.19 19.05	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.29.19 19.05	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.29.19 19.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.29.19 19.05	
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.29.19 19.05	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH07**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-007	Date Collected:	04.24.19 14.43	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.30	Basis:	Wet Weight
Seq Number:	3087123				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**177**	5.05	mg/kg	04.26.19 19.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 09.00	Basis:	Wet Weight
Seq Number:	3087225				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.28.19 10.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.28.19 10.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.28.19 10.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.28.19 10.26	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.28.19 10.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	04.28.19 10.26	
o-Terphenyl	84-15-1	98	%	70-135	04.28.19 10.26	

Certificate of Analytical Results 622390

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH07**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-007	Date Collected:	04.24.19 14.43	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.29.19 19.24	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.29.19 19.24	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.29.19 19.24	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.29.19 19.24	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.29.19 19.24	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.29.19 19.24	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.29.19 19.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.29.19 19.24	
4-Bromofluorobenzene	460-00-4	107	%	70-130	04.29.19 19.24	

Certificate of Analytical Results 622390

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH07A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-008	Date Collected:	04.24.19 14.45	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.26.19 17.30	Basis:	Wet Weight
Seq Number:	3087123				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**60.1**	5.02	mg/kg	04.26.19 20.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.27.19 09.00	Basis:	Wet Weight
Seq Number:	3087225				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.28.19 10.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.28.19 10.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.28.19 10.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.28.19 10.47	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.28.19 10.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	04.28.19 10.47	
o-Terphenyl	84-15-1	97	%	70-135	04.28.19 10.47	

Certificate of Analytical Results 622390

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**PH07A**	Matrix:	Soil	Date Received:	04.26.19 11.30
Lab Sample Id:	622390-008	Date Collected:	04.24.19 14.45	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.29.19 10.00	Basis:	Wet Weight
Seq Number:	3087352				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.29.19 19.43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.29.19 19.43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.29.19 19.43	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.29.19 19.43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.29.19 19.43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.29.19 19.43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.29.19 19.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.29.19 19.43	
1,4-Difluorobenzene	540-36-3	92	%	70-130	04.29.19 19.43	

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 622390

LT Environmental, Inc.

PLU RR 33-25-30

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087124 Matrix: Solid Date Prep: 04.26.19
MB Sample Id: 7676645-1-BLK LCS Sample Id: 7676645-1-BKS LCSD Sample Id: 7676645-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	251	100	253	101	90-110	1	20	mg/kg	04.26.19 22:01	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087123 Matrix: Solid Date Prep: 04.26.19
MB Sample Id: 7676644-1-BLK LCS Sample Id: 7676644-1-BKS LCSD Sample Id: 7676644-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.63	250	274	110	274	110	90-110	0	20	mg/kg	04.26.19 19:07	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087137 Matrix: Solid Date Prep: 04.26.19
MB Sample Id: 7676646-1-BLK LCS Sample Id: 7676646-1-BKS LCSD Sample Id: 7676646-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	262	105	262	105	90-110	0	20	mg/kg	04.27.19 18:20	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087124 Matrix: Soil Date Prep: 04.26.19
Parent Sample Id: 622388-004 MS Sample Id: 622388-004 S MSD Sample Id: 622388-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	92.7	253	334	95	337	97	90-110	1	20	mg/kg	04.26.19 22:30	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087124 Matrix: Soil Date Prep: 04.26.19
Parent Sample Id: 622389-006 MS Sample Id: 622389-006 S MSD Sample Id: 622389-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	37.8	250	278	96	278	96	90-110	0	20	mg/kg	04.27.19 00:04	

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

QC Summary 622390

LT Environmental, Inc.

PLU RR 33-25-30

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087123 Matrix: Soil Date Prep: 04.26.19
Parent Sample Id: 622390-007 MS Sample Id: 622390-007 S MSD Sample Id: 622390-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	177	253	449	108	447	107	90-110	0	20	mg/kg	04.26.19 19:24	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087123 Matrix: Soil Date Prep: 04.26.19
Parent Sample Id: 622390-008 MS Sample Id: 622390-008 S MSD Sample Id: 622390-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	60.1	251	338	111	338	111	90-110	0	20	mg/kg	04.26.19 20:48	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087137 Matrix: Soil Date Prep: 04.26.19
Parent Sample Id: 622390-001 MS Sample Id: 622390-001 S MSD Sample Id: 622390-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.60	251	252	98	251	97	90-110	0	20	mg/kg	04.27.19 18:41	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087137 Matrix: Soil Date Prep: 04.26.19
Parent Sample Id: 622390-002 MS Sample Id: 622390-002 S MSD Sample Id: 622390-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4.69	252	261	102	260	101	90-110	0	20	mg/kg	04.27.19 20:23	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3087225 Matrix: Solid Date Prep: 04.27.19
MB Sample Id: 7676729-1-BLK LCS Sample Id: 7676729-1-BKS LCSD Sample Id: 7676729-1-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	1000	100	986	99	70-135	1	20	mg/kg	04.28.19 02:44	
Diesel Range Organics (DRO)	<8.13	1000	999	100	987	99	70-135	1	20	mg/kg	04.28.19 02:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		123		120		70-135	%	04.28.19 02:44
o-Terphenyl	94		104		98		70-135	%	04.28.19 02:44

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 622390

LT Environmental, Inc.

PLU RR 33-25-30

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3087225 Matrix: Soil Date Prep: 04.27.19
Parent Sample Id: 622381-001 MS Sample Id: 622381-001 S MSD Sample Id: 622381-001 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)	9.41	999	944	94	957	95	70-135	1	20	mg/kg	04.28.19 03:45	
Diesel Range Organics (DRO)	<8.12	999	960	96	978	98	70-135	2	20	mg/kg	04.28.19 03:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		120		70-135	%	04.28.19 03:45
o-Terphenyl	94		94		70-135	%	04.28.19 03:45

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3087352 Matrix: Solid Date Prep: 04.29.19
MB Sample Id: 7676744-1-BLK LCS Sample Id: 7676744-1-BKS LCSD Sample Id: 7676744-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000382	0.0992	0.105	106	0.113	112	70-130	7	35	mg/kg	04.29.19 12:37	
Toluene	<0.000452	0.0992	0.100	101	0.107	106	70-130	7	35	mg/kg	04.29.19 12:37	
Ethylbenzene	<0.000560	0.0992	0.106	107	0.113	112	70-130	6	35	mg/kg	04.29.19 12:37	
m,p-Xylenes	<0.00101	0.198	0.223	113	0.238	118	70-130	7	35	mg/kg	04.29.19 12:37	
o-Xylene	<0.000342	0.0992	0.109	110	0.117	116	70-130	7	35	mg/kg	04.29.19 12:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		100		101		70-130	%	04.29.19 12:37
4-Bromofluorobenzene	87		99		98		70-130	%	04.29.19 12:37

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3087352 Matrix: Soil Date Prep: 04.29.19
Parent Sample Id: 622389-001 MS Sample Id: 622389-001 S MSD Sample Id: 622389-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000388	0.101	0.109	108	0.105	105	70-130	4	35	mg/kg	04.29.19 13:15	
Toluene	<0.000459	0.101	0.103	102	0.100	100	70-130	3	35	mg/kg	04.29.19 13:15	
Ethylbenzene	<0.000569	0.101	0.109	108	0.106	106	70-130	3	35	mg/kg	04.29.19 13:15	
m,p-Xylenes	<0.00102	0.202	0.230	114	0.223	112	70-130	3	35	mg/kg	04.29.19 13:15	
o-Xylene	0.000359	0.101	0.112	111	0.109	109	70-130	3	35	mg/kg	04.29.19 13:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		100		70-130	%	04.29.19 13:15
4-Bromofluorobenzene	106		104		70-130	%	04.29.19 13:15

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

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)

Work Order No: 622390

www.xenco.com Page 1 of 1

Project Manager:	Ashley Ager	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	970 385 1096	Email:	aager@ltenv.com & abyers@ltenv.com

Work Order Comments

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

Project Name:	PLU RR 33-25-30	Turn Around	
Project Number:		Routine	☒
P.O. Number:	JRP-4450	Rush:	
Sampler's Name:	Anna Byers	Due Date:	4/30/19

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	3.1/3.0	Thermometer ID	R8	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1	
Sample Custody Seals:	Yes No (N/A)	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
PH04	S	4/24/19	1230	0.5'	1			
PH04A	S		1240	4.5'	1			
PH05	S		1317	3.5'	1			
PH05A	S		1320	4.5'	1			
PH06	S		1355	0.5'	1			
PH06A	S		1405	4.5'	1			
PH07	S		1443	3.0'	1			
PH07A	S		1445	4.5'	1			

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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 Anna Byers		4/25/19 12:33	2		
3		4/26/19 1130	4	Fed Ex	4/25/19 14:00
5			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04/26/2019 11:30:00 AM

Work Order #: 622390

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 04/26/2019

Checklist reviewed by: Jessica Kramer Date: 04/29/2019

Analytical Report 622954

for

LT Environmental, Inc.

Project Manager: Ashley Ager

PLU RR 33-2530

03-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
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-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

03-MAY-19

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

Reference: XENCO Report No(s): **622954**
PLU RR 33-2530
Project Address: Delaware Basin

Ashley Ager:

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) 622954. 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. 622954 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,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 622954

LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	04-26-19 10:40	1.5 ft	622954-001
FS02	S	04-26-19 10:50	1.5 ft	622954-002
FS03	S	04-26-19 11:05	4.5 ft	622954-003
FS04	S	04-26-19 11:10	4.5 ft	622954-004
SW01	S	04-26-19 10:55	0 - 1.5 ft	622954-005
SW02	S	04-26-19 11:00	0 - 1.5 ft	622954-006
SW03	S	04-26-19 11:15	0 - 4.5 ft	622954-007
SW04	S	04-26-19 11:20	0 - 4.5 ft	622954-008
FS05	S	04-29-19 11:50	3 ft	622954-009
SW05	S	04-29-19 12:05	0 - 3 ft	622954-010
SW06	S	04-29-19 12:10	0 - 3 ft	622954-011

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3087777 BTEX by EPA 8021B

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

Batch: LBA-3087814 Chloride by EPA 300

Lab Sample ID 622954-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 622954-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011.

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

Certificate of Analysis Summary 622954

LT Environmental, Inc., Arvada, CO

Project Name: PLU RR 33-2530

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Thu May-02-19 11:05 am
Report Date: 03-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	622954-001		622954-002		622954-003		622954-004		622954-005		622954-006	
	Field Id:	FS01		FS02		FS03		FS04		SW01		SW02	
	Depth:	1.5- ft		1.5- ft		4.5- ft		4.5- ft		0-1.5 ft		0-1.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-26-19 10:40		Apr-26-19 10:50		Apr-26-19 11:05		Apr-26-19 11:10		Apr-26-19 10:55		Apr-26-19 11:00	
BTEX by EPA 8021B	***Extracted:***	May-02-19 12:30		May-02-19 12:30		May-02-19 12:30		May-02-19 12:30		May-02-19 12:30		May-02-19 12:30	
	Analyzed:	May-02-19 16:20		May-02-19 16:39		May-02-19 16:59		May-02-19 17:18		May-02-19 17:38		May-02-19 17:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes		<0.00401	0.00401	<0.00397	0.00397	<0.00398	0.00398	<0.00402	0.00402	<0.00402	0.00402	<0.00401	0.00401
o-Xylene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	May-02-19 14:45		May-02-19 14:45		May-02-19 14:45		May-02-19 14:45		May-02-19 14:45		May-02-19 14:45	
	Analyzed:	May-02-19 16:03		May-02-19 16:21		May-02-19 16:45		May-02-19 16:27		May-02-19 16:51		May-02-19 16:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		12.2	4.97	<4.97	4.97	847	5.01	1830	25.0	44.2	5.03	49.5	4.98
TPH by SW8015 Mod	***Extracted:***	May-02-19 15:00		May-02-19 15:00		May-02-19 15:00		May-02-19 15:00		May-02-19 15:00		May-02-19 15:00	
	Analyzed:	May-02-19 23:04		May-03-19 00:03		May-03-19 00:23		May-03-19 00:43		May-03-19 01:03		May-03-19 01:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	197	15.0	132	15.0	<15.0	15.0	606	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	40.6	15.0	35.8	15.0	<15.0	15.0	85.4	15.0
Total TPH		<15.0	15.0	<15.0	15.0	238	15.0	168	15.0	<15.0	15.0	691	15.0
Total GRO-DRO		<15.0	15.0	<15.0	15.0	197	15.0	132	15.0	<15.0	15.0	606	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 622954

LT Environmental, Inc., Arvada, CO

Project Name: PLU RR 33-2530

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Thu May-02-19 11:05 am
Report Date: 03-MAY-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	622954-007		622954-008		622954-009		622954-010		622954-011	
	Field Id:	SW03		SW04		FS05		SW05		SW06	
	Depth:	0-4.5 ft		0-4.5 ft		3- ft		0-3 ft		0-3 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-26-19 11:15		Apr-26-19 11:20		Apr-29-19 11:50		Apr-29-19 12:05		Apr-29-19 12:10	
BTEX by EPA 8021B	***Extracted:***	May-02-19 12:30		May-02-19 12:30		May-02-19 12:30		May-02-19 12:30		May-02-19 12:30	
	Analyzed:	May-02-19 19:15		May-02-19 19:35		May-02-19 19:54		May-02-19 20:13		May-02-19 20:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202
m,p-Xylenes		<0.00399	0.00399	<0.00399	0.00399	<0.00403	0.00403	<0.00402	0.00402	<0.00403	0.00403
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	May-02-19 14:45		May-02-19 14:45		May-02-19 14:45		May-02-19 14:45		May-02-19 14:45	
	Analyzed:	May-02-19 17:03		May-02-19 17:09		May-02-19 17:15		May-02-19 17:33		May-02-19 17:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		935	5.01	4570	24.9	88.0	4.99	6.35	5.03	453	5.01
TPH by SW8015 Mod	***Extracted:***	May-02-19 15:00		May-02-19 15:00		May-02-19 15:00		May-02-19 15:00		May-02-19 15:00	
	Analyzed:	May-03-19 01:43		May-03-19 02:03		May-03-19 02:23		May-03-19 02:43		May-03-19 03:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		251	15.0	<15.0	15.0	131	15.0	<15.0	15.0	24.4	15.0
Motor Oil Range Hydrocarbons (MRO)		34.4	15.0	<15.0	15.0	26.6	15.0	<15.0	15.0	<15.0	15.0
Total TPH		285	15.0	<15.0	15.0	158	15.0	<15.0	15.0	24.4	15.0
Total GRO-DRO		251	15.0	<15.0	15.0	131	15.0	<15.0	15.0	24.4	15.0

Jessica Kramer
Project Assistant

Certificate of Analytical Results 622954

LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-001	Date Collected:	04.26.19 10.40	Sample Depth:	1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	0
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Dry Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.2**	4.97	mg/kg	05.02.19 16.03		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 15.00	Basis:	Wet Weight
Seq Number:	3087798				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.02.19 23.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.02.19 23.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.02.19 23.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.02.19 23.04	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.02.19 23.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.02.19 23.04	
o-Terphenyl	84-15-1	98	%	70-135	05.02.19 23.04	

Certificate of Analytical Results 622954

LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-001	Date Collected:	04.26.19 10.40	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.02.19 16.20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.02.19 16.20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.02.19 16.20	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.02.19 16.20	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.02.19 16.20	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.02.19 16.20	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.02.19 16.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.02.19 16.20	
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.02.19 16.20	

Certificate of Analytical Results 622954

LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-002	Date Collected:	04.26.19 10.50	Sample Depth:	1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	0
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Dry Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	05.02.19 16.21	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 15.00	Basis:	Wet Weight
Seq Number:	3087798				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.03.19 00.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.03.19 00.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.03.19 00.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.03.19 00.03	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.03.19 00.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.03.19 00.03	
o-Terphenyl	84-15-1	94	%	70-135	05.03.19 00.03	

Certificate of Analytical Results 622954

LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-002	Date Collected:	04.26.19 10.50	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.02.19 16.39	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.02.19 16.39	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.02.19 16.39	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.02.19 16.39	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.02.19 16.39	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.02.19 16.39	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.02.19 16.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.02.19 16.39	
4-Bromofluorobenzene	460-00-4	103	%	70-130	05.02.19 16.39	

Certificate of Analytical Results 622954

LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-003	Date Collected:	04.26.19 11.05	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	0
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Dry Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**847**	5.01	mg/kg	05.02.19 16.45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 15.00	Basis:	Wet Weight
Seq Number:	3087798				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.03.19 00.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	**197**	15.0	mg/kg	05.03.19 00.23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**40.6**	15.0	mg/kg	05.03.19 00.23		1
Total TPH	PHC635	**238**	15.0	mg/kg	05.03.19 00.23		1
Total GRO-DRO	PHC628	**197**	15.0	mg/kg	05.03.19 00.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	05.03.19 00.23	
o-Terphenyl	84-15-1	101	%	70-135	05.03.19 00.23	

Certificate of Analytical Results 622954

LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-003	Date Collected:	04.26.19 11.05	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.02.19 16.59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.02.19 16.59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.02.19 16.59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.02.19 16.59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.02.19 16.59	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.02.19 16.59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.02.19 16.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.02.19 16.59	
4-Bromofluorobenzene	460-00-4	103	%	70-130	05.02.19 16.59	

Certificate of Analytical Results 622954

LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-004	Date Collected:	04.26.19 11.10	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	0
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Dry Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1830**	25.0	mg/kg	05.02.19 16.27		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 15.00	Basis:	Wet Weight
Seq Number:	3087798				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.03.19 00.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	**132**	15.0	mg/kg	05.03.19 00.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**35.8**	15.0	mg/kg	05.03.19 00.43		1
Total TPH	PHC635	**168**	15.0	mg/kg	05.03.19 00.43		1
Total GRO-DRO	PHC628	**132**	15.0	mg/kg	05.03.19 00.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	05.03.19 00.43	
o-Terphenyl	84-15-1	98	%	70-135	05.03.19 00.43	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-004	Date Collected:	04.26.19 11.10	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.02.19 17.18	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.02.19 17.18	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.02.19 17.18	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.02.19 17.18	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.02.19 17.18	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.02.19 17.18	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.02.19 17.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	05.02.19 17.18	
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.02.19 17.18	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW01**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-005	Date Collected:	04.26.19 10.55	Sample Depth:	0 - 1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	0
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Dry Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**44.2**	5.03	mg/kg	05.02.19 16.51		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 15.00	Basis:	Wet Weight
Seq Number:	3087798				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.03.19 01.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.03.19 01.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.03.19 01.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.03.19 01.03	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.03.19 01.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.03.19 01.03	
o-Terphenyl	84-15-1	96	%	70-135	05.03.19 01.03	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-005	Date Collected:	04.26.19 10.55	Sample Depth:	0 - 1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.02.19 17.38	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.02.19 17.38	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.02.19 17.38	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.02.19 17.38	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.02.19 17.38	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.02.19 17.38	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.02.19 17.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.02.19 17.38	
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.02.19 17.38	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW02**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-006	Date Collected:	04.26.19 11.00	Sample Depth:	0 - 1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	0
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Dry Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**49.5**	4.98	mg/kg	05.02.19 16.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 15.00	Basis:	Wet Weight
Seq Number:	3087798				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.03.19 01.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	**606**	15.0	mg/kg	05.03.19 01.23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**85.4**	15.0	mg/kg	05.03.19 01.23		1
Total TPH	PHC635	**691**	15.0	mg/kg	05.03.19 01.23		1
Total GRO-DRO	PHC628	**606**	15.0	mg/kg	05.03.19 01.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.03.19 01.23	
o-Terphenyl	84-15-1	104	%	70-135	05.03.19 01.23	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW02**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-006	Date Collected:	04.26.19 11.00	Sample Depth:	0 - 1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.02.19 17.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.02.19 17.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.02.19 17.57	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.02.19 17.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.02.19 17.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.02.19 17.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.02.19 17.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	05.02.19 17.57	
1,4-Difluorobenzene	540-36-3	97	%	70-130	05.02.19 17.57	

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LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-007	Date Collected:	04.26.19 11.15	Sample Depth:	0 - 4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	0
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Dry Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**935**	5.01	mg/kg	05.02.19 17.03		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 15.00	Basis:	Wet Weight
Seq Number:	3087798				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.03.19 01.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	**251**	15.0	mg/kg	05.03.19 01.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**34.4**	15.0	mg/kg	05.03.19 01.43		1
Total TPH	PHC635	**285**	15.0	mg/kg	05.03.19 01.43		1
Total GRO-DRO	PHC628	**251**	15.0	mg/kg	05.03.19 01.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.03.19 01.43	
o-Terphenyl	84-15-1	97	%	70-135	05.03.19 01.43	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW03**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-007	Date Collected:	04.26.19 11.15	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.02.19 19.15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.02.19 19.15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.02.19 19.15	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.02.19 19.15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.02.19 19.15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.02.19 19.15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.02.19 19.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	05.02.19 19.15	
1,4-Difluorobenzene	540-36-3	96	%	70-130	05.02.19 19.15	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW04**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-008	Date Collected:	04.26.19 11.20	Sample Depth:	0 - 4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	0
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Dry Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4570**	24.9	mg/kg	05.02.19 17.09		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 15.00	Basis:	Wet Weight
Seq Number:	3087798				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.03.19 02.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.03.19 02.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.03.19 02.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.03.19 02.03	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.03.19 02.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.03.19 02.03	
o-Terphenyl	84-15-1	96	%	70-135	05.03.19 02.03	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW04**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-008	Date Collected:	04.26.19 11.20	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.02.19 19.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.02.19 19.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.02.19 19.35	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.02.19 19.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.02.19 19.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.02.19 19.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.02.19 19.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	05.02.19 19.35	
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.02.19 19.35	

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Sample Id:	**FS05**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-009	Date Collected:	04.29.19 11.50	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	0
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Dry Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**88.0**	4.99	mg/kg	05.02.19 17.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 15.00	Basis:	Wet Weight
Seq Number:	3087798				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.03.19 02.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	**131**	15.0	mg/kg	05.03.19 02.23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**26.6**	15.0	mg/kg	05.03.19 02.23		1
Total TPH	PHC635	**158**	15.0	mg/kg	05.03.19 02.23		1
Total GRO-DRO	PHC628	**131**	15.0	mg/kg	05.03.19 02.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.03.19 02.23	
o-Terphenyl	84-15-1	101	%	70-135	05.03.19 02.23	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**FS05**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-009	Date Collected:	04.29.19 11.50	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.02.19 19.54	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.02.19 19.54	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.02.19 19.54	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.02.19 19.54	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.02.19 19.54	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.02.19 19.54	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.02.19 19.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.02.19 19.54	
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.02.19 19.54	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW05**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-010	Date Collected:	04.29.19 12.05	Sample Depth:	0 - 3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	0
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Dry Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.35**	5.03	mg/kg	05.02.19 17.33		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 15.00	Basis:	Wet Weight
Seq Number:	3087798				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.03.19 02.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.03.19 02.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.03.19 02.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.03.19 02.43	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.03.19 02.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.03.19 02.43	
o-Terphenyl	84-15-1	96	%	70-135	05.03.19 02.43	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW05**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-010	Date Collected:	04.29.19 12.05	Sample Depth:	0 - 3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.02.19 20.13	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.02.19 20.13	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.02.19 20.13	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.02.19 20.13	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.02.19 20.13	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.02.19 20.13	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.02.19 20.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.02.19 20.13	
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.02.19 20.13	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW06**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-011	Date Collected:	04.29.19 12.10	Sample Depth:	0 - 3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	0
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Dry Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**453**	5.01	mg/kg	05.02.19 17.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 15.00	Basis:	Wet Weight
Seq Number:	3087798				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.03.19 03.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	**24.4**	15.0	mg/kg	05.03.19 03.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.03.19 03.43	U	1
Total TPH	PHC635	**24.4**	15.0	mg/kg	05.03.19 03.43		1
Total GRO-DRO	PHC628	**24.4**	15.0	mg/kg	05.03.19 03.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.03.19 03.43	
o-Terphenyl	84-15-1	96	%	70-135	05.03.19 03.43	

Certificate of Analytical Results 622954

LT Environmental, Inc., Arvada, CO

PLU RR 33-2530

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622954-011	Date Collected:	04.29.19 12.10	Sample Depth:	0 - 3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.02.19 20.33	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.02.19 20.33	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.02.19 20.33	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.02.19 20.33	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.02.19 20.33	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.02.19 20.33	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.02.19 20.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.02.19 20.33	
1,4-Difluorobenzene	540-36-3	97	%	70-130	05.02.19 20.33	

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 622954

LT Environmental, Inc.

PLU RR 33-2530

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087814 Matrix: Solid Date Prep: 05.02.19
MB Sample Id: 7677036-1-BLK LCS Sample Id: 7677036-1-BKS LCSD Sample Id: 7677036-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	241	96	242	97	90-110	0	20	mg/kg	05.02.19 11:12	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087814 Matrix: Soil Date Prep: 05.02.19
Parent Sample Id: 622952-001 MS Sample Id: 622952-001 S MSD Sample Id: 622952-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	233	252	504	108	508	109	90-110	1	20	mg/kg	05.02.19 15:16	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087814 Matrix: Soil Date Prep: 05.02.19
Parent Sample Id: 622954-004 MS Sample Id: 622954-004 S MSD Sample Id: 622954-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1830	250	1980	60	1990	64	90-110	1	20	mg/kg	05.02.19 16:33	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3087798 Matrix: Solid Date Prep: 05.02.19
MB Sample Id: 7677066-1-BLK LCS Sample Id: 7677066-1-BKS LCSD Sample Id: 7677066-1-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	1010	101	993	99	70-135	2	20	mg/kg	05.02.19 22:24	
Diesel Range Organics (DRO)	<8.13	1000	1020	102	989	99	70-135	3	20	mg/kg	05.02.19 22:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		129		127		70-135	%	05.02.19 22:24
o-Terphenyl	106		126		128		70-135	%	05.02.19 22:24

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

QC Summary 622954

LT Environmental, Inc.

PLU RR 33-2530

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3087798 Matrix: Soil Date Prep: 05.02.19
Parent Sample Id: 622954-001 MS Sample Id: 622954-001 S MSD Sample Id: 622954-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.97	996	1000	100	1030	103	70-135	3	20	mg/kg	05.02.19 23:23	
Diesel Range Organics (DRO)	9.72	996	1030	102	1030	102	70-135	0	20	mg/kg	05.02.19 23:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		125		70-135	%	05.02.19 23:23
o-Terphenyl	118		120		70-135	%	05.02.19 23:23

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3087777 Matrix: Solid Date Prep: 05.02.19
MB Sample Id: 7677037-1-BLK LCS Sample Id: 7677037-1-BKS LCSD Sample Id: 7677037-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.109	109	0.112	112	70-130	3	35	mg/kg	05.02.19 13:01	
Toluene	<0.000454	0.0996	0.102	102	0.106	106	70-130	4	35	mg/kg	05.02.19 13:01	
Ethylbenzene	<0.000563	0.0996	0.109	109	0.114	114	70-130	4	35	mg/kg	05.02.19 13:01	
m,p-Xylenes	<0.00101	0.199	0.232	117	0.241	121	70-130	4	35	mg/kg	05.02.19 13:01	
o-Xylene	<0.000343	0.0996	0.114	114	0.119	119	70-130	4	35	mg/kg	05.02.19 13:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		102		102		70-130	%	05.02.19 13:01
4-Bromofluorobenzene	85		98		101		70-130	%	05.02.19 13:01

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3087777 Matrix: Soil Date Prep: 05.02.19
Parent Sample Id: 622952-001 MS Sample Id: 622952-001 S MSD Sample Id: 622952-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0907	91	0.0897	89	70-130	1	35	mg/kg	05.02.19 13:40	
Toluene	0.000479	0.100	0.0834	83	0.0815	80	70-130	2	35	mg/kg	05.02.19 13:40	
Ethylbenzene	<0.000567	0.100	0.0865	87	0.0822	81	70-130	5	35	mg/kg	05.02.19 13:40	
m,p-Xylenes	<0.00102	0.201	0.182	91	0.172	85	70-130	6	35	mg/kg	05.02.19 13:40	
o-Xylene	<0.000346	0.100	0.0894	89	0.0846	84	70-130	6	35	mg/kg	05.02.19 13:40	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	05.02.19 13:40
4-Bromofluorobenzene	100		104		70-130	%	05.02.19 13:40

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: 627954

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 2

Project Manager:	Ashley Ager	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:		aager@ltenv.com rmcafee@ltenv.com

Work Order Comments

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

Project Name:	PLU RR 33 - 25-30	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP -4450	Rush: 24hr	
Sampler's Name:	Robert McAfee	Due Date: 05/02/19	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.4 0.3	Thermometer ID	VB	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS01	S	04/26/19	1040	1.5'	1	X	X	X
FS02			1050	1.5'		X	X	X
FS03			1105	4.5'		X	X	X
FS04			1110	4.5'		X	X	X
SW01			1055	0-1.5'		X	X	X
SW02			1100	0-1.5'		X	X	X
SW03			1115	0-4.5'		X	X	X
SW04			1120	0-4.5'		X	X	X
FS05		04/29/19	1150	3'		X	X	X
SW05		04/29/19	1205	0-3'		X	X	X

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 A McAfee		04-30-19 1623	2		5/2/19 1105
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Final 1.000

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Chain of Custody

Work Order No: 622954

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 2

Project Manager:	Ashley Ager	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:	aager@ltenv.com rmcafee@ltenv.com

Work Order Comments

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

Project Name:	PLU RR 33-25-30	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP-4450	Rush: 24 hr	
Sampler's Name:	Robert McAfee	Due Date: 05/02/19	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.4 0.3	Thermometer ID	
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.4
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SW06	S	04/29/19	1210	0-3'	1	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	Richard McAfee		04-30-19 16:2[illegible]			
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Page 33 of 35

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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/02/2019 11:05:00 AM

Work Order #: 622954

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/02/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/02/2019
Jessica Kramer

Analytical Report 622955

for

LT Environmental, Inc.

Project Manager: Ashley Ager

PLU RR 33-25-30

03-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
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-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

03-MAY-19

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

Reference: XENCO Report No(s): **622955**
PLU RR 33-25-30
Project Address: Delaware Basin

Ashley Ager:

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) 622955. 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. 622955 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,

Jessica Kramer

Jessica Kramer
Project Assistant

Analytical Report 622955

for

LT Environmental, Inc.

Project Manager: Ashley Ager

PLU RR 33-25-30

07-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
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-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

07-MAY-19

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

Reference: XENCO Report No(s): **622955**
PLU RR 33-25-30
Project Address: Delaware Basin

Ashley Ager:

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) 622955. 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. 622955 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,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 622955

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	04-26-19 11:45	2 ft	622955-001
BH01A	S	04-26-19 12:00	4 ft	622955-002
BH02	S	04-30-19 14:05	1 ft	622955-003
BH02A	S	04-30-19 14:20	4 ft	622955-004
BH03	S	04-29-19 12:30	6.5 ft	622955-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU RR 33-25-30

Project ID:
Work Order Number(s): *622955*

Report Date: *07-MAY-19*
Date Received: *05/02/2019*

Sample receipt non conformances and comments:

PER CLIENTS EMAIL, CORRETED SAMPLE NAMES. NEW VERSION GENERATED. JK 05/07/19
BH01 @ 4' TO BH01A @ 4'
BH02 @ 4' TO BH02A @ 4'

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3087777 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 622955

LT Environmental, Inc., Arvada, CO

Project Name: PLU RR 33-25-30

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Thu May-02-19 11:05 am
Report Date: 07-MAY-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	622955-001		622955-002		622955-003		622955-004		622955-005	
	Field Id:	BH01		BH01A		BH02		BH02A		BH03	
	Depth:	2- ft		4- ft		1- ft		4- ft		6.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-26-19 11:45		Apr-26-19 12:00		Apr-30-19 14:05		Apr-30-19 14:20		Apr-29-19 12:30	
BTEX by EPA 8021B	***Extracted:***	May-02-19 12:30		May-02-19 12:30		May-02-19 12:30		May-02-19 12:30		May-02-19 12:30	
	Analyzed:	May-02-19 20:52		May-02-19 21:11		May-02-19 21:30		May-02-19 21:49		May-02-19 22:08	
	Units/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	<0.00198	0.00198	<0.00201	0.00201
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00201	0.00201
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00201	0.00201
m,p-Xylenes		<0.00398	0.00398	<0.00400	0.00400	<0.00401	0.00401	<0.00397	0.00397	<0.00402	0.00402
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00201	0.00201
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00201	0.00201
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00201	0.00201
Chloride by EPA 300	***Extracted:***	May-02-19 14:45		May-03-19 09:00		May-03-19 09:00		May-03-19 09:00		May-03-19 09:00	
	Analyzed:	May-02-19 17:45		May-03-19 09:56		May-03-19 10:13		May-03-19 10:19		May-03-19 10:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		11.1	5.04	147	4.99	<4.96	4.96	<4.99	4.99	408	4.96
TPH by SW8015 Mod	***Extracted:***	May-02-19 12:00		May-02-19 12:00		May-02-19 12:00		May-02-19 12:00		May-02-19 12:00	
	Analyzed:	May-02-19 17:08		May-02-19 17:28		May-02-19 17:48		May-02-19 18:47		May-02-19 19:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	102	14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	27.5	14.9
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	130	14.9
Total GRO-DRO		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	102	14.9

Jessica Kramer
Project Assistant

Certificate of Analytical Results 622955

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622955-001	Date Collected:	04.26.19 11.45	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.02.19 14.45	Basis:	Wet Weight
Seq Number:	3087814				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.1**	5.04	mg/kg	05.02.19 17.45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 12.00	Basis:	Wet Weight
Seq Number:	3087797				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.02.19 17.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.02.19 17.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.02.19 17.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.02.19 17.08	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.02.19 17.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.02.19 17.08	
o-Terphenyl	84-15-1	101	%	70-135	05.02.19 17.08	

Certificate of Analytical Results 622955

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622955-001	Date Collected:	04.26.19 11.45	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.02.19 20.52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.02.19 20.52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.02.19 20.52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.02.19 20.52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.02.19 20.52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.02.19 20.52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.02.19 20.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.02.19 20.52	
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.02.19 20.52	

Certificate of Analytical Results 622955

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622955-002	Date Collected:	04.26.19 12.00	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.03.19 09.00	Basis:	Wet Weight
Seq Number:	3087832				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**147**	4.99	mg/kg	05.03.19 09.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 12.00	Basis:	Wet Weight
Seq Number:	3087797				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.02.19 17.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.02.19 17.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.02.19 17.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.02.19 17.28	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.02.19 17.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.02.19 17.28	
o-Terphenyl	84-15-1	102	%	70-135	05.02.19 17.28	

Certificate of Analytical Results 622955

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622955-002	Date Collected:	04.26.19 12.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.02.19 21.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.02.19 21.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.02.19 21.11	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.02.19 21.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.02.19 21.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.02.19 21.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.02.19 21.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.02.19 21.11	
4-Bromofluorobenzene	460-00-4	101	%	70-130	05.02.19 21.11	

Certificate of Analytical Results 622955

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622955-003	Date Collected:	04.30.19 14.05	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.03.19 09.00	Basis:	Wet Weight
Seq Number:	3087832				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	05.03.19 10.13	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 12.00	Basis:	Wet Weight
Seq Number:	3087797				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.02.19 17.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.02.19 17.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.02.19 17.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.02.19 17.48	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.02.19 17.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.02.19 17.48	
o-Terphenyl	84-15-1	100	%	70-135	05.02.19 17.48	

Certificate of Analytical Results 622955

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622955-003	Date Collected:	04.30.19 14.05	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.02.19 21.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.02.19 21.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.02.19 21.30	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.02.19 21.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.02.19 21.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.02.19 21.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.02.19 21.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	70-130	05.02.19 21.30	
1,4-Difluorobenzene	540-36-3	88	%	70-130	05.02.19 21.30	

Certificate of Analytical Results 622955

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622955-004	Date Collected:	04.30.19 14.20	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.03.19 09.00	Basis:	Wet Weight
Seq Number:	3087832				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	05.03.19 10.19	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 12.00	Basis:	Wet Weight
Seq Number:	3087797				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.02.19 18.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.02.19 18.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.02.19 18.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.02.19 18.47	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.02.19 18.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.02.19 18.47	
o-Terphenyl	84-15-1	101	%	70-135	05.02.19 18.47	

Certificate of Analytical Results 622955

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622955-004	Date Collected:	04.30.19 14.20	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.02.19 21.49	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.02.19 21.49	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.02.19 21.49	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.02.19 21.49	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.02.19 21.49	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.02.19 21.49	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.02.19 21.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.02.19 21.49	
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.02.19 21.49	

Certificate of Analytical Results 622955

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622955-005	Date Collected:	04.29.19 12.30	Sample Depth:	6.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.03.19 09.00	Basis:	Wet Weight
Seq Number:	3087832				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**408**	4.96	mg/kg	05.03.19 10.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.19 12.00	Basis:	Wet Weight
Seq Number:	3087797				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.02.19 19.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	**102**	14.9	mg/kg	05.02.19 19.07		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**27.5**	14.9	mg/kg	05.02.19 19.07		1
Total TPH	PHC635	**130**	14.9	mg/kg	05.02.19 19.07		1
Total GRO-DRO	PHC628	**102**	14.9	mg/kg	05.02.19 19.07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.02.19 19.07	
o-Terphenyl	84-15-1	106	%	70-135	05.02.19 19.07	

Certificate of Analytical Results 622955

LT Environmental, Inc., Arvada, CO

PLU RR 33-25-30

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	05.02.19 11.05
Lab Sample Id:	622955-005	Date Collected:	04.29.19 12.30	Sample Depth:	6.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.02.19 12.30	Basis:	Wet Weight
Seq Number:	3087777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.02.19 22.08	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.02.19 22.08	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.02.19 22.08	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.02.19 22.08	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.02.19 22.08	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.02.19 22.08	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.02.19 22.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.02.19 22.08	
4-Bromofluorobenzene	460-00-4	103	%	70-130	05.02.19 22.08	

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 622955

LT Environmental, Inc.

PLU RR 33-25-30

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087814 Matrix: Solid Date Prep: 05.02.19
MB Sample Id: 7677036-1-BLK LCS Sample Id: 7677036-1-BKS LCSD Sample Id: 7677036-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	241	96	242	97	90-110	0	20	mg/kg	05.02.19 11:12	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087832 Matrix: Solid Date Prep: 05.03.19
MB Sample Id: 7677073-1-BLK LCS Sample Id: 7677073-1-BKS LCSD Sample Id: 7677073-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	248	99	249	100	90-110	0	20	mg/kg	05.03.19 09:44	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087814 Matrix: Soil Date Prep: 05.02.19
Parent Sample Id: 622952-001 MS Sample Id: 622952-001 S MSD Sample Id: 622952-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	233	252	504	108	508	109	90-110	1	20	mg/kg	05.02.19 15:16	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087814 Matrix: Soil Date Prep: 05.02.19
Parent Sample Id: 622954-004 MS Sample Id: 622954-004 S MSD Sample Id: 622954-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1830	250	1980	60	1990	64	90-110	1	20	mg/kg	05.02.19 16:33	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087832 Matrix: Soil Date Prep: 05.03.19
Parent Sample Id: 622955-002 MS Sample Id: 622955-002 S MSD Sample Id: 622955-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	147	250	392	98	393	98	90-110	0	20	mg/kg	05.03.19 10:01	

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 622955

LT Environmental, Inc.

PLU RR 33-25-30

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3087832 Matrix: Soil Date Prep: 05.03.19
Parent Sample Id: 622956-005 MS Sample Id: 622956-005 S MSD Sample Id: 622956-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	408	250	629	88	630	89	90-110	0	20	mg/kg	05.03.19 11:22	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3087797 Matrix: Solid Date Prep: 05.02.19
MB Sample Id: 7677065-1-BLK LCS Sample Id: 7677065-1-BKS LCSD Sample Id: 7677065-1-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	977	98	997	100	70-135	2	20	mg/kg	05.02.19 13:27	
Diesel Range Organics (DRO)	<8.13	1000	989	99	1020	102	70-135	3	20	mg/kg	05.02.19 13:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		125		130		70-135	%	05.02.19 13:27
o-Terphenyl	103		108		106		70-135	%	05.02.19 13:27

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3087797 Matrix: Soil Date Prep: 05.02.19
Parent Sample Id: 622952-001 MS Sample Id: 622952-001 S MSD Sample Id: 622952-001 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)	3140	999	984	0	1010	0	70-135	3	20	mg/kg	05.02.19 14:28	X
Diesel Range Organics (DRO)	9120	999	1010	0	1040	0	70-135	3	20	mg/kg	05.02.19 14:28	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		125		70-135	%	05.02.19 14:28
o-Terphenyl	104		101		70-135	%	05.02.19 14:28

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 622955

LT Environmental, Inc.

PLU RR 33-25-30

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3087777 Matrix: Solid Date Prep: 05.02.19

MB Sample Id: 7677037-1-BLK LCS Sample Id: 7677037-1-BKS LCSD Sample Id: 7677037-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.109	109	0.112	112	70-130	3	35	mg/kg	05.02.19 13:01	
Toluene	<0.000454	0.0996	0.102	102	0.106	106	70-130	4	35	mg/kg	05.02.19 13:01	
Ethylbenzene	<0.000563	0.0996	0.109	109	0.114	114	70-130	4	35	mg/kg	05.02.19 13:01	
m,p-Xylenes	<0.00101	0.199	0.232	117	0.241	121	70-130	4	35	mg/kg	05.02.19 13:01	
o-Xylene	<0.000343	0.0996	0.114	114	0.119	119	70-130	4	35	mg/kg	05.02.19 13:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		102		102		70-130	%	05.02.19 13:01
4-Bromofluorobenzene	85		98		101		70-130	%	05.02.19 13:01

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3087777 Matrix: Soil Date Prep: 05.02.19

Parent Sample Id: 622952-001 MS Sample Id: 622952-001 S MSD Sample Id: 622952-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0907	91	0.0897	89	70-130	1	35	mg/kg	05.02.19 13:40	
Toluene	0.000479	0.100	0.0834	83	0.0815	80	70-130	2	35	mg/kg	05.02.19 13:40	
Ethylbenzene	<0.000567	0.100	0.0865	87	0.0822	81	70-130	5	35	mg/kg	05.02.19 13:40	
m,p-Xylenes	<0.00102	0.201	0.182	91	0.172	85	70-130	6	35	mg/kg	05.02.19 13:40	
o-Xylene	<0.000346	0.100	0.0894	89	0.0846	84	70-130	6	35	mg/kg	05.02.19 13:40	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	05.02.19 13:40
4-Bromofluorobenzene	100		104		70-130	%	05.02.19 13:40

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: 672955

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:	Ashley Ager	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:		aager@ltenv.com rmcafee@ltenv.com

Work Order Comments

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

Project Name:	PLU RR 33-25-30	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP-4450	Rush: 24hr	
Sampler's Name:	Robert McAfee	Due Date: 05/02/19	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.4/0.5	Thermometer ID	
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
BH01	S	04/26/19	1145	2'	1	X	X	X
BH01		04/25/19	1200	4'		X	X	X
BH02		04/30/19	1405	1'		X	X	X
BH02		04/30/19	1420	4'		X	X	X
BH03		04/29/19	1230	6.5'		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 McAfee		04.30.19 16:23	2		
3				4		
5				6		5/2/19 1105

Revised Date 051418 Rev. 2018.1

ORIGIN ID:CAOA (281) 240-4200
SAMPLE CUSTODY
XENCO LABORATORIES NM
1089 N CANAL ST

CARLSBAD, NM 88220
UNITED STATES US

SHIP DATE: 01MAY19
ACTWGT: 56.00 LB
CAD: 11448876/INET4100
DIMS: 24x14x14 IN

BILL SENDER

TO **SAMPLE RECEIVING**

3600 S COUNTY ROAD 1276

MIDLAND TX 79706

(432) 704-5440

INV:
PO:
REF:
DEPT:

565J1/D66C/23AD

J191019010701uv

FedEx Express

41 MAFA

TRK# 0201 **7751 1156 8166**

THU - 02 MAY HOLD

PRIORITY OVERNIGHT

HLD

79706

TX-US **LBB**

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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/02/2019 11:05:00 AM

Work Order #: 622955

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

Temperature Measuring device used : R8

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

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

Analyst:

PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/02/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/02/2019

Jessica Kramer

Western view of the soil impacts on pad (right side of center gas lines) and off pad on pasture (left of center gas lines) during delineation activities.

Project: 012917041	XTO Energy, Inc. Poker Lake Unit Ross Ranch 33-25-30 USA Battery	LTE Advancing Opportunity
July 22, 2018	Photographic Log	

Eastern view of the northern excavation extent during excavation activities.

Project: 012919041	XTO Energy, Inc. Poker Lake Unit Ross Ranch 33-25-30 USA Battery	LTE Advancing Opportunity
May 30, 2018	Photographic Log	