



LT Environmental, Inc.

3300 North "A" Street
Building 1, Unit 103
Midland, Texas 79705
432.704.5178

April 16, 2019

Bradford Billings
New Mexico Oil Conservation Division
1220 South St. Francis Drive, #3
Santa Fe, New Mexico 87505**RE: Closure Request
Poker Lake Unit 347H
Remediation Permit Number 2RP-4884
Eddy County, New Mexico**

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing soil sampling and excavation activities at the Poker Lake Unit 347H (Site) in Unit C, Section 11, Township 25 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impacts to soil after internal corrosion in the flow line caused the release of 14.5 barrels (bbls) of produced water onto the caliche well pad. The release was discovered on July 13, 2018. The line was clamped and the damaged section of flow line was scheduled to be replaced. Vacuum trucks were dispatched to the Site and recovered approximately 6.5 bbls of standing fluid. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on July 26, 2018, and was assigned Remediation Permit (RP) Number 2RP-4884 (Attachment 1).

The release is included in the *Compliance Agreement for Remediation for Historical Releases* (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018. The purpose of the Compliance Agreement is to ensure that reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The release is categorized as a Tier IV site in the Compliance Agreement, meaning remediation of the release was pending prior to August 14, 2018, the effective date of 19.15.29 NMAC. Based on the results of the soil sampling events, XTO is submitting this closure report and requesting no further action for this release event.

BACKGROUND

According to Section 12 of 19.15.29 NMAC, LTE applied Table 1, the *Closure Criteria for Soils Impacted by a Release*. 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 the United States Geological Survey (USGS) well 320856103502801 25S.30E.12.113211,



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located approximately 0.8 miles south-southeast of the Site, with a depth to groundwater of 390 feet bgs and a total depth of 482 feet bgs. The water well is approximately 25 feet higher in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is a seasonal wash located approximately 2,480 feet northeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low karst area. Based on these criteria, the following NMOCD Table 1 closure criteria were applied: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 2,500 mg/kg total petroleum hydrocarbons (TPH); 1,000 mg/kg TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO); and 20,000 mg/kg chloride. The excavation and soil sampling activities were completed prior to a meeting between XTO and the U.S. Bureau of Land Management (BLM) on March 21, 2019, during which BLM indicated a preferred chloride closure criteria of 600 mg/kg for the top 4 feet of all impacted areas on and off pad.

SOIL SAMPLING

On July 13, 2018, LTE personnel inspected the Site to evaluate the release extent. Surface staining was observed in the release area on the well pad. The release extent was mapped using a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. During October 2018, an LTE scientist collected preliminary characterization soil samples from six locations (SS01 through SS06) within and around the release area to assess the lateral extent of impacted soil. The soil sample locations were selected based on field observations and the documented release area. Soil samples SS01/SS01A, SS02/SS02A, SS03/SS03A, and SS04/SS04A were collected from depths of 0.5 feet bgs and 1 foot bgs from sample locations SS01 through SS04. Soil samples SS05/SS05A and SS06/SS06A were collected from the surface and 1 foot bgs from sample locations SS05 and SS06. The soil sample locations and depths are presented on Figure 2.

The soil samples were screened for volatile aromatic hydrocarbons and chlorides using a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips. The soil samples were placed directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis, and immediately placed on ice. The samples were shipped to Xenco Laboratories (Xenco) in Midland, Texas, at 4 degrees Celsius (°C) under strict chain-of-custody procedures for analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021B, TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) by EPA Method 8015 Modified, and chloride by EPA Method 300.0.

Laboratory analytical results for soil samples SS01/SS01A through SS06/SS06A indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Based on the laboratory analytical results, no soil excavation was required. However, due to elevated chloride concentrations in the release area excavation of impacted soil



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was scheduled. Laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the laboratory analytical report is included in Attachment 2.

EXCAVATION ACTIVITIES

During January 2019, LTE personnel returned to the Site to oversee excavation of impacted soil as indicated by laboratory analytical results and field screening activities. To delineate hydrocarbon and chloride impacts to soil and direct excavation activities, LTE screened soil using a PID and Hach® chloride QuanTab® test strips. Impacted soil was excavated from the release area to a depth of 1 foot bgs. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by depositing 5 aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS13 were collected from the floor of the excavation from a depth of 1 foot bgs. Composite soil samples SW01 through SW04 were collected from the sidewalls of the excavation from a depth of 0 to 1 foot bgs. The excavation soil sample locations and depths are presented on Figure 3.

While on-site for excavation activities, LTE collected additional characterization soil samples from two locations (SS07 and SS08) to confirm the lateral extent of impacted soil north and south of the excavation. Soil samples SS07/SS07A and SS08/SS08A were collected from depths of 0.5 feet bgs and 1 foot bgs from sample locations SS07 and SS08. The soil sample locations and depths are presented on Figure 2. The excavation and characterization soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Midland, Texas.

The excavation measured approximately 2,630 square feet in area and was completed to a depth of 1 foot bgs. The horizontal extent of the excavation is illustrated on Figure 3. A total of approximately 120 cubic yards of impacted soil was removed from the excavation. The impacted soil was transported and properly disposed of at the Lea Land Disposal Facility in Carlsbad, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results for confirmation soil samples SW01 through SW04 and FS01 through FS13 collected from the final excavation extent indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Additionally, laboratory analytical results for characterization samples SS01/SS01A through SS08/SS08A indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Based on the laboratory analytical results, no further excavation was required. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 2.





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CONCLUSIONS

Impacted soil was excavated from the release area to address elevated chloride concentrations. Laboratory analytical results for the characterization soil samples and confirmation soil samples collected from the final excavation extent indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for this release. Upon approval of the no further action request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included as Attachment 1. A photographic log of the Site is included as Attachment 3.

If you have any questions or comments, please do not hesitate to contact Ms. Adrian Baker at (432) 887-1255 or abaker@ltenv.com.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in blue ink that reads "Adrian Baker".

Adrian Baker
Project Geologist

A handwritten signature in blue ink that reads "Ashley L. Ager".

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO Energy, Inc.
Jim Amos, BLM
Crystal Weaver, BLM
Michael Bratcher, NMOCD

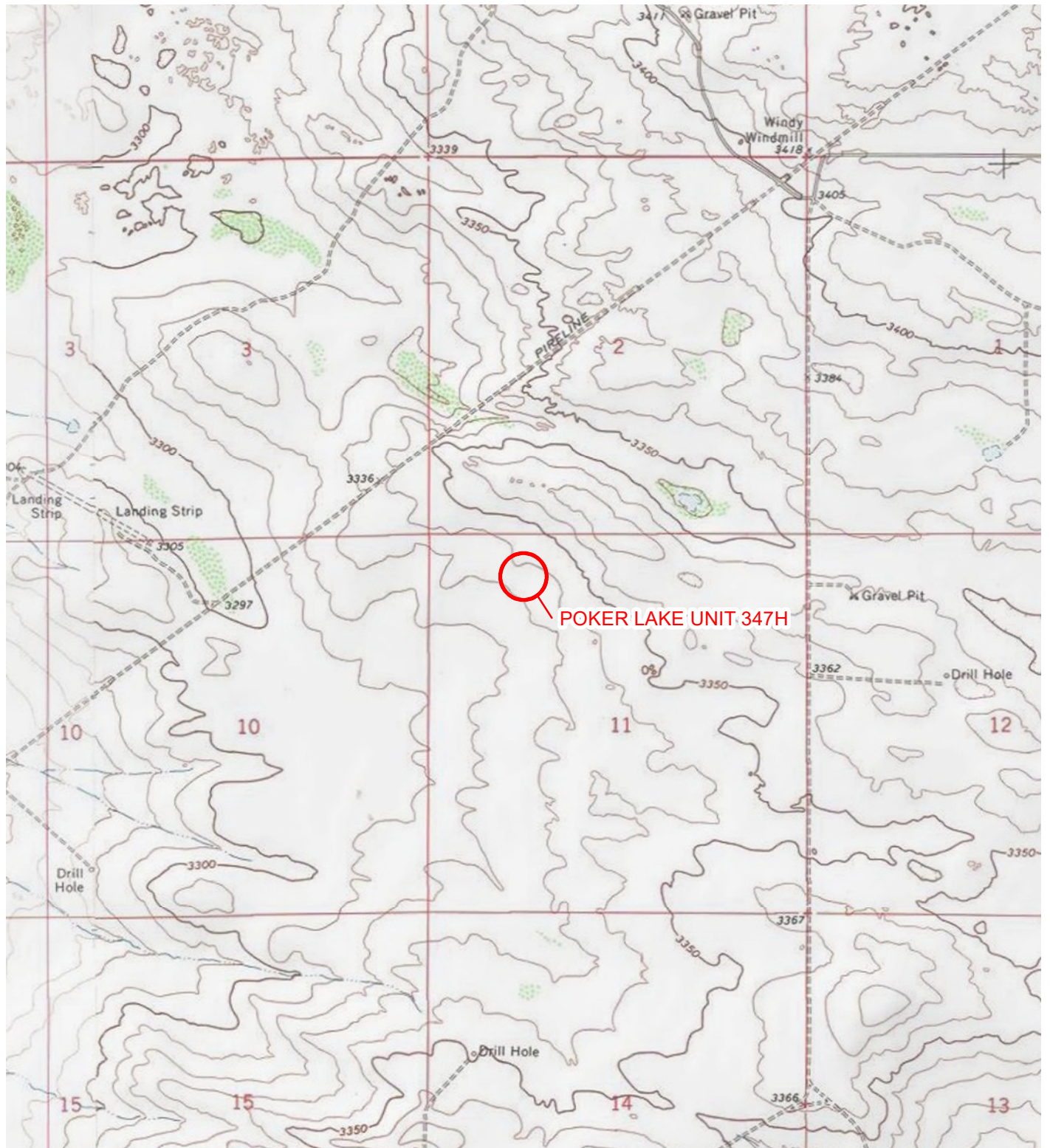
Attachments:

Figure 1 Site Location Map
Figure 2 Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-4884)
Attachment 2 Laboratory Analytical Reports
Attachment 3 Photographic Log



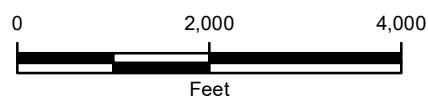
FIGURES



**LEGEND**

 SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

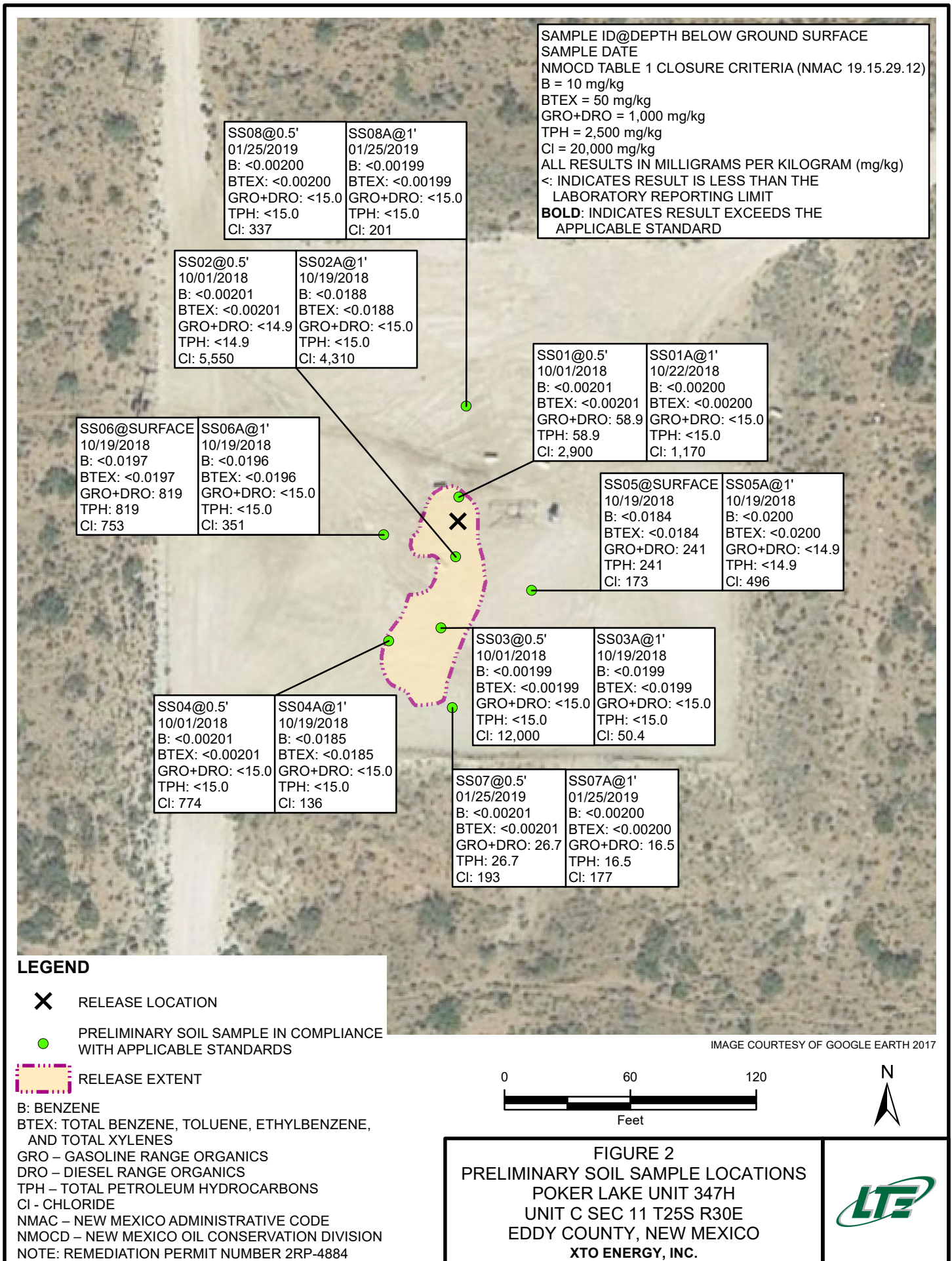


NOTE: REMEDIATION PERMIT
NUMBER 2RP-4884

FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT 347H
UNIT C SEC 11 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



P:\XTO Energy\GIS\MXD\012918137_POKER LAKE UNIT 347H_4884\012918137_FIG01_SL_2018_4884.mxd



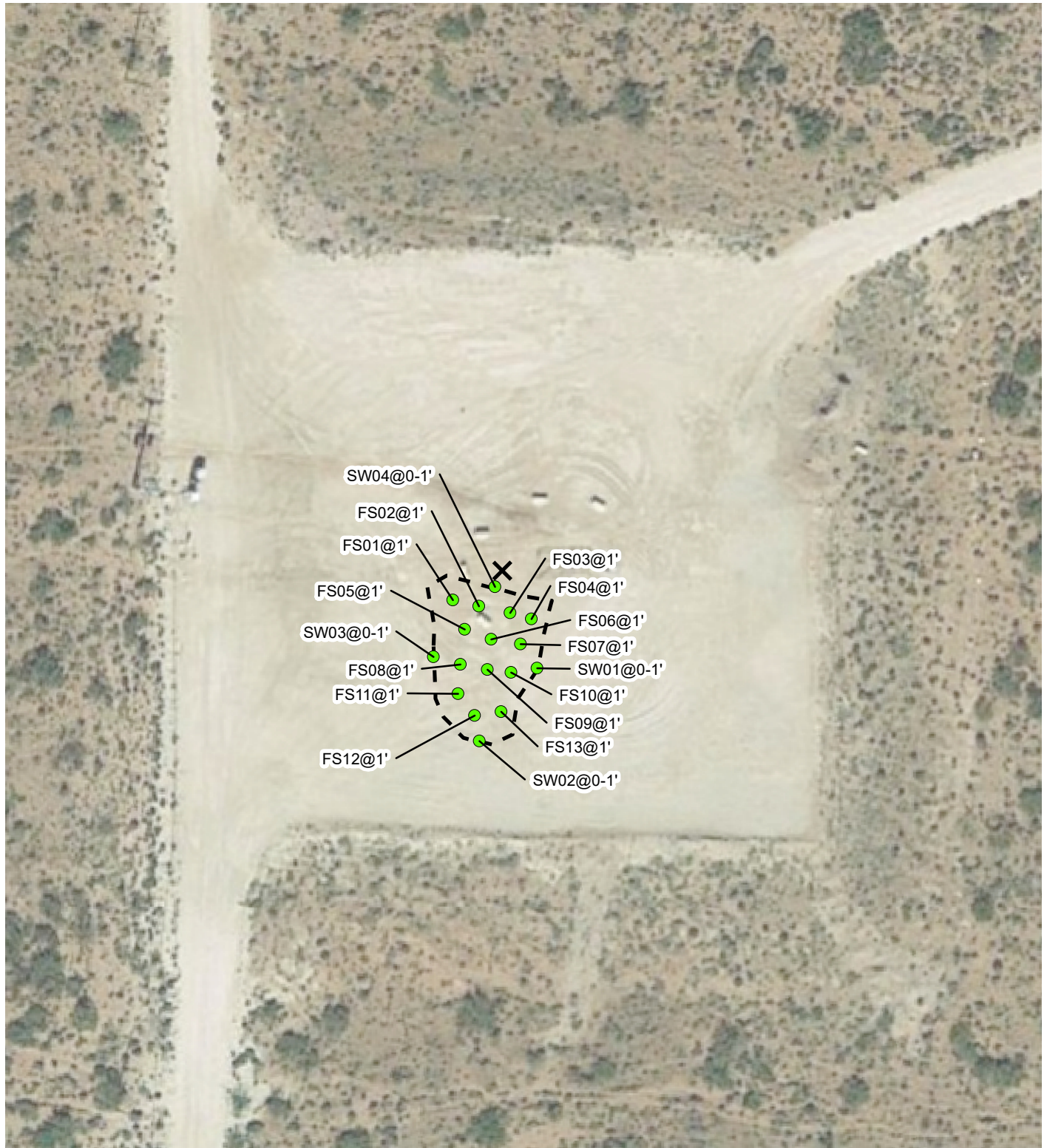


IMAGE COURTESY OF GOOGLE EARTH 2017

LEGENDEXCAVATION SOIL SAMPLE IN COMPLIANCE
WITH APPLICABLE STANDARDS

RELEASE LOCATION



EXCAVATION EXTENT

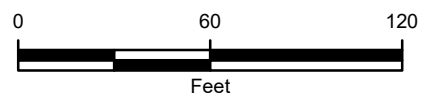


FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
 POKER LAKE UNIT 347H
 UNIT C SEC 11 T25S R30E
 EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



NOTE: REMEDIATION PERMIT NUMBER 2RP-4884

TABLES



**TABLE 1
SOIL ANALYTICAL RESULTS**

**POKER LAKE UNIT 347H
REMEDATION PERMIT NUMBER 2RP-4884
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 GRO (mg/kg)	C10-C28 DRO (mg/kg)	C28-C40 ORO (mg/kg)	GRO and DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	10/01/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	58.9	<15.0	58.9	58.9	2,900
SS02	0.5	10/01/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	5,550
SS03	0.5	10/01/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	12,000
SS04	0.5	10/01/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	774
SS02A	1	10/19/2018	<0.0188	<0.0188	<0.0188	<0.0188	<0.0188	<15.0	<15.0	<15.0	<15.0	<15.0	4,310
SS03A	1	10/19/2018	<0.0199	<0.0199	<0.0199	<0.0199	<0.0199	<15.0	<15.0	<15.0	<15.0	<15.0	50.4
SS04A	1	10/19/2018	<0.0185	<0.0185	<0.0185	<0.0185	<0.0185	<15.0	<15.0	<15.0	<15.0	<15.0	136
SS05	Surface	10/19/2018	<0.0184	<0.0184	<0.0184	<0.0184	<0.0184	<15.0	241	<15.0	241	241	173
SS05A	1	10/19/2018	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<14.9	<14.9	<14.9	<14.9	<14.9	496
SS06	Surface	10/19/2018	<0.0197	<0.0197	<0.0197	<0.0197	<0.0197	<15.0	819	<15.0	819	819	753
SS06A	1	10/19/2018	<0.0196	<0.0196	<0.0196	<0.0196	<0.0196	<15.0	<15.0	<15.0	<15.0	<15.0	351
SS01A	1	10/22/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	1,170
FS01	1	01/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	22.2	<15.0	22.2	22.2	3,830
FS02	1	01/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	18.1	<15.0	18.1	18.1	3,000
FS03	1	01/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	4,020
FS04	1	01/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	2,350
FS05	1	01/25/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	2,890
FS06	1	01/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	44.2	<14.9	44.2	44.2	2,250
FS07	1	01/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	1,220
FS08	1	01/25/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	2,020
FS09	1	01/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	965
FS10	1	01/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	2,710
FS11	1	01/25/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	1,080
FS12	1	01/25/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	1,820
FS13	1	01/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	1,110
SS07	0.5	01/25/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	26.7	<15.0	26.7	26.7	193
SS07A	1	01/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	16.5	<15.0	16.5	16.5	177



TABLE 1 (Continued)
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT 347H
REMEDIATION PERMIT NUMBER 2RP-4884
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 GRO (mg/kg)	C10-C28 DRO (mg/kg)	C28-C40 ORO (mg/kg)	GRO and DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS08	0.5	01/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	337
SS08A	1	01/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	201
SW01	0 - 1	01/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	2,400
SW02	0 - 1	01/25/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	31.5	19.4	31.5	50.9	1,180
SW03	0 - 1	01/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	1,260
SW04	0 - 1	01/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	5,020 E
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

mg/kg - milligrams per kilogram

NE - not established

NMOCD - New Mexico Oil Conservation Division

DRO - diesel range organics

GRO - gasoline range organics

ORO - oil range organics

TPH - total petroleum hydrocarbons

< - indicates result is below laboratory reporting limits

Bold - indicates result exceeds the applicable regulatory standard

* - indicates sample was collected in area to be reclaimed after remediation is complete; closure criteria for chloride concentration in the top 4 feet of soil is 600 mg/kg

Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018

NMAC - New Mexico Administrative Code

E - the data exceeds the upper calibration limit; therefore, the concentration is reported as estimated



ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-4884)



OCD Received: 07/26/18

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 April 3, 2017

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

Release Notification and Corrective Action

DAB1821238272 **OPERATOR** ☒ Initial Report ☐ Final Report

Name of Company: XTO Energy PROD ADD 137	Contact: Kyle Littrell
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No: 432-221-7331
Facility Name: Poker Lake Unit 347H	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No: 30-015-38668
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	11	25S	30E	540	North	1440	West	Eddy

Latitude 32.151008 Longitude -103.855625 NAD83

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 14.5bbl PW	Volume Recovered 6.5bbl PW
Source of Release Flowline	Date and Hour of Occurrence 7/13/2018, AM	Date and Hour of Discovery 7/13/2018, 9:00 AM
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour: N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken. Release was due to internal corrosion on flowline. Line was clamped and damaged section of pipe scheduled to be replaced.		
Describe Area Affected and Cleanup Action Taken.* All fluid remained on caliche pad. Vacuum trucks were dispatched and recovered 6.5bbl of standing fluid. An environmental contractor has been retained to assist with remediation efforts.		
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: Kyle Littrell	Approved by Environmental Specialist: <i>Maria Pruett</i>	
Title: Environmental Coordinator	Approval Date: <i>7/30/18</i>	Expiration Date: <i>N/A</i>
E-mail Address: Kyle.Littrell@xtoenergy.com	Conditions of Approval: <i>See attached</i>	Attached ☒ <i>2RP4884</i>
Date: 7/26/2018 Phone: 432-221-7331		

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

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

Incident ID	
District RP	2RP-4884
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-4884
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.151008 Longitude -103.855625
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit 347H	Site Type Exploration and Production
Date Release Discovered 7/13/2018	API# (if applicable) 30-015-38668

Unit Letter	Section	Township	Range	County
C	11	25S	30E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 14.5	Volume Recovered (bbls) 6.5
	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

Release was due to internal corrosion of flowline. The line was clamped and the damaged section of pipe was scheduled to be replaced. All fluid remained on caliche pad. Vacuum trucks were dispatched and recovered 6.5 bbls of standing fluid.

Form C-141

State of New Mexico
Oil Conservation Division

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Incident ID	
District RP	2RP-4884
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Kyle Littrell</u>	Title: <u>SH&E Coordinator</u>
Signature: 	Date: <u>April 22, 2019</u>
email: <u>Kyle.Littrell@xtoenergy.com</u>	Telephone: <u>432-221-7331</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

Form C-141

State of New Mexico
Oil Conservation Division

Page 3

Incident ID	
District RP	2RP-4884
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 1/2-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

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

Form C-141

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	2RP-4884
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 CoordinatorSignature:  Date: April 22, 2019email: Kyle.Littrell@xtoenergy.com Telephone: 432-221-7331**OCD Only**

Received by: _____ Date: _____

Form C-141

State of New Mexico
Oil Conservation Division

Page 5

Incident ID	
District RP	2RP-4884
Facility ID	
Application ID	

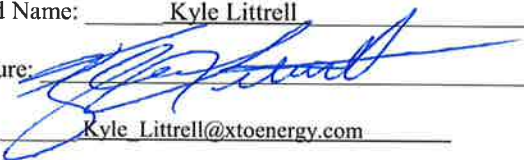
Closure

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 OCD 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 CoordinatorSignature:  Date: April 22, 2019email: 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:  Date: 2/24/2023Printed Name: Brittany Hall Title: Environmental Specialist

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS



Analytical Report 601143

for
LT Environmental, Inc.

Project Manager: Adrian Baker

PLU 347 H

10-OCT-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), 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 (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



10-OCT-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **601143**

PLU 347 H

Project Address: Eddy, NM 2RP-4884

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 601143. 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. 601143 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 601143****LT Environmental, Inc., Arvada, CO**

PLU 347 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	10-01-18 14:50	6 In	601143-001
SS02	S	10-01-18 15:00	6 In	601143-002
SS03	S	10-01-18 15:10	6 In	601143-003
SS04	S	10-01-18 15:20	6 In	601143-004

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU 347 H**Project ID:
Work Order Number(s): 601143Report Date: 10-OCT-18
Date Received: 10/03/2018**Sample receipt non conformances and comments:**

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3065422 Inorganic Anions by EPA 300

Lab Sample ID 601154-001 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: 601143-004.

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

Batch: LBA-3065828 BTEX by EPA 8021B

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

Lab Sample ID 600814-015 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Ethylbenzene, Toluene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 600814-013, -014, -015, -016, -017.

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

Batch: LBA-3065910 BTEX by EPA 8021B

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

Batch: LBA-3065976 BTEX by EPA 8021B

Lab Sample ID 601143-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Toluene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Benzene,

Ethylbenzene, m,p-Xylenes recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 601143-004.

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

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



Certificate of Analysis Summary 601143

LT Environmental, Inc., Arvada, CO

Project Name: PLU 347 H



Project Id:

Contact: Adrian Baker

Project Location: Eddy, NM 2RP-4884

Date Received in Lab: Wed Oct-03-18 10:32 am

Report Date: 10-OCT-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	601143-001	601143-002	601143-003	601143-004		
	<i>Field Id:</i>	SS01	SS02	SS03	SS04		
	<i>Depth:</i>	6- In	6- In	6- In	6- In		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Oct-01-18 14:50	Oct-01-18 15:00	Oct-01-18 15:10	Oct-01-18 15:20		
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-09-18 15:45	Oct-09-18 15:45	Oct-08-18 08:30	Oct-10-18 08:00		
	<i>Analyzed:</i>	Oct-09-18 21:30	Oct-09-18 21:51	Oct-08-18 18:25	Oct-10-18 10:25		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201		
Toluene		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201		
Ethylbenzene		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201		
m,p-Xylenes		<0.00402 0.00402	<0.00402 0.00402	<0.00398 0.00398	<0.00402 0.00402		
o-Xylene		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201		
Total Xylenes		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201		
Total BTEX		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201		
Inorganic Anions by EPA 300	<i>Extracted:</i>	Oct-04-18 09:40	Oct-04-18 09:40	Oct-04-18 09:40	Oct-04-18 13:00		
	<i>Analyzed:</i>	Oct-04-18 12:17	Oct-04-18 12:23	Oct-04-18 12:29	Oct-04-18 14:55		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		2900 25.0	5550 49.5	12000 99.0	774 4.99		
TPH by SW8015 Mod	<i>Extracted:</i>	Oct-04-18 09:00	Oct-04-18 09:00	Oct-04-18 09:00	Oct-04-18 09:00		
	<i>Analyzed:</i>	Oct-04-18 16:36	Oct-04-18 16:55	Oct-04-18 17:14	Oct-04-18 17:33		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		58.9 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0		
Total TPH		58.9 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0		

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

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 601143



LT Environmental, Inc., Arvada, CO

PLU 347 H

Sample Id: **SS01** Matrix: Soil Date Received: 10.03.18 10.32
 Lab Sample Id: 601143-001 Date Collected: 10.01.18 14.50 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: SCM % Moisture:
 Analyst: SCM Date Prep: 10.04.18 09.40 Basis: Wet Weight
 Seq Number: 3065325

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2900	25.0	mg/kg	10.04.18 12.17		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 10.04.18 09.00 Basis: Wet Weight
 Seq Number: 3065500

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.04.18 16.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	58.9	15.0	mg/kg	10.04.18 16.36		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.04.18 16.36	U	1
Total TPH	PHC635	58.9	15.0	mg/kg	10.04.18 16.36		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.04.18 16.36	
o-Terphenyl	84-15-1	102	%	70-135	10.04.18 16.36	



Certificate of Analytical Results 601143



LT Environmental, Inc., Arvada, CO

PLU 347 H

Sample Id: **SS01**
Lab Sample Id: 601143-001

Matrix: Soil
Date Collected: 10.01.18 14.50

Date Received: 10.03.18 10.32
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.09.18 15.45

Basis: Wet Weight

Seq Number: 3065910

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.09.18 21.30	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.09.18 21.30	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.09.18 21.30	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.09.18 21.30	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.09.18 21.30	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.09.18 21.30	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.09.18 21.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	70-130	10.09.18 21.30		
1,4-Difluorobenzene	540-36-3	112	%	70-130	10.09.18 21.30		



Certificate of Analytical Results 601143

LT Environmental, Inc., Arvada, CO

PLU 347 H

Sample Id: **SS02** Matrix: **Soil** Date Received: 10.03.18 10.32
 Lab Sample Id: 601143-002 Date Collected: 10.01.18 15.00 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: **SCM** % Moisture:
 Analyst: **SCM** Date Prep: 10.04.18 09.40 Basis: **Wet Weight**
 Seq Number: 3065325

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5550	49.5	mg/kg	10.04.18 12.23		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: **ARM** % Moisture:
 Analyst: **ARM** Date Prep: 10.04.18 09.00 Basis: **Wet Weight**
 Seq Number: 3065500

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.04.18 16.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	10.04.18 16.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.04.18 16.55	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	10.04.18 16.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	10.04.18 16.55	
o-Terphenyl	84-15-1	96	%	70-135	10.04.18 16.55	



Certificate of Analytical Results 601143



LT Environmental, Inc., Arvada, CO

PLU 347 H

Sample Id: SS02
Lab Sample Id: 601143-002

Matrix: Soil
Date Collected: 10.01.18 15.00

Date Received: 10.03.18 10.32
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.09.18 15.45

Basis: Wet Weight

Seq Number: 3065910

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.09.18 21.51	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.09.18 21.51	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.09.18 21.51	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.09.18 21.51	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.09.18 21.51	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.09.18 21.51	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.09.18 21.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	10.09.18 21.51		
1,4-Difluorobenzene	540-36-3	123	%	70-130	10.09.18 21.51		



Certificate of Analytical Results 601143



LT Environmental, Inc., Arvada, CO

PLU 347 H

Sample Id: SS03
Lab Sample Id: 601143-003

Matrix: Soil
Date Collected: 10.01.18 15.10

Date Received: 10.03.18 10.32
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3065325

Date Prep: 10.04.18 09.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12000	99.0	mg/kg	10.04.18 12.29		20

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3065500

Date Prep: 10.04.18 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.04.18 17.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.04.18 17.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.04.18 17.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.04.18 17.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.04.18 17.14	
o-Terphenyl	84-15-1	100	%	70-135	10.04.18 17.14	



Certificate of Analytical Results 601143



LT Environmental, Inc., Arvada, CO

PLU 347 H

Sample Id: SS03
Lab Sample Id: 601143-003

Matrix: Soil
Date Collected: 10.01.18 15.10

Date Received: 10.03.18 10.32
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.08.18 08.30

Basis: Wet Weight

Seq Number: 3065828

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.08.18 18.25	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.08.18 18.25	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.08.18 18.25	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.08.18 18.25	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.08.18 18.25	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.08.18 18.25	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.08.18 18.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	10.08.18 18.25		
1,4-Difluorobenzene	540-36-3	107	%	70-130	10.08.18 18.25		



Certificate of Analytical Results 601143

LT Environmental, Inc., Arvada, CO

PLU 347 H

Sample Id: **SS04** Matrix: Soil Date Received: 10.03.18 10.32
 Lab Sample Id: 601143-004 Date Collected: 10.01.18 15.20 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: SCM % Moisture:
 Analyst: SCM Date Prep: 10.04.18 13.00 Basis: Wet Weight
 Seq Number: 3065422

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	774	4.99	mg/kg	10.04.18 14.55		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 10.04.18 09.00 Basis: Wet Weight
 Seq Number: 3065500

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.04.18 17.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.04.18 17.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.04.18 17.33	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.04.18 17.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.04.18 17.33	
o-Terphenyl	84-15-1	99	%	70-135	10.04.18 17.33	



Certificate of Analytical Results 601143



LT Environmental, Inc., Arvada, CO

PLU 347 H

Sample Id: **SS04**
Lab Sample Id: 601143-004

Matrix: Soil
Date Collected: 10.01.18 15.20

Date Received: 10.03.18 10.32
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.10.18 08.00

Basis: Wet Weight

Seq Number: 3065976

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.10.18 10.25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.10.18 10.25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.10.18 10.25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.10.18 10.25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.10.18 10.25	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.10.18 10.25	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.10.18 10.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.10.18 10.25		
1,4-Difluorobenzene	540-36-3	114	%	70-130	10.10.18 10.25		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 347 H

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3065325

MB Sample Id: 7663531-1-BLK

Matrix: Solid

LCS Sample Id: 7663531-1-BKS

Prep Method: E300P

Date Prep: 10.04.18

LCSD Sample Id: 7663531-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	249	100	249	100	90-110	0	20	mg/kg	10.04.18 09:50	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3065422

MB Sample Id: 7663553-1-BLK

Matrix: Solid

LCS Sample Id: 7663553-1-BKS

Prep Method: E300P

Date Prep: 10.04.18

LCSD Sample Id: 7663553-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	250	100	250	100	90-110	0	20	mg/kg	10.04.18 13:24	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3065325

Parent Sample Id: 600987-003

Matrix: Soil

MS Sample Id: 600987-003 S

Prep Method: E300P

Date Prep: 10.04.18

MSD Sample Id: 600987-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.852	248	246	99	246	99	90-110	0	20	mg/kg	10.04.18 10:07	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3065325

Parent Sample Id: 601153-002

Matrix: Soil

MS Sample Id: 601153-002 S

Prep Method: E300P

Date Prep: 10.04.18

MSD Sample Id: 601153-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	98.6	250	348	100	351	101	90-110	1	20	mg/kg	10.04.18 11:26	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3065422

Parent Sample Id: 601143-004

Matrix: Soil

MS Sample Id: 601143-004 S

Prep Method: E300P

Date Prep: 10.04.18

MSD Sample Id: 601143-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	774	250	995	88	995	88	90-110	0	20	mg/kg	10.04.18 15:01	X

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

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

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

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



LT Environmental, Inc.

PLU 347 H

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3065422

Parent Sample Id: 601154-001

Matrix: Sludge

MS Sample Id: 601154-001 S

Prep Method: E300P

Date Prep: 10.04.18

MSD Sample Id: 601154-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	140	250	388	99	388	99	90-110	0	20	mg/kg	10.04.18 13:41	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3065500

MB Sample Id: 7663575-1-BLK

Matrix: Solid

LCS Sample Id: 7663575-1-BKS

Prep Method: TX1005P

Date Prep: 10.04.18

LCSD Sample Id: 7663575-1-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	987	99	919	92	70-135	7	20	mg/kg	10.04.18 11:20	
Diesel Range Organics (DRO)	<8.13	1000	1020	102	943	94	70-135	8	20	mg/kg	10.04.18 11:20	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		122		114		70-135	%	10.04.18 11:20
o-Terphenyl	101		110		104		70-135	%	10.04.18 11:20

Analytical Method: TPH by SW8015 Mod

Seq Number: 3065500

Parent Sample Id: 600982-001

Matrix: Soil

MS Sample Id: 600982-001 S

Prep Method: TX1005P

Date Prep: 10.04.18

MSD Sample Id: 600982-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.67	997	855	85	887	88	70-135	4	20	mg/kg	10.04.18 12:16	
Diesel Range Organics (DRO)	<8.10	997	890	89	936	94	70-135	5	20	mg/kg	10.04.18 12:16	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		121		70-135	%	10.04.18 12:16
o-Terphenyl	100		104		70-135	%	10.04.18 12:16

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

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

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

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



LT Environmental, Inc.

PLU 347 H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3065828

MB Sample Id: 7663817-1-BLK

Matrix: Solid

LCS Sample Id: 7663817-1-BKS

Prep Method: SW5030B

Date Prep: 10.08.18

LCSD Sample Id: 7663817-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0958	96	0.0995	99	70-130	4	35	mg/kg	10.08.18 10:25	
Toluene	<0.00200	0.100	0.0985	99	0.102	101	70-130	3	35	mg/kg	10.08.18 10:25	
Ethylbenzene	<0.00200	0.100	0.0971	97	0.101	100	70-130	4	35	mg/kg	10.08.18 10:25	
m,p-Xylenes	<0.00401	0.200	0.187	94	0.194	96	70-130	4	35	mg/kg	10.08.18 10:25	
o-Xylene	<0.00200	0.100	0.0892	89	0.0930	92	70-130	4	35	mg/kg	10.08.18 10:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		92		93		70-130	%	10.08.18 10:25
4-Bromofluorobenzene	89		79		81		70-130	%	10.08.18 10:25

Analytical Method: BTEX by EPA 8021B

Seq Number: 3065910

MB Sample Id: 7663826-1-BLK

Matrix: Solid

LCS Sample Id: 7663826-1-BKS

Prep Method: SW5030B

Date Prep: 10.09.18

LCSD Sample Id: 7663826-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.109	109	0.109	108	70-130	0	35	mg/kg	10.09.18 19:00	
Toluene	<0.00201	0.100	0.0997	100	0.0983	97	70-130	1	35	mg/kg	10.09.18 19:00	
Ethylbenzene	<0.00201	0.100	0.118	118	0.116	115	70-130	2	35	mg/kg	10.09.18 19:00	
m,p-Xylenes	<0.00402	0.201	0.235	117	0.233	115	70-130	1	35	mg/kg	10.09.18 19:00	
o-Xylene	<0.00201	0.100	0.119	119	0.117	116	70-130	2	35	mg/kg	10.09.18 19:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		103		106		70-130	%	10.09.18 19:00
4-Bromofluorobenzene	88		111		103		70-130	%	10.09.18 19:00

Analytical Method: BTEX by EPA 8021B

Seq Number: 3065976

MB Sample Id: 7663904-1-BLK

Matrix: Solid

LCS Sample Id: 7663904-1-BKS

Prep Method: SW5030B

Date Prep: 10.10.18

LCSD Sample Id: 7663904-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.102	101	0.106	105	70-130	4	35	mg/kg	10.10.18 08:17	
Toluene	<0.00201	0.101	0.0930	92	0.0975	97	70-130	5	35	mg/kg	10.10.18 08:17	
Ethylbenzene	<0.00201	0.101	0.107	106	0.111	110	70-130	4	35	mg/kg	10.10.18 08:17	
m,p-Xylenes	<0.00402	0.201	0.205	102	0.214	106	70-130	4	35	mg/kg	10.10.18 08:17	
o-Xylene	<0.00201	0.101	0.104	103	0.109	108	70-130	5	35	mg/kg	10.10.18 08:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		102		102		70-130	%	10.10.18 08:17
4-Bromofluorobenzene	91		74		84		70-130	%	10.10.18 08:17

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

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

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

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



LT Environmental, Inc.

PLU 347 H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3065828

Parent Sample Id: 600814-015

Matrix: Soil

MS Sample Id: 600814-015 S

Prep Method: SW5030B

Date Prep: 10.08.18

MSD Sample Id: 600814-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0879	88	0.0746	75	70-130	16	35	mg/kg	10.08.18 11:06	
Toluene	<0.00200	0.0998	0.0810	81	0.0663	66	70-130	20	35	mg/kg	10.08.18 11:06	X
Ethylbenzene	<0.00200	0.0998	0.0714	72	0.0563	56	70-130	24	35	mg/kg	10.08.18 11:06	X
m,p-Xylenes	<0.00399	0.200	0.138	69	0.108	54	70-130	24	35	mg/kg	10.08.18 11:06	X
o-Xylene	<0.00200	0.0998	0.0655	66	0.0508	51	70-130	25	35	mg/kg	10.08.18 11:06	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		95		70-130	%	10.08.18 11:06
4-Bromofluorobenzene	86		83		70-130	%	10.08.18 11:06

Analytical Method: BTEX by EPA 8021B

Seq Number: 3065910

Parent Sample Id: 601307-021

Matrix: Soil

MS Sample Id: 601307-021 S

Prep Method: SW5030B

Date Prep: 10.09.18

MSD Sample Id: 601307-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0681	67	0.0683	68	70-130	0	35	mg/kg	10.09.18 19:43	X
Toluene	<0.00202	0.101	0.0607	60	0.0632	63	70-130	4	35	mg/kg	10.09.18 19:43	X
Ethylbenzene	<0.00202	0.101	0.0624	62	0.0675	67	70-130	8	35	mg/kg	10.09.18 19:43	X
m,p-Xylenes	<0.00403	0.202	0.117	58	0.125	62	70-130	7	35	mg/kg	10.09.18 19:43	X
o-Xylene	<0.00202	0.101	0.0619	61	0.0662	66	70-130	7	35	mg/kg	10.09.18 19:43	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		108		70-130	%	10.09.18 19:43
4-Bromofluorobenzene	108		107		70-130	%	10.09.18 19:43

Analytical Method: BTEX by EPA 8021B

Seq Number: 3065976

Parent Sample Id: 601143-004

Matrix: Soil

MS Sample Id: 601143-004 S

Prep Method: SW5030B

Date Prep: 10.10.18

MSD Sample Id: 601143-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0737	74	0.0691	69	70-130	6	35	mg/kg	10.10.18 08:59	X
Toluene	<0.00199	0.0994	0.0690	69	0.0659	66	70-130	5	35	mg/kg	10.10.18 08:59	X
Ethylbenzene	<0.00199	0.0994	0.0694	70	0.0639	64	70-130	8	35	mg/kg	10.10.18 08:59	X
m,p-Xylenes	<0.00398	0.199	0.147	74	0.133	67	70-130	10	35	mg/kg	10.10.18 08:59	X
o-Xylene	<0.00199	0.0994	0.0815	82	0.0794	80	70-130	3	35	mg/kg	10.10.18 08:59	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		101		70-130	%	10.10.18 08:59
4-Bromofluorobenzene	99		108		70-130	%	10.10.18 08:59

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

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

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

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



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

CHAIN OF C STUDY

Page 1 of 1

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

www.xenco.com

Phoenix, Arizona (480-355-0900)

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes	
Company Name / Branch: IT Environmental, Inc.		Project Name/Number: PCU 34714					
Company Address: 3300 W 14th St. Building Unit 103 Midland, TX 79702		Project Location: EDDY, NM					
Email: ababec@steau.com		Invoice To: Xto Energy - Kyle Littrell					
Project Contact: Adrian Baker		PO Number:					
Samplers Name							

No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO ₃	H ₂ SO ₄	NaOH	NaNHCO ₃	MECH	NONE	Field Comments
1		SSo1	6"	10/01 14:50	S	1									BTEX (C)
2		SSO2	6"	10/01 15:00	S	1									TPH (D)
3		SSO3	6"	10/01 15:10	S	1									Chloride
4		SSO4	6"	10/01 15:20	S	1							X	X X X X	
5															
6															
7															
8															
9															
10															

Turnaround Time (Business days)	Data Deliverable Information	Notes
Same Day TAT	Level II Std QC	Level IV (Full Data Pkg / raw data)
Next Day EMERGENCY	Level III Std QC+ Forms	TRRP Level IV
2 Day EMERGENCY	Contract TAT	Level 3 (CLP Forms) UST / RG -411
3 Day EMERGENCY	TRRP Checklist	

TAT Starts Day received by Lab, if received by 5:00 pm

Relinquished by Sample	Received By:	Date Time:	Relinquished By:	Date Time:	FED-EX / UPS Tracking #
1. [Signature]	[Signature]	10/01/2008 1:00 PM	[Signature]	10/12/2008 11:30 AM	73338043300020
Relinquished by:					
3					

Cooler Temp. Thermo Corr Factor On Ice

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

ORIGIN ID: CACA XENCO PAC N MAIL 910 W PIERCE ST CARLSBAD, NM 88220 UNITED STATES US	(575) 887-8245 SHIP DATE: 02OCT18 ACTWGT: 28.00 LB CAD: 101813706/NET14040 DIMS: 18x12x15 IN BILL RECIPIENT
TO HOLD FOR XENCO FEDEX EXPRESS SHIP CENTER FEDEX SHIP CENTER 3600 COUNTY RD 1276 S MIDLAND TX 79711 (806) 794-1296 REF:	
PO:	DEPT:



552J1188FB/DCA5

TRK# 0201 7733 8063 2826

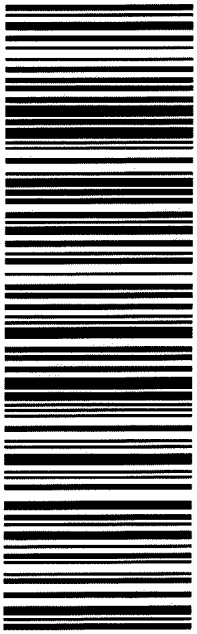
WED - 03 OCT HOLD

STANDARD OVERNIGHT

HLD

41 MAFA

TX-US LBB



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C & G SCIENTIFIC

Client/Project	Sample ID	Weight
1201210000	1201210000	1201210000
Time	Sampled By	Date
12:10	12:10	2/24/2023
Analysis/Remarks	Time	Wt. Measured
1201210000	12:10	1201210000
1201210000		



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/03/2018 10:32:00 AM

Work Order #: 601143

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?	Yes
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	Yes
#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: 10/03/2018

Checklist reviewed by:

Jessica Kramer

Date: 10/03/2018

Analytical Report 603127

for
LT Environmental, Inc.

Project Manager: Adrian Baker

PLU 347

15-FEB-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)



15-FEB-19

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **603127**

PLU 347

Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 603127. 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. 603127 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 603127****LT Environmental, Inc., Arvada, CO**

PLU 347

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS02A	S	10-19-18 12:20	1 ft	603127-001
SS03A	S	10-19-18 12:50	1 ft	603127-002
SS04A	S	10-19-18 13:10	1 ft	603127-003
SS05	S	10-19-18 13:20	Surface N/A	603127-004
SS05A	S	10-19-18 13:50	1 ft	603127-005
SS06	S	10-19-18 14:30	Surface N/A	603127-006
SS06A	S	10-19-18 14:45	1 ft	603127-007



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 347

Project ID:

Work Order Number(s): 603127

Report Date: 15-FEB-19

Date Received: 10/23/2018

Sample receipt non conformances and comments:

PER CLIENTS EMAIL, CORRECTED SAMPLE NAMES. NEW VERSION GENERATED JK
02/15/129

SS02B - SS02A

SS03B - SS03A

SS04B - SS04A

SS05A - SS05

SS05B - SS05A

SS06A - SS06

SS06B - SS06A

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3067479 BTEX by EPA 8021B

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



Certificate of Analysis Summary 603127

LT Environmental, Inc., Arvada, CO

Project Name: PLU 347



Project Id:

Contact: Adrian Baker

Project Location: Delaware Basin

Date Received in Lab: Tue Oct-23-18 10:00 am

Report Date: 15-FEB-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	603127-001	603127-002	603127-003	603127-004	603127-005	603127-006
	<i>Field Id:</i>	SS02A	SS03A	SS04A	SS05	SS05A	SS06
	<i>Depth:</i>	1- ft	1- ft	1- ft	Surface- N/A	1- ft	Surface- N/A
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-19-18 12:20	Oct-19-18 12:50	Oct-19-18 13:10	Oct-19-18 13:20	Oct-19-18 13:50	Oct-19-18 14:30
BTEX by EPA 8021B SUB: T104704219-18-18	<i>Extracted:</i>	Oct-24-18 12:15	Oct-24-18 12:15	Oct-24-18 12:15	Oct-24-18 12:15	Oct-24-18 12:15	Oct-24-18 12:15
	<i>Analyzed:</i>	Oct-24-18 21:30	Oct-24-18 21:54	Oct-24-18 22:19	Oct-24-18 22:43	Oct-24-18 23:07	Oct-24-18 23:31
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.0188 0.0188	<0.0199 0.0199	<0.0185 0.0185	<0.0184 0.0184	<0.0200 0.0200	<0.0197 0.0197
Toluene		<0.0188 0.0188	<0.0199 0.0199	<0.0185 0.0185	<0.0184 0.0184	<0.0200 0.0200	<0.0197 0.0197
Ethylbenzene		<0.0188 0.0188	<0.0199 0.0199	<0.0185 0.0185	<0.0184 0.0184	<0.0200 0.0200	<0.0197 0.0197
m,p-Xylenes		<0.0377 0.0377	<0.0398 0.0398	<0.0370 0.0370	<0.0368 0.0368	<0.0399 0.0399	<0.0394 0.0394
o-Xylene		<0.0188 0.0188	<0.0199 0.0199	<0.0185 0.0185	<0.0184 0.0184	<0.0200 0.0200	<0.0197 0.0197
Total Xylenes		<0.0188 0.0188	<0.0199 0.0199	<0.0185 0.0185	<0.0184 0.0184	<0.0200 0.0200	<0.0197 0.0197
Total BTEX		<0.0188 0.0188	<0.0199 0.0199	<0.0185 0.0185	<0.0184 0.0184	<0.0200 0.0200	<0.0197 0.0197
Inorganic Anions by EPA 300	<i>Extracted:</i>	Oct-25-18 11:45	Oct-25-18 11:45	Oct-25-18 11:45	Oct-25-18 11:45	Oct-25-18 11:45	Oct-25-18 11:45
	<i>Analyzed:</i>	Oct-25-18 15:53	Oct-25-18 16:08	Oct-25-18 16:13	Oct-25-18 15:11	Oct-25-18 16:18	Oct-25-18 16:23
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		4310 25.0	50.4 4.95	136 5.02	173 4.95	496 5.00	753 4.98
TPH by SW8015 Mod	<i>Extracted:</i>	Oct-24-18 16:00	Oct-24-18 16:00	Oct-24-18 16:00	Oct-24-18 16:00	Oct-24-18 16:00	Oct-24-18 16:00
	<i>Analyzed:</i>	Oct-25-18 00:41	Oct-25-18 01:01	Oct-25-18 01:22	Oct-25-18 02:22	Oct-25-18 02:42	Oct-25-18 03:03
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	241 15.0	<14.9 14.9	819 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	241 15.0	<14.9 14.9	819 15.0

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

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 603127

LT Environmental, Inc., Arvada, CO

Project Name: PLU 347



Project Id:

Contact: Adrian Baker

Project Location: Delaware Basin

Date Received in Lab: Tue Oct-23-18 10:00 am

Report Date: 15-FEB-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	603127-007					
	Field Id:	SS06A					
	Depth:	1- ft					
	Matrix:	SOIL					
	Sampled:	Oct-19-18 14:45					
BTEX by EPA 8021B SUB: T104704219-18-18	Extracted:	Oct-24-18 12:15					
	Analyzed:	Oct-25-18 01:07					
	Units/RL:	mg/kg RL					
Benzene		<0.0196 0.0196					
Toluene		<0.0196 0.0196					
Ethylbenzene		<0.0196 0.0196					
m,p-Xylenes		<0.0391 0.0391					
o-Xylene		<0.0196 0.0196					
Total Xylenes		<0.0196 0.0196					
Total BTEX		<0.0196 0.0196					
Inorganic Anions by EPA 300	Extracted:	Oct-25-18 11:45					
	Analyzed:	Oct-25-18 16:29					
	Units/RL:	mg/kg RL					
Chloride		351 4.96					
TPH by SW8015 Mod	Extracted:	Oct-24-18 16:00					
	Analyzed:	Oct-25-18 03:23					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0					
Diesel Range Organics (DRO)		<15.0 15.0					
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0					
Total TPH		<15.0 15.0					

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS02A** Matrix: Soil Date Received: 10.23.18 10.00
 Lab Sample Id: 603127-001 Date Collected: 10.19.18 12.20 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 10.25.18 11.45 Basis: Wet Weight
 Seq Number: 3067614

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4310	25.0	mg/kg	10.25.18 15.53		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 10.24.18 16.00 Basis: Wet Weight
 Seq Number: 3067458

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.25.18 00.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.25.18 00.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.25.18 00.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.25.18 00.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	10.25.18 00.41	
o-Terphenyl	84-15-1	92	%	70-135	10.25.18 00.41	



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS02A**
Lab Sample Id: 603127-001

Matrix: Soil
Date Collected: 10.19.18 12.20

Date Received: 10.23.18 10.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3067479

Prep Method: SW5030B

% Moisture:

Date Prep: 10.24.18 12.15

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0188	0.0188	mg/kg	10.24.18 21.30	U	1
Toluene	108-88-3	<0.0188	0.0188	mg/kg	10.24.18 21.30	U	1
Ethylbenzene	100-41-4	<0.0188	0.0188	mg/kg	10.24.18 21.30	U	1
m,p-Xylenes	179601-23-1	<0.0377	0.0377	mg/kg	10.24.18 21.30	U	1
o-Xylene	95-47-6	<0.0188	0.0188	mg/kg	10.24.18 21.30	U	1
Total Xylenes	1330-20-7	<0.0188	0.0188	mg/kg	10.24.18 21.30	U	1
Total BTEX		<0.0188	0.0188	mg/kg	10.24.18 21.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	84	%	68-120	10.24.18 21.30		
a,a,a-Trifluorotoluene	98-08-8	91	%	71-121	10.24.18 21.30		



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS03A**
Lab Sample Id: 603127-002

Matrix: Soil
Date Collected: 10.19.18 12.50

Date Received: 10.23.18 10.00
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3067614

Date Prep: 10.25.18 11.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	50.4	4.95	mg/kg	10.25.18 16.08		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3067458

Date Prep: 10.24.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.25.18 01.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.25.18 01.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.25.18 01.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.25.18 01.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	10.25.18 01.01	
o-Terphenyl	84-15-1	97	%	70-135	10.25.18 01.01	



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS03A**
Lab Sample Id: 603127-002

Matrix: Soil
Date Collected: 10.19.18 12.50

Date Received: 10.23.18 10.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3067479

Prep Method: SW5030B

% Moisture:

Date Prep: 10.24.18 12.15

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	10.24.18 21.54	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	10.24.18 21.54	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	10.24.18 21.54	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	10.24.18 21.54	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	10.24.18 21.54	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	10.24.18 21.54	U	1
Total BTEX		<0.0199	0.0199	mg/kg	10.24.18 21.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	82	%	68-120	10.24.18 21.54		
a,a,a-Trifluorotoluene	98-08-8	92	%	71-121	10.24.18 21.54		



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS04A**
Lab Sample Id: 603127-003

Matrix: Soil
Date Collected: 10.19.18 13.10

Date Received: 10.23.18 10.00
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3067614

Date Prep: 10.25.18 11.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	136	5.02	mg/kg	10.25.18 16.13		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3067458

Date Prep: 10.24.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.25.18 01.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.25.18 01.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.25.18 01.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.25.18 01.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	10.25.18 01.22	
o-Terphenyl	84-15-1	88	%	70-135	10.25.18 01.22	



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS04A**
Lab Sample Id: 603127-003

Matrix: Soil
Date Collected: 10.19.18 13.10

Date Received: 10.23.18 10.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.24.18 12.15

Basis: Wet Weight

Seq Number: 3067479

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0185	0.0185	mg/kg	10.24.18 22.19	U	1
Toluene	108-88-3	<0.0185	0.0185	mg/kg	10.24.18 22.19	U	1
Ethylbenzene	100-41-4	<0.0185	0.0185	mg/kg	10.24.18 22.19	U	1
m,p-Xylenes	179601-23-1	<0.0370	0.0370	mg/kg	10.24.18 22.19	U	1
o-Xylene	95-47-6	<0.0185	0.0185	mg/kg	10.24.18 22.19	U	1
Total Xylenes	1330-20-7	<0.0185	0.0185	mg/kg	10.24.18 22.19	U	1
Total BTEX		<0.0185	0.0185	mg/kg	10.24.18 22.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	68-120	10.24.18 22.19		
a,a,a-Trifluorotoluene	98-08-8	106	%	71-121	10.24.18 22.19		



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: SS05 Matrix: Soil Date Received: 10.23.18 10.00
 Lab Sample Id: 603127-004 Date Collected: 10.19.18 13.20 Sample Depth: Surface N/A
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 10.25.18 11.45 Basis: Wet Weight
 Seq Number: 3067614

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	173	4.95	mg/kg	10.25.18 15.11		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 10.24.18 16.00 Basis: Wet Weight
 Seq Number: 3067458

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.25.18 02.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	241	15.0	mg/kg	10.25.18 02.22		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.25.18 02.22	U	1
Total TPH	PHC635	241	15.0	mg/kg	10.25.18 02.22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	10.25.18 02.22	
o-Terphenyl	84-15-1	108	%	70-135	10.25.18 02.22	



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: SS05
Lab Sample Id: 603127-004

Matrix: Soil
Date Collected: 10.19.18 13.20

Date Received: 10.23.18 10.00
Sample Depth: Surface N/A

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3067479

Prep Method: SW5030B

% Moisture:

Date Prep: 10.24.18 12.15

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0184	0.0184	mg/kg	10.24.18 22.43	U	1
Toluene	108-88-3	<0.0184	0.0184	mg/kg	10.24.18 22.43	U	1
Ethylbenzene	100-41-4	<0.0184	0.0184	mg/kg	10.24.18 22.43	U	1
m,p-Xylenes	179601-23-1	<0.0368	0.0368	mg/kg	10.24.18 22.43	U	1
o-Xylene	95-47-6	<0.0184	0.0184	mg/kg	10.24.18 22.43	U	1
Total Xylenes	1330-20-7	<0.0184	0.0184	mg/kg	10.24.18 22.43	U	1
Total BTEX		<0.0184	0.0184	mg/kg	10.24.18 22.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	68-120	10.24.18 22.43		
a,a,a-Trifluorotoluene	98-08-8	90	%	71-121	10.24.18 22.43		



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS05A** Matrix: Soil Date Received: 10.23.18 10.00
 Lab Sample Id: 603127-005 Date Collected: 10.19.18 13.50 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 10.25.18 11.45 Basis: Wet Weight
 Seq Number: 3067614

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	496	5.00	mg/kg	10.25.18 16.18		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 10.24.18 16.00 Basis: Wet Weight
 Seq Number: 3067458

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.25.18 02.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	10.25.18 02.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.25.18 02.42	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	10.25.18 02.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	10.25.18 02.42	
o-Terphenyl	84-15-1	94	%	70-135	10.25.18 02.42	



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS05A**
Lab Sample Id: 603127-005

Matrix: Soil
Date Collected: 10.19.18 13.50

Date Received: 10.23.18 10.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.24.18 12.15

Basis: Wet Weight

Seq Number: 3067479

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	10.24.18 23.07	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	10.24.18 23.07	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	10.24.18 23.07	U	1
m,p-Xylenes	179601-23-1	<0.0399	0.0399	mg/kg	10.24.18 23.07	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	10.24.18 23.07	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	10.24.18 23.07	U	1
Total BTEX		<0.0200	0.0200	mg/kg	10.24.18 23.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	68-120	10.24.18 23.07		
a,a,a-Trifluorotoluene	98-08-8	107	%	71-121	10.24.18 23.07		



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS06** Matrix: Soil Date Received: 10.23.18 10.00
 Lab Sample Id: 603127-006 Date Collected: 10.19.18 14.30 Sample Depth: Surface N/A
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 10.25.18 11.45 Basis: Wet Weight
 Seq Number: 3067614

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	753	4.98	mg/kg	10.25.18 16.23		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 10.24.18 16.00 Basis: Wet Weight
 Seq Number: 3067458

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.25.18 03.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	819	15.0	mg/kg	10.25.18 03.03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.25.18 03.03	U	1
Total TPH	PHC635	819	15.0	mg/kg	10.25.18 03.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	10.25.18 03.03	
o-Terphenyl	84-15-1	115	%	70-135	10.25.18 03.03	



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS06**
Lab Sample Id: 603127-006

Matrix: Soil
Date Collected: 10.19.18 14.30

Date Received: 10.23.18 10.00
Sample Depth: Surface N/A

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3067479

Prep Method: SW5030B

% Moisture:

Date Prep: 10.24.18 12.15

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.24.18 23.31	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	10.24.18 23.31	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.24.18 23.31	U	1
m,p-Xylenes	179601-23-1	<0.0394	0.0394	mg/kg	10.24.18 23.31	U	1
o-Xylene	95-47-6	<0.0197	0.0197	mg/kg	10.24.18 23.31	U	1
Total Xylenes	1330-20-7	<0.0197	0.0197	mg/kg	10.24.18 23.31	U	1
Total BTEX		<0.0197	0.0197	mg/kg	10.24.18 23.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	86	%	68-120	10.24.18 23.31		
a,a,a-Trifluorotoluene	98-08-8	86	%	71-121	10.24.18 23.31		



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS06A** Matrix: Soil Date Received: 10.23.18 10.00
 Lab Sample Id: 603127-007 Date Collected: 10.19.18 14.45 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 10.25.18 11.45 Basis: Wet Weight
 Seq Number: 3067614

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	351	4.96	mg/kg	10.25.18 16.29		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 10.24.18 16.00 Basis: Wet Weight
 Seq Number: 3067458

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.25.18 03.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.25.18 03.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.25.18 03.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.25.18 03.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	10.25.18 03.23	
o-Terphenyl	84-15-1	91	%	70-135	10.25.18 03.23	



Certificate of Analytical Results 603127



LT Environmental, Inc., Arvada, CO

PLU 347

Sample Id: **SS06A**
Lab Sample Id: 603127-007

Matrix: Soil
Date Collected: 10.19.18 14.45

Date Received: 10.23.18 10.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3067479

Prep Method: SW5030B

% Moisture:

Date Prep: 10.24.18 12.15

Basis: Wet Weight

SUB: T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	10.25.18 01.07	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	10.25.18 01.07	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	10.25.18 01.07	U	1
m,p-Xylenes	179601-23-1	<0.0391	0.0391	mg/kg	10.25.18 01.07	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	10.25.18 01.07	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	10.25.18 01.07	U	1
Total BTEX		<0.0196	0.0196	mg/kg	10.25.18 01.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	68-120	10.25.18 01.07		
a,a,a-Trifluorotoluene	98-08-8	93	%	71-121	10.25.18 01.07		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 347

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067614

MB Sample Id: 7664831-1-BLK

Matrix: Solid

LCS Sample Id: 7664831-1-BKS

Prep Method: E300P

Date Prep: 10.25.18

LCSD Sample Id: 7664831-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	268	107	270	108	90-110	1	20	mg/kg	10.25.18 13:46	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067614

Parent Sample Id: 603127-004

Matrix: Soil

MS Sample Id: 603127-004 S

Prep Method: E300P

Date Prep: 10.25.18

MSD Sample Id: 603127-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	173	248	434	105	437	106	90-110	1	20	mg/kg	10.25.18 15:16	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067614

Parent Sample Id: 603360-004

Matrix: Soil

MS Sample Id: 603360-004 S

Prep Method: E300P

Date Prep: 10.25.18

MSD Sample Id: 603360-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	40.1	250	301	104	299	104	90-110	1	20	mg/kg	10.25.18 14:02	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3067458

MB Sample Id: 7664788-1-BLK

Matrix: Solid

LCS Sample Id: 7664788-1-BKS

Prep Method: TX1005P

Date Prep: 10.24.18

LCSD Sample Id: 7664788-1-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	989	99	1040	104	70-135	5	20	mg/kg	10.24.18 21:00	
Diesel Range Organics (DRO)	<8.13	1000	1000	100	1060	106	70-135	6	20	mg/kg	10.24.18 21:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		128		125		70-135	%	10.24.18 21:00
o-Terphenyl	100		103		108		70-135	%	10.24.18 21:00

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

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

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

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



LT Environmental, Inc.

PLU 347

Analytical Method: TPH by SW8015 Mod

Seq Number: 3067458

Parent Sample Id: 603185-030

Matrix: Soil

MS Sample Id: 603185-030 S

Prep Method: TX1005P

Date Prep: 10.24.18

MSD Sample Id: 603185-030 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	973	97	1010	101	70-135	4	20	mg/kg	10.24.18 22:00	
Diesel Range Organics (DRO)	<8.13	1000	988	99	1020	102	70-135	3	20	mg/kg	10.24.18 22:00	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		128		70-135	%	10.24.18 22:00
o-Terphenyl	107		107		70-135	%	10.24.18 22:00

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067479

MB Sample Id: 7664793-1-BLK

Matrix: Solid

LCS Sample Id: 7664793-1-BKS

Prep Method: SW5030B

Date Prep: 10.24.18

LCSD Sample Id: 7664793-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.78	89	1.78	89	55-120	0	20	mg/kg	10.24.18 17:03	
Toluene	<0.0200	2.00	1.79	90	1.73	87	77-120	3	20	mg/kg	10.24.18 17:03	
Ethylbenzene	<0.0200	2.00	1.88	94	1.82	91	77-120	3	20	mg/kg	10.24.18 17:03	
m,p-Xylenes	<0.0400	4.00	3.76	94	3.63	91	78-120	4	20	mg/kg	10.24.18 17:03	
o-Xylene	<0.0200	2.00	1.88	94	1.84	92	78-120	2	20	mg/kg	10.24.18 17:03	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	101		88		73		68-120	%	10.24.18 17:03
a,a,a-Trifluorotoluene	102		88		75		71-121	%	10.24.18 17:03

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067479

Parent Sample Id: 603248-003

Matrix: Soil

MS Sample Id: 603248-003 S

Prep Method: SW5030B

Date Prep: 10.24.18

MSD Sample Id: 603248-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0184	1.84	1.56	85	1.47	82	54-120	6	25	mg/kg	10.24.18 19:05	
Toluene	<0.0184	1.84	1.56	85	1.47	82	57-120	6	25	mg/kg	10.24.18 19:05	
Ethylbenzene	<0.0184	1.84	1.63	89	1.55	87	58-131	5	25	mg/kg	10.24.18 19:05	
m,p-Xylenes	<0.0368	3.68	3.26	89	3.10	87	62-124	5	25	mg/kg	10.24.18 19:05	
o-Xylene	<0.0184	1.84	1.62	88	1.54	86	62-124	5	25	mg/kg	10.24.18 19:05	

Surrogate

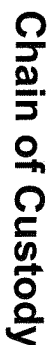
	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	101		101		68-120	%	10.24.18 19:05
a,a,a-Trifluorotoluene	108		108		71-121	%	10.24.18 19:05

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

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

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

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



Work Order No:

003127

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3333
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)

Page _____ of _____
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Work Order Comments	
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other:	

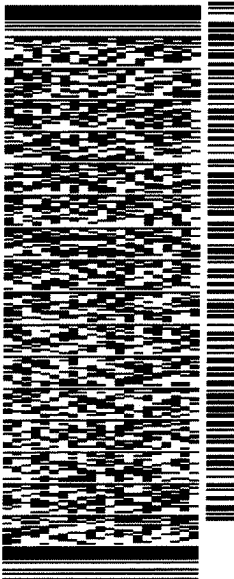
[illegible]

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	BTE	TPH	Chl.
S502B	S	10/19/18	1220	1'	1	X	X	X
S503B	S	10/19/18	1250	1'	1	X	X	X
S504B	S	10/19/18	1316	1'	1	X	X	X
S505A	S	10/19/18	1320	Surface	1	X	X	X
S505B	S	10/19/19	1350	1'	1	X	X	X
S506A	S	10/19/18	1430	Surface	1	X	X	X
S506B	S	10/19/18	1445	1'	1	X	X	X

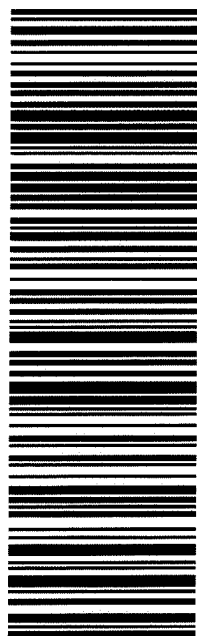
Total	200.7 / 6010	200.8 / 6020:	
<i>Circle Method(s) and Metal(s) to be analyzed</i>	8RCRA TCLP / SPLP 6010:	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn	
		Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		10/28/18 0850			10/31/18 1000

ORIGIN ID:CAOA (575) 887-6245 XENCO PAC N MAIL 910 W PIERCE ST CARLSBAD NM 88220 UNITED STATES US	SHIP DATE: 22OCT18 ACTWGT: 34.00 LB CAD: 101813706NET14040 DIMS: 18x12x15 IN BILL RECIPIENT
TO HOLD FOR XENCO FEDEX EXPRESS SHIP CENTER FEDEX SHIP CENTER 3600 COUNTY RD 1276 S MIDLAND TX 79711 (806) 794-1296 REF:	
DEPT:	
PO:	
	
	
J182110081601uy	
552J1188FB/DCA5	

TRK# 7735 3747 7085
 0201
 TUE - 23 OCT HOLD
 STANDARD OVERNIGHT
 HLD
 41 MAFA
 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 Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Inter-Office Shipment

Page 1 of 1

IOS Number **115938**

Date/Time: 10/23/18 10:51

Created by: Brianna Teel

Please send report to: Jessica Kramer

Lab# From: **Midland**

Delivery Priority:

Address: 1211 W. Florida Ave, Midland TX 79701

Lab# To: **Lubbock**

Air Bill No.: fed

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
603127-001	S	SS02B	10/19/18 12:20	SW8021B	BTEX by EPA 8021B	10/29/18	11/02/18	JKR	BR4FBZ BZ BZME EBZ X	
603127-002	S	SS03B	10/19/18 12:50	SW8021B	BTEX by EPA 8021B	10/29/18	11/02/18	JKR	BR4FBZ BZ BZME EBZ X	
603127-003	S	SS04B	10/19/18 13:10	SW8021B	BTEX by EPA 8021B	10/29/18	11/02/18	JKR	BR4FBZ BZ BZME EBZ X	
603127-004	S	SS05A	10/19/18 13:20	SW8021B	BTEX by EPA 8021B	10/29/18	11/02/18	JKR	BR4FBZ BZ BZME EBZ X	
603127-005	S	SS05B	10/19/18 13:50	SW8021B	BTEX by EPA 8021B	10/29/18	11/02/18	JKR	BR4FBZ BZ BZME EBZ X	
603127-006	S	SS06A	10/19/18 14:30	SW8021B	BTEX by EPA 8021B	10/29/18	11/02/18	JKR	BR4FBZ BZ BZME EBZ X	
603127-007	S	SS06B	10/19/18 14:45	SW8021B	BTEX by EPA 8021B	10/29/18	11/02/18	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By:

Jessica Kramer

Received By: _____

Date Relinquished: 10/25/2018Date Received: 10/24/2018 09:15Cooler Temperature: 2.3



Inter Office Report- Sample Receipt Checklist

Sent To: Lubbock

IOS #: 115938

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sent By: Brianna Teel

Date Sent: 10/23/2018 10:51 AM

Received By: Ashley Derstine

Date Received: 10/24/2018 09:15 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by: _____

Date: 10/24/2018



Client: LT Environmental, Inc.

Date/ Time Received: 10/23/2018 10:00:00 AM

Work Order #: 603127

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)?	Yes	Lubbock-BTEX & Chlorides
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 10/23/2018

Checklist reviewed by:

Jessica Kramer

Date: 10/23/2018

Analytical Report 603276

for
LT Environmental, Inc.

Project Manager: Adrian Baker

PLU 347H

15-FEB-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)



15-FEB-19

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **603276**

PLU 347H

Project Address: Carlsbad, NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 603276. 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. 603276 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 603276



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01A	S	10-22-18 13:00	1 ft	603276-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 347H

Project ID:

Work Order Number(s): 603276

Report Date: 15-FEB-19

Date Received: 10/24/2018

Sample receipt non conformances and comments:

PER CLIENTS EMAIL, CORRECTED SAMPLE NAME FROM SS01B TO SS01A. NEW VERSION GENERATED JK 02/15/19

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3067712 BTEX by EPA 8021B

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



Certificate of Analysis Summary 603276

LT Environmental, Inc., Arvada, CO

Project Name: PLU 347H



Project Id:

Contact: Adrian Baker

Project Location: Carlsbad, NM

Date Received in Lab: Wed Oct-24-18 11:00 am

Report Date: 15-FEB-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	603276-001					
	Field Id:	SS01A					
	Depth:	1- ft					
	Matrix:	SOIL					
	Sampled:	Oct-22-18 13:00					
BTEX by EPA 8021B	Extracted:	Oct-25-18 17:00					
	Analyzed:	Oct-26-18 00:17					
	Units/RL:	mg/kg RL					
Benzene		<0.00200 0.00200					
Toluene		<0.00200 0.00200					
Ethylbenzene		<0.00200 0.00200					
m,p-Xylenes		<0.00400 0.00400					
o-Xylene		<0.00200 0.00200					
Total Xylenes		<0.00200 0.00200					
Total BTEX		<0.00200 0.00200					
Inorganic Anions by EPA 300	Extracted:	Oct-25-18 09:00					
	Analyzed:	Oct-25-18 12:11					
	Units/RL:	mg/kg RL					
Chloride		1170 25.0					
TPH by SW8015 Mod	Extracted:	Oct-24-18 16:00					
	Analyzed:	Oct-25-18 03:43					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0					
Diesel Range Organics (DRO)		<15.0 15.0					
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0					
Total TPH		<15.0 15.0					

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

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

Version: 1.0%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 603276



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SS01A** Matrix: Soil Date Received: 10.24.18 11.00
 Lab Sample Id: 603276-001 Date Collected: 10.22.18 13.00 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 10.25.18 09.00 Basis: Wet Weight
 Seq Number: 3067559

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1170	25.0	mg/kg	10.25.18 12.11		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 10.24.18 16.00 Basis: Wet Weight
 Seq Number: 3067458

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.25.18 03.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.25.18 03.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.25.18 03.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.25.18 03.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	10.25.18 03.43	
o-Terphenyl	84-15-1	100	%	70-135	10.25.18 03.43	



Certificate of Analytical Results 603276



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SS01A**
Lab Sample Id: 603276-001

Matrix: Soil
Date Collected: 10.22.18 13.00

Date Received: 10.24.18 11.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: JUM

Analyst: JUM

Seq Number: 3067712

Date Prep: 10.25.18 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.26.18 00.17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.26.18 00.17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.26.18 00.17	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.26.18 00.17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.26.18 00.17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.26.18 00.17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.26.18 00.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	10.26.18 00.17		
1,4-Difluorobenzene	540-36-3	115	%	70-130	10.26.18 00.17		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 347H

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067559

MB Sample Id: 7664807-1-BLK

Matrix: Solid

LCS Sample Id: 7664807-1-BKS

Prep Method: E300P

Date Prep: 10.25.18

LCSD Sample Id: 7664807-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	271	108	270	108	90-110	0	20	mg/kg	10.25.18 09:54	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067559

Parent Sample Id: 603144-006

Matrix: Soil

MS Sample Id: 603144-006 S

Prep Method: E300P

Date Prep: 10.25.18

MSD Sample Id: 603144-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.922	269	288	107	281	104	90-110	2	20	mg/kg	10.25.18 10:10	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3067559

Parent Sample Id: 603232-001

Matrix: Soil

MS Sample Id: 603232-001 S

Prep Method: E300P

Date Prep: 10.25.18

MSD Sample Id: 603232-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	37.9	248	296	104	294	103	90-110	1	20	mg/kg	10.25.18 11:29	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3067458

MB Sample Id: 7664788-1-BLK

Matrix: Solid

LCS Sample Id: 7664788-1-BKS

Prep Method: TX1005P

Date Prep: 10.24.18

LCSD Sample Id: 7664788-1-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	989	99	1040	104	70-135	5	20	mg/kg	10.24.18 21:00	
Diesel Range Organics (DRO)	<8.13	1000	1000	100	1060	106	70-135	6	20	mg/kg	10.24.18 21:00	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		128		125		70-135	%	10.24.18 21:00
o-Terphenyl	100		103		108		70-135	%	10.24.18 21:00

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

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

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

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



LT Environmental, Inc.

PLU 347H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3067458

Parent Sample Id: 603185-030

Matrix: Soil

MS Sample Id: 603185-030 S

Prep Method: TX1005P

Date Prep: 10.24.18

MSD Sample Id: 603185-030 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	973	97	1010	101	70-135	4	20	mg/kg	10.24.18 22:00	
Diesel Range Organics (DRO)	<8.13	1000	988	99	1020	102	70-135	3	20	mg/kg	10.24.18 22:00	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		128		70-135	%	10.24.18 22:00
o-Terphenyl	107		107		70-135	%	10.24.18 22:00

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067712

MB Sample Id: 7664946-1-BLK

Matrix: Solid

LCS Sample Id: 7664946-1-BKS

Prep Method: SW5030B

Date Prep: 10.25.18

LCSD Sample Id: 7664946-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0956	96	0.0962	96	70-130	1	35	mg/kg	10.25.18 17:51	
Toluene	<0.00200	0.100	0.0956	96	0.0959	96	70-130	0	35	mg/kg	10.25.18 17:51	
Ethylbenzene	<0.00200	0.100	0.0983	98	0.0985	99	70-130	0	35	mg/kg	10.25.18 17:51	
m,p-Xylenes	<0.00400	0.200	0.188	94	0.190	95	70-130	1	35	mg/kg	10.25.18 17:51	
o-Xylene	<0.00200	0.100	0.0911	91	0.0925	93	70-130	2	35	mg/kg	10.25.18 17:51	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	114		91		95		70-130	%	10.25.18 17:51
4-Bromofluorobenzene	104		89		89		70-130	%	10.25.18 17:51

Analytical Method: BTEX by EPA 8021B

Seq Number: 3067712

Parent Sample Id: 602545-007

Matrix: Soil

MS Sample Id: 602545-007 S

Prep Method: SW5030B

Date Prep: 10.25.18

MSD Sample Id: 602545-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0775	78	0.0841	84	70-130	8	35	mg/kg	10.25.18 18:31	
Toluene	<0.00200	0.100	0.0789	79	0.0841	84	70-130	6	35	mg/kg	10.25.18 18:31	
Ethylbenzene	<0.00200	0.100	0.0813	81	0.0871	87	70-130	7	35	mg/kg	10.25.18 18:31	
m,p-Xylenes	<0.00400	0.200	0.157	79	0.169	85	70-130	7	35	mg/kg	10.25.18 18:31	
o-Xylene	<0.00200	0.100	0.0773	77	0.0833	83	70-130	7	35	mg/kg	10.25.18 18:31	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		94		70-130	%	10.25.18 18:31
4-Bromofluorobenzene	94		94		70-130	%	10.25.18 18:31

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

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

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

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



Setting the Standard since 1990

Stafford, TX (281) 240-4200
Dallas, TX (214) 902-0300

El Paso, TX (915) 585-3443
Lubbock, TX (806) 794-1296

Midland, TX (432) 704-5440
San Antonio, TX (210) 509-3334

Phoenix, AZ (480) 355-0900
Service Center - Baton Rouge, LA (832) 712-8143

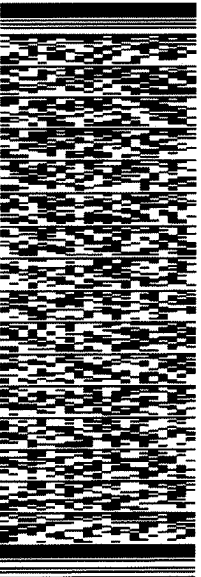
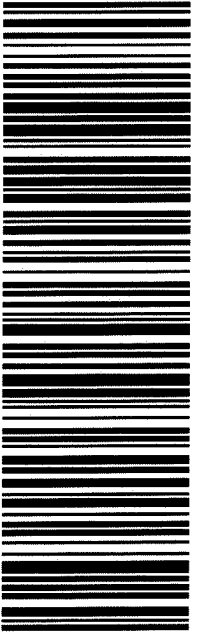
Service Center- Amarillo, TX (806)678-4514
Service Center- Hobbs, NM (575) 392-7550

CHAIN OF CUSTODY

Page 1 Of 1

Revision 2016.1

Client / Reporting Information				Project Information			
Company Name / Branch: LTF Mildland TX 79705 300N/A Street Building Unit 103 Email: ABaker@Lenv.com Phone No: (432) 704-5178 Project Contact: Adrian Baker Sample's Name: Garrett Green				Project Name/Number: PLU 3 47H Project Location: Carlsbad, NM Invoice To: PO Number: Kyle Littrell/KTO PLU 347H			
No.	Field ID / Point of Collection	Collection	Data Deliverable Information	Analytical Information	Matrix Codes		
		Sample Depth	Date Time Matrix # of bottles HCl NaOH/Zn Acetate HNO ₃ H ₂ SO ₄ NaOH NaHSO ₄ MEQH NONE				
1	SSOI B	1' 10/24/18 1200 S 1		X BTEx 8021 (only BTEx)			
2				X TPH(MRO, GRO, PRO) 8015			
3				X Chlorides (300.00)			
4							
5							
6							
7							
8							
9							
10							
Turnaround Time (Business days)				Notes:			
☐ Same Day TAT ☒ 5 Day TAT				☐ Level II Std QC ☐ Level IV (Full Data Pkg raw data)			
☐ Next Day EMERGENCY ☐ 7 Day TAT				☐ Level III Std QC+ Forms ☐ TRRP Level IV			
☐ 2 Day EMERGENCY ☐ Contract TAT				☐ Level 3 (CLP Forms) ☐ UST / RG -411			
☐ 3 Day EMERGENCY				☐ Level II Report with TRRP checklist			
TAT Starts Day received by Lab, if received by 5:00 pm				FED-EX / UPS Tracking #			
Relinquished by Sample By: [Signature] Date Time: 10/24/18 1630 Received By: [Signature]				Relinquished By: [Signature] Date Time: 10/23/18 15:30 Received By: [Signature]			
Reinquinshed by: [Signature] Date Time: 10/24/18 1630 Received By: [Signature]				Custody Seal # 4 Preserved where applicable On Ice Coolant Temp. Tempo. Corr. Factor			

ORIGIN ID:CAOA (575) 887-6245 XENCO PAC N MAIL 910 W PIERCE ST CARLSBAD, NM 88220 UNITED STATES US		SHIP DATE: 23OCT18 ACTWGT: 3.00 LB CAD: 10183706INET4040 DIMS: 8x9x9 IN BILL RECIPIENT	
TO HOLD FOR XENCO FEDEX EXPRESS SHIP CENTER FEDEX SHIP CENTER 3600 COUNTY RD 1276 S MIDLAND TX 79711 (800) 794-1296 INV. REF. PO. DEPT.			
 			
TRK# 7735 4918 2610 0201 41 MAFA TX-US LBB		WED - 24 OCT HOLD STANDARD OVERNIGHT HLD	
			

552J1188FB/DCA5

After printing this label:

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

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

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/24/2018 11:00:00 AM

Work Order #: 603276

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: 10/24/2018

Checklist reviewed by:

Jessica Kramer

Date: 10/25/2018

Analytical Report 612818

for
LT Environmental, Inc.

Project Manager: Adrian Baker

PLU 347H

05-FEB-19

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

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

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

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



05-FEB-19

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

Reference: XENCO Report No(s): **612818**
PLU 347H
Project Address:

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 612818. 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. 612818 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer
Project Assistant

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

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Sample Cross Reference 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	01-25-19 10:30	1 ft	612818-001
FS02	S	01-25-19 10:35	1 ft	612818-002
FS03	S	01-25-19 10:40	1 ft	612818-003
FS04	S	01-25-19 10:45	1 ft	612818-004
FS05	S	01-25-19 11:05	1 ft	612818-005
FS06	S	01-25-19 11:10	1 ft	612818-006
FS07	S	01-25-19 11:15	1 ft	612818-007
FS08	S	01-25-19 11:30	1 ft	612818-008
FS09	S	01-25-19 11:35	1 ft	612818-009
FS10	S	01-25-19 11:40	1 ft	612818-010
FS11	S	01-25-19 11:45	1 ft	612818-011
FS12	S	01-25-19 11:50	1 ft	612818-012
FS13	S	01-25-19 11:55	1 ft	612818-013
SW01	S	01-25-19 12:35	0 - 1 ft	612818-014
SW02	S	01-25-19 12:40	0 - 1 ft	612818-015
SW03	S	01-25-19 12:45	0 - 1 ft	612818-016
SW04	S	01-25-19 12:50	0 - 1 ft	612818-017
SS07	S	01-25-19 13:30	0.5 ft	612818-018
SS07A	S	01-25-19 13:40	1 ft	612818-019
SS08	S	01-25-19 14:05	0.5 ft	612818-020
SS08A	S	01-25-19 14:10	1 ft	612818-021

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU 347H**

Project ID:
Work Order Number(s): 612818

Report Date: 05-FEB-19
Date Received: 01/29/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3077826 Inorganic Anions by EPA 300

Lab Sample ID 612818-011 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: 612818-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

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

Batch: LBA-3077948 BTEX by EPA 8021B

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

Batch: LBA-3078036 BTEX by EPA 8021B

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



Certificate of Analysis Summary 612818

LT Environmental, Inc., Arvada, CO

Project Name: PLU 347H



Project Id:

Contact: Adrian Baker

Project Location:

Date Received in Lab: Tue Jan-29-19 01:15 pm

Report Date: 05-FEB-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	612818-001	612818-002	612818-003	612818-004	612818-005	612818-006
	<i>Field Id:</i>	FS01	FS02	FS03	FS04	FS05	FS06
	<i>Depth:</i>	1- ft	1- ft	1- ft	1- ft	1- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-25-19 10:30	Jan-25-19 10:35	Jan-25-19 10:40	Jan-25-19 10:45	Jan-25-19 11:05	Jan-25-19 11:10
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-31-19 15:00	Jan-31-19 15:00	Jan-31-19 15:00	Jan-31-19 15:00	Jan-31-19 15:00	Jan-31-19 15:00
	<i>Analyzed:</i>	Feb-01-19 05:12	Feb-01-19 05:31	Feb-01-19 07:04	Feb-01-19 07:23	Feb-01-19 09:37	Feb-01-19 07:43
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00401 0.00401	<0.00399 0.00399	<0.00399 0.00399	<0.00403 0.00403	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Inorganic Anions by EPA 300 SUB: T104704215-18-28	<i>Extracted:</i>	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43
	<i>Analyzed:</i>	Feb-02-19 00:15	Feb-02-19 00:40	Feb-02-19 00:49	Feb-02-19 00:57	Feb-02-19 01:05	Feb-02-19 01:30
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		3830 10.0	3000 10.0	4020 10.0	2350 10.0	2890 10.0	2250 10.0
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00
	<i>Analyzed:</i>	Feb-02-19 11:38	Feb-02-19 12:36	Feb-02-19 12:56	Feb-02-19 13:15	Feb-02-19 13:34	Feb-02-19 13:54
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		22.2 15.0	18.1 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	44.2 14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		22.2 15.0	18.1 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	44.2 14.9

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

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Version: 1.0%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 612818

LT Environmental, Inc., Arvada, CO

Project Name: PLU 347H

Project Id:

Contact: Adrian Baker

Project Location:

Date Received in Lab: Tue Jan-29-19 01:15 pm

Report Date: 05-FEB-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	612818-007	612818-008	612818-009	612818-010	612818-011	612818-012
	<i>Field Id:</i>	FS07	FS08	FS09	FS10	FS11	FS12
	<i>Depth:</i>	1- ft	1- ft	1- ft	1- ft	1- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-25-19 11:15	Jan-25-19 11:30	Jan-25-19 11:35	Jan-25-19 11:40	Jan-25-19 11:45	Jan-25-19 11:50
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-31-19 15:00	Jan-31-19 15:00	Jan-31-19 15:00	Jan-31-19 15:00	Jan-31-19 15:00	Feb-04-19 10:30
	<i>Analyzed:</i>	Feb-01-19 08:02	Feb-01-19 08:21	Feb-01-19 08:40	Feb-01-19 08:59	Feb-01-19 09:18	Feb-04-19 14:05
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
m,p-Xylenes		<0.00400 0.00400	<0.00402 0.00402	<0.00398 0.00398	<0.00400 0.00400	<0.00402 0.00402	<0.00403 0.00403
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Inorganic Anions by EPA 300 SUB: T104704215-18-28	<i>Extracted:</i>	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43
	<i>Analyzed:</i>	Feb-02-19 01:39	Feb-02-19 01:47	Feb-02-19 01:55	Feb-02-19 02:04	Feb-02-19 02:12	Feb-02-19 02:37
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1220 10.0	2020 10.0	965 10.0	2710 10.0	1080 10.0	1820 10.0
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00
	<i>Analyzed:</i>	Feb-02-19 14:13	Feb-02-19 14:33	Feb-02-19 14:52	Feb-02-19 15:12	Feb-02-19 16:11	Feb-02-19 16:30
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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

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Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 612818

LT Environmental, Inc., Arvada, CO

Project Name: PLU 347H



Project Id:

Contact: Adrian Baker

Project Location:

Date Received in Lab: Tue Jan-29-19 01:15 pm

Report Date: 05-FEB-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	612818-013	612818-014	612818-015	612818-016	612818-017	612818-018
	Field Id:	FS13	SW01	SW02	SW03	SW04	SS07
	Depth:	1- ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0.5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jan-25-19 11:55	Jan-25-19 12:35	Jan-25-19 12:40	Jan-25-19 12:45	Jan-25-19 12:50	Jan-25-19 13:30
BTEX by EPA 8021B	Extracted:	Feb-04-19 10:30	Feb-04-19 10:30	Feb-04-19 10:30	Feb-04-19 10:30	Feb-04-19 10:30	Feb-04-19 10:30
	Analyzed:	Feb-04-19 14:24	Feb-04-19 14:43	Feb-04-19 15:02	Feb-04-19 15:21	Feb-04-19 16:58	Feb-04-19 17:17
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00402 0.00402	<0.00398 0.00398	<0.00400 0.00400	<0.00402 0.00402
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
Inorganic Anions by EPA 300 SUB: T104704215-18-28	Extracted:	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:43
	Analyzed:	Feb-02-19 02:45	Feb-02-19 03:10	Feb-02-19 03:19	Feb-02-19 03:27	Feb-02-19 03:36	Feb-02-19 03:44
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1110 10.0	2400 10.0	1180 10.0	1260 10.0	5020 E 10.0	193 10.0
TPH by SW8015 Mod	Extracted:	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00	Feb-02-19 08:00
	Analyzed:	Feb-02-19 16:50	Feb-02-19 17:09	Feb-02-19 17:28	Feb-02-19 17:48	Feb-02-19 18:07	Feb-02-19 18:27
	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	<14.9 14.9	<14.9 14.9	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	31.5 14.9	<14.9 14.9	<15.0 15.0	26.7 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	19.4 14.9	<14.9 14.9	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	50.9 14.9	<14.9 14.9	<15.0 15.0	26.7 15.0

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 612818

LT Environmental, Inc., Arvada, CO

Project Name: PLU 347H



Project Id:

Contact: Adrian Baker

Project Location:

Date Received in Lab: Tue Jan-29-19 01:15 pm

Report Date: 05-FEB-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	612818-019	612818-020	612818-021			
	<i>Field Id:</i>	SS07A	SS08	SS08A			
	<i>Depth:</i>	1- ft	0.5- ft	1- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Jan-25-19 13:40	Jan-25-19 14:05	Jan-25-19 14:10			
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-04-19 10:30	Feb-04-19 10:30	Feb-04-19 10:30			
	<i>Analyzed:</i>	Feb-04-19 17:36	Feb-04-19 17:55	Feb-04-19 18:14			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199			
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199			
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199			
m,p-Xylenes		<0.00399 0.00399	<0.00401 0.00401	<0.00398 0.00398			
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199			
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199			
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199			
Inorganic Anions by EPA 300 SUB: T104704215-18-28	<i>Extracted:</i>	Feb-01-19 17:43	Feb-01-19 17:43	Feb-01-19 17:44			
	<i>Analyzed:</i>	Feb-02-19 03:52	Feb-02-19 04:01	Feb-02-19 13:16			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		177 10.0	337 10.0	201 10.0			
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-02-19 08:00	Feb-02-19 08:00	Jan-30-19 15:00			
	<i>Analyzed:</i>	Feb-02-19 18:46	Feb-02-19 19:06	Jan-31-19 02:56			
	<i>Units/RL:</i>	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			
Diesel Range Organics (DRO)		16.5 15.0	<15.0 15.0	<15.0 15.0			
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Total TPH		16.5 15.0	<15.0 15.0	<15.0 15.0			

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

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Version: 1.0%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS01** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-001 Date Collected: 01.25.19 10.30 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3830	10.0	mg/kg	02.02.19 00.15		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 11.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	22.2	15.0	mg/kg	02.02.19 11.38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 11.38	U	1
Total TPH	PHC635	22.2	15.0	mg/kg	02.02.19 11.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.02.19 11.38	
o-Terphenyl	84-15-1	96	%	70-135	02.02.19 11.38	



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS01**
Lab Sample Id: 612818-001

Matrix: Soil
Date Collected: 01.25.19 10.30

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.31.19 15.00

Basis: Wet Weight

Seq Number: 3077948

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.01.19 05.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.01.19 05.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.01.19 05.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.01.19 05.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.01.19 05.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.01.19 05.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.01.19 05.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.01.19 05.12		
4-Bromofluorobenzene	460-00-4	119	%	70-130	02.01.19 05.12		



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS02**
Lab Sample Id: 612818-002

Matrix: Soil
Date Collected: 01.25.19 10.35

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: JYM

Analyst: JYM

Seq Number: 3077826

Date Prep: 02.01.19 17.43

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3000	10.0	mg/kg	02.02.19 00.40		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3078092

Date Prep: 02.02.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 12.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	18.1	15.0	mg/kg	02.02.19 12.36		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 12.36	U	1
Total TPH	PHC635	18.1	15.0	mg/kg	02.02.19 12.36		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	02.02.19 12.36	
o-Terphenyl	84-15-1	91	%	70-135	02.02.19 12.36	



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS02**
Lab Sample Id: 612818-002

Matrix: Soil
Date Collected: 01.25.19 10.35

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.31.19 15.00

Basis: Wet Weight

Seq Number: 3077948

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.01.19 05.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.01.19 05.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.01.19 05.31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.01.19 05.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.01.19 05.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.01.19 05.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.01.19 05.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	02.01.19 05.31		
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.01.19 05.31		



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS03** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-003 Date Collected: 01.25.19 10.40 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4020	10.0	mg/kg	02.02.19 00.49		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 12.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 12.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 12.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 12.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	91	%	70-135	02.02.19 12.56		
o-Terphenyl	84-15-1	91	%	70-135	02.02.19 12.56		



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LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS03**
Lab Sample Id: 612818-003

Matrix: Soil
Date Collected: 01.25.19 10.40

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.31.19 15.00

Basis: Wet Weight

Seq Number: 3077948

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.01.19 07.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.01.19 07.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.01.19 07.04	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.01.19 07.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.01.19 07.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.01.19 07.04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.01.19 07.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	02.01.19 07.04		
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.01.19 07.04		



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS04**
Lab Sample Id: 612818-004

Matrix: Soil
Date Collected: 01.25.19 10.45

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: JYM

Analyst: JYM

Seq Number: 3077826

Date Prep: 02.01.19 17.43

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2350	10.0	mg/kg	02.02.19 00.57		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3078092

Date Prep: 02.02.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 13.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 13.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 13.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 13.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.02.19 13.15	
o-Terphenyl	84-15-1	92	%	70-135	02.02.19 13.15	



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS04**
Lab Sample Id: 612818-004

Matrix: Soil
Date Collected: 01.25.19 10.45

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.31.19 15.00

Basis: Wet Weight

Seq Number: 3077948

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.01.19 07.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.01.19 07.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.01.19 07.23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.01.19 07.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.01.19 07.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.01.19 07.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.01.19 07.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	02.01.19 07.23		
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.01.19 07.23		



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS05** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-005 Date Collected: 01.25.19 11.05 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2890	10.0	mg/kg	02.02.19 01.05		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 13.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 13.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 13.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 13.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	02.02.19 13.34	
o-Terphenyl	84-15-1	87	%	70-135	02.02.19 13.34	



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS05**
Lab Sample Id: 612818-005

Matrix: Soil
Date Collected: 01.25.19 11.05

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3077948

Prep Method: SW5030B

% Moisture:

Date Prep: 01.31.19 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.01.19 09.37	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.01.19 09.37	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.01.19 09.37	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.01.19 09.37	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.01.19 09.37	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.01.19 09.37	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.01.19 09.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.01.19 09.37		
4-Bromofluorobenzene	460-00-4	118	%	70-130	02.01.19 09.37		



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS06** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-006 Date Collected: 01.25.19 11.10 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2250	10.0	mg/kg	02.02.19 01.30		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.02.19 13.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	44.2	14.9	mg/kg	02.02.19 13.54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	02.02.19 13.54	U	1
Total TPH	PHC635	44.2	14.9	mg/kg	02.02.19 13.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.02.19 13.54	
o-Terphenyl	84-15-1	103	%	70-135	02.02.19 13.54	



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS06**
Lab Sample Id: 612818-006

Matrix: Soil
Date Collected: 01.25.19 11.10

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3077948

Date Prep: 01.31.19 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.01.19 07.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.01.19 07.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.01.19 07.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.01.19 07.43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.01.19 07.43	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.01.19 07.43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.01.19 07.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	02.01.19 07.43		
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.01.19 07.43		



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS07**
Lab Sample Id: 612818-007

Matrix: Soil
Date Collected: 01.25.19 11.15

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: JYM

Analyst: JYM

Seq Number: 3077826

Date Prep: 02.01.19 17.43

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1220	10.0	mg/kg	02.02.19 01.39		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3078092

Date Prep: 02.02.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 14.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 14.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 14.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 14.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	02.02.19 14.13	
o-Terphenyl	84-15-1	90	%	70-135	02.02.19 14.13	



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS07**
Lab Sample Id: 612818-007

Matrix: Soil
Date Collected: 01.25.19 11.15

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.31.19 15.00

Basis: Wet Weight

Seq Number: 3077948

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.01.19 08.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.01.19 08.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.01.19 08.02	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.01.19 08.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.01.19 08.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.01.19 08.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.01.19 08.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.01.19 08.02		
4-Bromofluorobenzene	460-00-4	113	%	70-130	02.01.19 08.02		



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS08**
Lab Sample Id: 612818-008

Matrix: Soil
Date Collected: 01.25.19 11.30

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: JYM

Analyst: JYM

Seq Number: 3077826

Date Prep: 02.01.19 17.43

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2020	10.0	mg/kg	02.02.19 01.47		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3078092

Date Prep: 02.02.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.02.19 14.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.02.19 14.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	02.02.19 14.33	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.02.19 14.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.02.19 14.33	
o-Terphenyl	84-15-1	89	%	70-135	02.02.19 14.33	



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS08**
 Lab Sample Id: 612818-008

Matrix: Soil
 Date Collected: 01.25.19 11.30

Date Received: 01.29.19 13.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.31.19 15.00

Basis: Wet Weight

Seq Number: 3077948

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.01.19 08.21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.01.19 08.21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.01.19 08.21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.01.19 08.21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.01.19 08.21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.01.19 08.21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.01.19 08.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.01.19 08.21		
4-Bromofluorobenzene	460-00-4	116	%	70-130	02.01.19 08.21		



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS09** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-009 Date Collected: 01.25.19 11.35 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	965	10.0	mg/kg	02.02.19 01.55		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 14.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 14.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 14.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 14.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.02.19 14.52	
o-Terphenyl	84-15-1	95	%	70-135	02.02.19 14.52	



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS09**
Lab Sample Id: 612818-009

Matrix: Soil
Date Collected: 01.25.19 11.35

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.31.19 15.00

Basis: Wet Weight

Seq Number: 3077948

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.01.19 08.40	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.01.19 08.40	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.01.19 08.40	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.01.19 08.40	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.01.19 08.40	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.01.19 08.40	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.01.19 08.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	02.01.19 08.40		
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.01.19 08.40		



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LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS10** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-010 Date Collected: 01.25.19 11.40 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2710	10.0	mg/kg	02.02.19 02.04		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 15.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 15.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 15.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 15.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	02.02.19 15.12	
o-Terphenyl	84-15-1	86	%	70-135	02.02.19 15.12	



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS10**
 Lab Sample Id: 612818-010

Matrix: Soil
 Date Collected: 01.25.19 11.40

Date Received: 01.29.19 13.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3077948

Date Prep: 01.31.19 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.01.19 08.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.01.19 08.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.01.19 08.59	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.01.19 08.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.01.19 08.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.01.19 08.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.01.19 08.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	02.01.19 08.59		
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.01.19 08.59		



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS11** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-011 Date Collected: 01.25.19 11.45 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1080	10.0	mg/kg	02.02.19 02.12		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 16.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 16.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 16.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 16.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	02.02.19 16.11	
o-Terphenyl	84-15-1	87	%	70-135	02.02.19 16.11	



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS11**
 Lab Sample Id: 612818-011

Matrix: Soil
 Date Collected: 01.25.19 11.45

Date Received: 01.29.19 13.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3077948

Date Prep: 01.31.19 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.01.19 09.18	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.01.19 09.18	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.01.19 09.18	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.01.19 09.18	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.01.19 09.18	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.01.19 09.18	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.01.19 09.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.01.19 09.18		
4-Bromofluorobenzene	460-00-4	117	%	70-130	02.01.19 09.18		



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS12** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-012 Date Collected: 01.25.19 11.50 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1820	10.0	mg/kg	02.02.19 02.37		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 16.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 16.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 16.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 16.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.02.19 16.30	
o-Terphenyl	84-15-1	90	%	70-135	02.02.19 16.30	



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS12**
 Lab Sample Id: 612818-012

Matrix: Soil
 Date Collected: 01.25.19 11.50

Date Received: 01.29.19 13.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3078036

Prep Method: SW5030B

% Moisture:

Date Prep: 02.04.19 10.30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.04.19 14.05	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.04.19 14.05	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.04.19 14.05	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.04.19 14.05	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.04.19 14.05	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.04.19 14.05	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.04.19 14.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.04.19 14.05		
4-Bromofluorobenzene	460-00-4	111	%	70-130	02.04.19 14.05		



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS13**
Lab Sample Id: 612818-013

Matrix: Soil
Date Collected: 01.25.19 11.55

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: JYM

Analyst: JYM

Seq Number: 3077826

Date Prep: 02.01.19 17.43

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1110	10.0	mg/kg	02.02.19 02.45		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3078092

Date Prep: 02.02.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 16.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 16.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 16.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 16.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.02.19 16.50	
o-Terphenyl	84-15-1	90	%	70-135	02.02.19 16.50	



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **FS13**
 Lab Sample Id: 612818-013

Matrix: Soil
 Date Collected: 01.25.19 11.55

Date Received: 01.29.19 13.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 02.04.19 10.30

Basis: Wet Weight

Seq Number: 3078036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.04.19 14.24	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.04.19 14.24	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.04.19 14.24	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.04.19 14.24	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.04.19 14.24	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.04.19 14.24	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.04.19 14.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	02.04.19 14.24		
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.04.19 14.24		



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SW01**
Lab Sample Id: 612818-014

Matrix: Soil
Date Collected: 01.25.19 12.35

Date Received: 01.29.19 13.15
Sample Depth: 0 - 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: JYM

Analyst: JYM

Seq Number: 3077826

Date Prep: 02.01.19 17.43

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2400	10.0	mg/kg	02.02.19 03.10		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3078092

Date Prep: 02.02.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 17.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 17.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 17.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 17.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.02.19 17.09	
o-Terphenyl	84-15-1	94	%	70-135	02.02.19 17.09	



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SW01**
 Lab Sample Id: 612818-014

Matrix: Soil
 Date Collected: 01.25.19 12.35

Date Received: 01.29.19 13.15
 Sample Depth: 0 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 02.04.19 10.30

Basis: Wet Weight

Seq Number: 3078036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.04.19 14.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.04.19 14.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.04.19 14.43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.04.19 14.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.04.19 14.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.04.19 14.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.04.19 14.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.04.19 14.43		
4-Bromofluorobenzene	460-00-4	117	%	70-130	02.04.19 14.43		



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SW02** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-015 Date Collected: 01.25.19 12.40 Sample Depth: 0 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1180	10.0	mg/kg	02.02.19 03.19		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.02.19 17.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	31.5	14.9	mg/kg	02.02.19 17.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	19.4	14.9	mg/kg	02.02.19 17.28		1
Total TPH	PHC635	50.9	14.9	mg/kg	02.02.19 17.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.02.19 17.28	
o-Terphenyl	84-15-1	96	%	70-135	02.02.19 17.28	



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SW02**
 Lab Sample Id: 612818-015

Matrix: Soil
 Date Collected: 01.25.19 12.40

Date Received: 01.29.19 13.15
 Sample Depth: 0 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 02.04.19 10.30

Basis: Wet Weight

Seq Number: 3078036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.04.19 15.02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.04.19 15.02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.04.19 15.02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.04.19 15.02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.04.19 15.02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.04.19 15.02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.04.19 15.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.04.19 15.02		
4-Bromofluorobenzene	460-00-4	120	%	70-130	02.04.19 15.02		



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SW03** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-016 Date Collected: 01.25.19 12.45 Sample Depth: 0 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1260	10.0	mg/kg	02.02.19 03.27		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.02.19 17.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.02.19 17.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	02.02.19 17.48	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.02.19 17.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.02.19 17.48	
o-Terphenyl	84-15-1	94	%	70-135	02.02.19 17.48	



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SW03**
 Lab Sample Id: 612818-016

Matrix: Soil
 Date Collected: 01.25.19 12.45

Date Received: 01.29.19 13.15
 Sample Depth: 0 - 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3078036

Prep Method: SW5030B

% Moisture:

Date Prep: 02.04.19 10.30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.04.19 15.21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.04.19 15.21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.04.19 15.21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.04.19 15.21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.04.19 15.21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.04.19 15.21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.04.19 15.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	02.04.19 15.21		
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.04.19 15.21		



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SW04**
 Lab Sample Id: 612818-017

Matrix: Soil
 Date Collected: 01.25.19 12.50

Date Received: 01.29.19 13.15
 Sample Depth: 0 - 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: JYM

Analyst: JYM

Seq Number: 3077826

Date Prep: 02.01.19 17.43

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5020	10.0	mg/kg	02.02.19 03.36	E	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3078092

Date Prep: 02.02.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 18.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 18.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 18.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 18.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.02.19 18.07	
o-Terphenyl	84-15-1	97	%	70-135	02.02.19 18.07	



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LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SW04**
 Lab Sample Id: 612818-017

Matrix: Soil
 Date Collected: 01.25.19 12.50

Date Received: 01.29.19 13.15
 Sample Depth: 0 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 02.04.19 10.30

Basis: Wet Weight

Seq Number: 3078036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.04.19 16.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.04.19 16.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.04.19 16.58	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.04.19 16.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.04.19 16.58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.04.19 16.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.04.19 16.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	02.04.19 16.58		
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.04.19 16.58		



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SS07** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-018 Date Collected: 01.25.19 13.30 Sample Depth: 0.5 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	193	10.0	mg/kg	02.02.19 03.44		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 18.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	26.7	15.0	mg/kg	02.02.19 18.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 18.27	U	1
Total TPH	PHC635	26.7	15.0	mg/kg	02.02.19 18.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.02.19 18.27	
o-Terphenyl	84-15-1	93	%	70-135	02.02.19 18.27	



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: SS07
Lab Sample Id: 612818-018

Matrix: Soil
Date Collected: 01.25.19 13.30

Date Received: 01.29.19 13.15
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 02.04.19 10.30

Basis: Wet Weight

Seq Number: 3078036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.04.19 17.17	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.04.19 17.17	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.04.19 17.17	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.04.19 17.17	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.04.19 17.17	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.04.19 17.17	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.04.19 17.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.04.19 17.17		
4-Bromofluorobenzene	460-00-4	119	%	70-130	02.04.19 17.17		



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SS07A** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-019 Date Collected: 01.25.19 13.40 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	177	10.0	mg/kg	02.02.19 03.52		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 18.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	16.5	15.0	mg/kg	02.02.19 18.46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 18.46	U	1
Total TPH	PHC635	16.5	15.0	mg/kg	02.02.19 18.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.02.19 18.46	
o-Terphenyl	84-15-1	94	%	70-135	02.02.19 18.46	



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SS07A**
 Lab Sample Id: 612818-019

Matrix: Soil
 Date Collected: 01.25.19 13.40

Date Received: 01.29.19 13.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3078036

Prep Method: SW5030B

% Moisture:

Date Prep: 02.04.19 10.30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.04.19 17.36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.04.19 17.36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.04.19 17.36	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.04.19 17.36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.04.19 17.36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.04.19 17.36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.04.19 17.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	02.04.19 17.36		
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.04.19 17.36		



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SS08** Matrix: Soil Date Received: 01.29.19 13.15
 Lab Sample Id: 612818-020 Date Collected: 01.25.19 14.05 Sample Depth: 0.5 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: JYM % Moisture:
 Analyst: JYM Date Prep: 02.01.19 17.43 Basis: Wet Weight
 Seq Number: 3077826 SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	337	10.0	mg/kg	02.02.19 04.01		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.02.19 08.00 Basis: Wet Weight
 Seq Number: 3078092

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.02.19 19.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.02.19 19.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.02.19 19.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.02.19 19.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.02.19 19.06	
o-Terphenyl	84-15-1	94	%	70-135	02.02.19 19.06	



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SS08**
 Lab Sample Id: 612818-020

Matrix: Soil
 Date Collected: 01.25.19 14.05

Date Received: 01.29.19 13.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 02.04.19 10.30

Basis: Wet Weight

Seq Number: 3078036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.04.19 17.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.04.19 17.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.04.19 17.55	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.04.19 17.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.04.19 17.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.04.19 17.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.04.19 17.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	02.04.19 17.55		
1,4-Difluorobenzene	540-36-3	108	%	70-130	02.04.19 17.55		



Certificate of Analytical Results 612818

LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SS08A**
 Lab Sample Id: 612818-021

Matrix: Soil
 Date Collected: 01.25.19 14.10

Date Received: 01.29.19 13.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: JYM

Analyst: JYM

Seq Number: 3077882

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	201	10.0	mg/kg	02.02.19 13.16		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077562

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.31.19 02.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.31.19 02.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.31.19 02.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.31.19 02.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.31.19 02.56	
o-Terphenyl	84-15-1	93	%	70-135	01.31.19 02.56	



Certificate of Analytical Results 612818



LT Environmental, Inc., Arvada, CO

PLU 347H

Sample Id: **SS08A**
Lab Sample Id: 612818-021

Matrix: Soil
Date Collected: 01.25.19 14.10

Date Received: 01.29.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 02.04.19 10.30

Basis: Wet Weight

Seq Number: 3078036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.04.19 18.14	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.04.19 18.14	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.04.19 18.14	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.04.19 18.14	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.04.19 18.14	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.04.19 18.14	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.04.19 18.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	70-130	02.04.19 18.14		
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.04.19 18.14		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 347H

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3077826

MB Sample Id: 7670917-1-BLK

Matrix: Solid

LCS Sample Id: 7670917-1-BKS

Prep Method: E300P

Date Prep: 02.01.19

LCSD Sample Id: 7670917-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.880	100	102	102	102	102	80-120	0	20	mg/kg	02.01.19 23:58	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3077882

MB Sample Id: 7670918-1-BLK

Matrix: Solid

LCS Sample Id: 7670918-1-BKS

Prep Method: E300P

Date Prep: 02.01.19

LCSD Sample Id: 7670918-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	100	102	102	100	100	80-120	2	20	mg/kg	02.02.19 12:56	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3077826

Parent Sample Id: 612818-001

Matrix: Soil

MS Sample Id: 612818-001 S

Prep Method: E300P

Date Prep: 02.01.19

MSD Sample Id: 612818-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3830	100	3880	50	3870	40	80-120	0	20	mg/kg	02.02.19 00:24	X

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3077826

Parent Sample Id: 612818-011

Matrix: Soil

MS Sample Id: 612818-011 S

Prep Method: E300P

Date Prep: 02.01.19

MSD Sample Id: 612818-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1080	100	1170	90	1170	90	80-120	0	20	mg/kg	02.02.19 02:20	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3077882

Parent Sample Id: 612818-021

Matrix: Soil

MS Sample Id: 612818-021 S

Prep Method: E300P

Date Prep: 02.01.19

MSD Sample Id: 612818-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	201	100	294	93	295	94	80-120	0	20	mg/kg	02.02.19 13:24	

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



LT Environmental, Inc.

PLU 347H

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3077882

Parent Sample Id: 612904-001

Matrix: Soil

MS Sample Id: 612904-001 S

Prep Method: E300P

Date Prep: 02.01.19

MSD Sample Id: 612904-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4660	2000	6720	103	6730	104	80-120	0	20	mg/kg	02.04.19 11:12	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3077562

MB Sample Id: 7670775-1-BLK

Matrix: Solid

LCS Sample Id: 7670775-1-BKS

Prep Method: TX1005P

Date Prep: 01.30.19

LCSD Sample Id: 7670775-1-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	946	95	951	95	70-135	1	20	mg/kg	01.30.19 20:19	
Diesel Range Organics (DRO)	<8.13	1000	1080	108	1080	108	70-135	0	20	mg/kg	01.30.19 20:19	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		130		129		70-135	%	01.30.19 20:19
o-Terphenyl	109		124		121		70-135	%	01.30.19 20:19

Analytical Method: TPH by SW8015 Mod

Seq Number: 3078092

MB Sample Id: 7671015-1-BLK

Matrix: Solid

LCS Sample Id: 7671015-1-BKS

Prep Method: TX1005P

Date Prep: 02.02.19

LCSD Sample Id: 7671015-1-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	832	83	837	84	70-135	1	20	mg/kg	02.02.19 10:59	
Diesel Range Organics (DRO)	<8.13	1000	928	93	931	93	70-135	0	20	mg/kg	02.02.19 10:59	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		117		120		70-135	%	02.02.19 10:59
o-Terphenyl	104		97		99		70-135	%	02.02.19 10:59

Analytical Method: TPH by SW8015 Mod

Seq Number: 3077562

Parent Sample Id: 612644-021

Matrix: Soil

MS Sample Id: 612644-021 S

Prep Method: TX1005P

Date Prep: 01.30.19

MSD Sample Id: 612644-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	820	82	832	83	70-135	1	20	mg/kg	01.30.19 21:18	
Diesel Range Organics (DRO)	<8.13	1000	937	94	953	95	70-135	2	20	mg/kg	01.30.19 21:18	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		119		70-135	%	01.30.19 21:18
o-Terphenyl	105		109		70-135	%	01.30.19 21:18

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

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

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

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



LT Environmental, Inc.

PLU 347H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3078092

Parent Sample Id: 612818-001

Matrix: Soil

MS Sample Id: 612818-001 S

Prep Method: TX1005P

Date Prep: 02.02.19

MSD Sample Id: 612818-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	801	80	811	81	70-135	1	20	mg/kg	02.02.19 11:57	
Diesel Range Organics (DRO)	22.2	999	896	87	915	90	70-135	2	20	mg/kg	02.02.19 11:57	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		118		70-135	%	02.02.19 11:57
o-Terphenyl	102		102		70-135	%	02.02.19 11:57

Analytical Method: BTEX by EPA 8021B

Seq Number: 3077948

MB Sample Id: 7670960-1-BLK

Matrix: Solid

LCS Sample Id: 7670960-1-BKS

Prep Method: SW5030B

Date Prep: 01.31.19

LCSD Sample Id: 7670960-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000387	0.101	0.121	120	0.123	123	70-130	2	35	mg/kg	02.01.19 01:07	
Toluene	<0.000458	0.101	0.105	104	0.106	106	70-130	1	35	mg/kg	02.01.19 01:07	
Ethylbenzene	<0.000568	0.101	0.0973	96	0.0989	99	70-130	2	35	mg/kg	02.01.19 01:07	
m,p-Xylenes	<0.00102	0.201	0.192	96	0.196	98	70-130	2	35	mg/kg	02.01.19 01:07	
o-Xylene	<0.000346	0.101	0.0969	96	0.0990	99	70-130	2	35	mg/kg	02.01.19 01:07	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		106		107		70-130	%	02.01.19 01:07
4-Bromofluorobenzene	96		105		107		70-130	%	02.01.19 01:07

Analytical Method: BTEX by EPA 8021B

Seq Number: 3078036

MB Sample Id: 7671055-1-BLK

Matrix: Solid

LCS Sample Id: 7671055-1-BKS

Prep Method: SW5030B

Date Prep: 02.04.19

LCSD Sample Id: 7671055-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.115	115	0.112	111	70-130	3	35	mg/kg	02.04.19 09:12	
Toluene	<0.000456	0.100	0.101	101	0.0993	98	70-130	2	35	mg/kg	02.04.19 09:12	
Ethylbenzene	<0.000565	0.100	0.0959	96	0.0929	92	70-130	3	35	mg/kg	02.04.19 09:12	
m,p-Xylenes	<0.00101	0.200	0.191	96	0.187	93	70-130	2	35	mg/kg	02.04.19 09:12	
o-Xylene	<0.000344	0.100	0.0940	94	0.0926	92	70-130	2	35	mg/kg	02.04.19 09:12	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		107		103		70-130	%	02.04.19 09:12
4-Bromofluorobenzene	97		100		100		70-130	%	02.04.19 09:12

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

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

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

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



LT Environmental, Inc.

PLU 347H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3077948

Parent Sample Id: 612912-017

Matrix: Soil

MS Sample Id: 612912-017 S

Prep Method: SW5030B

Date Prep: 01.31.19

MSD Sample Id: 612912-017 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00208	0.104	0.0894	86	0.103	99	70-130	14	35	mg/kg	02.01.19 01:45	
Toluene	<0.000474	0.104	0.0667	64	0.0670	64	70-130	0	35	mg/kg	02.01.19 01:45	X
Ethylbenzene	<0.000588	0.104	0.0477	46	0.0437	42	70-130	9	35	mg/kg	02.01.19 01:45	X
m,p-Xylenes	<0.00106	0.208	0.0939	45	0.0843	41	70-130	11	35	mg/kg	02.01.19 01:45	X
o-Xylene	<0.000358	0.104	0.0492	47	0.0439	42	70-130	11	35	mg/kg	02.01.19 01:45	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		110		70-130	%	02.01.19 01:45
4-Bromofluorobenzene	111		108		70-130	%	02.01.19 01:45

Analytical Method: BTEX by EPA 8021B

Seq Number: 3078036

Parent Sample Id: 612818-021

Matrix: Soil

MS Sample Id: 612818-021 S

Prep Method: SW5030B

Date Prep: 02.04.19

MSD Sample Id: 612818-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0893	89	0.101	101	70-130	12	35	mg/kg	02.04.19 10:23	
Toluene	<0.000457	0.100	0.0785	79	0.0887	89	70-130	12	35	mg/kg	02.04.19 10:23	
Ethylbenzene	<0.000566	0.100	0.0732	73	0.0826	83	70-130	12	35	mg/kg	02.04.19 10:23	
m,p-Xylenes	<0.00102	0.200	0.147	74	0.166	83	70-130	12	35	mg/kg	02.04.19 10:23	
o-Xylene	<0.000345	0.100	0.0726	73	0.0816	82	70-130	12	35	mg/kg	02.04.19 10:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		107		70-130	%	02.04.19 10:23
4-Bromofluorobenzene	109		107		70-130	%	02.04.19 10:23

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

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

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

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



Chain of Custody

Work Order No: _____

61288

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
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 291-1111
Hobbs, NM (575-392-7550)

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Project Manager:		Adrian Baker	Bill to: (if different)	Kyle Litrell
Company Name:		LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:		3300 North A Street	Address:	3104 E Green Street
City, State ZIP:		Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:		432.704.5178	Email:	lbellell@ltenv.com

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

Project Name:		RU 34714		Turn Around	
Project Number:		288-4884		Routine ☒	
P.O. Number:				Rush:	
Sampler's Name:		Benjamin Bell		Due Date:	
SAMPLE RECEIPT		Temp Blank:		Yes ☐ No ☒	
Temperature (°C):		1511.4		Thermometer ID	
Received Intact:		Yes ☒ No ☐		PB	
Cooler Custody Seals:		Yes ☐ No ☒		Correction Factor:	
Sample Custody Seals:		Yes ☐ No ☒		Total Containers:	
Sample Identification		Matrix		Date Sampled	
FS 01		S		1/25/19	
FS 02		S		1030	
FS 03		S		1035	
FS 04		S		1040	
FS 05		S		1045	
FS 06		S		1050	
FS 07		S		1110	
FS 08		S		1115	
FS 09		S		1130	
FS 10		S		1135	
FS 11		S		1140	
Number of Containers		TPH (EPA 8015)		BTEX (EPA 0-8021)	
Chloride (EPA 300.0)					
TAT starts the day received by the lab, if received by 4:30pm		Sample Comments		TAT starts the day received by the lab, if received by 4:30pm	

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	1/28/19 @ 15:08	2 <i>[Signature]</i>	<i>[Signature]</i>	1/28/19 15:50
3			4		
5			6		



Chain of Custody

Work Order No:

612818

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

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Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432-704-5178	Email:	bellell@ltenv.com

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Unperfund ☐ State of Project:	
Reporting Level: ☐ I ☐ II ☐ III ☐ IV ☐ V	Deliverables: EDD ☐ ADAPT ☐ Other: ☐

Project Name:	PLU 3474	Turn Around	
Project Number:	288-4884	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Benjamin Bell	Due Date:	

SAMPLE RECEIPT		Temp Blank:	Yes ☐ No ☒	Wet Ice:	Yes ☐ No ☒
Temperature (°C):	15.114	Thermometer ID	EE		
Received In tact:	Yes ☒ No ☐	Correction Factor:	-0.1		
Cooler Custody Seals:	Yes ☐ No ☒ N/A	Total Containers:			
Sample Custody Seals:	Yes ☐ No ☒ N/A				

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST				Work Order Notes
					Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	
FSN	S	1/25/19	14:5	2'	1	X	X	X	Composite
FS12			1:50	2'		X	X	X	
FS13			1:55	2'		X	X	X	
SWD1			12:35	0-1'		X	X	X	
SWD2			12:40	0-1'		X	X	X	
SWD3			12:45	0-1'		X	X	X	Discrete
SWD4			12:50	0-1'		X	X	X	
SSD7			1:30	0.5'		X	X	X	
SSD7A			1:40	1'		X	X	X	
SSD8			1:45	0.5'		X	X	X	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 / Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	1/25/19 15:08	<i>[Signature]</i>	<i>[Signature]</i>	1/29/19 15:00



Chain of Custody

Work Order No.:

0012818

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0330 San Antonio, TX (210) 598-3333
Midland TX (432-704-5440) El Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
(576-392-7550) Phoenix,AZ (480-365-0900) Atlanta,GA (770-449-8800) Tampa, FL (81

www.xenco.com

Page 2 of 2

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.704.5178	Email:	bbellill@ltenv.com

Work Order Comments	
Program: UST/ST	☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:	
Reporting Level II	☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

[illegible]

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	1511.4				Thermometer ID		
Received Intact:	Yes	No			ES		
Cooler Custody Seals:	Yes	No			N/A	Correction Factor:	-0.1
Sample Custody Seals:	Yes	No			N/A	Total Containers:	

Number of Containers

A 8015)

PA 0=8021)

(EPA 300.0)

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

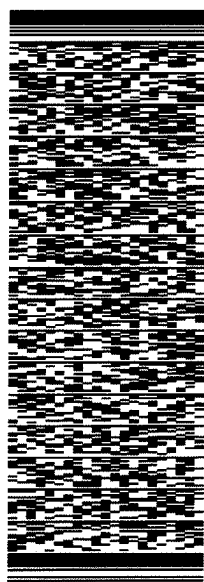
[illegible]

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM	Texas 11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO2	Na	Sr	Ti	Sn	U	V	Zn
<i>Circle Method(s) and Metal(s) to be analyzed</i>		TCLP / SPLP	6010:	8RCRA	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Ti	U											
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.																															

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	1/28/19 1508	2 <i>[Signature]</i>	<i>[Signature]</i>	1/28/19 1530
3			4		
5			6		

ORIGIN ID:CAOA	(5/5) 887-6245	SHIP DATE: 28JAN19
XENCO		ACTWTG: 45.00 LB
PAC N MAIL		CAD: 101813706/NET4100
910 W PIERCE ST		DIMS: 20X14X15 IN
CARLSBAD, NM 88220		BILL RECIPIENT
UNITED STATES US		
TO: HOLD FOR XENCO		
FEDEX EXPRESS SHIP CENTER		
FEDEX SHIP CENTER		
3600 COUNTY RD 1276 S		
MIDLAND TX 79711		
(800) 794-1296	REF:	
PO:	DEPT:	
555J20E3D123AD		

TRK#	7743 3120 8038	TUE - 29 JAN HOLD
0201		STANDARD OVERNIGHT
41 MAFA		HLD
	MAFA	
	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.

Inter-Office Shipment

IOS Number : **121592**

Date/Time: 01.30.2019 16:12

Created by: Katie Lowe

Please send report to: Jessica Kramer

Lab# From: **Midland**

Delivery Priority:

Address: 1211 W. Florida Ave, Midland TX 79701

Lab# To: **Houston**

Air Bill No.: 774354353240

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
612818-001	S	FS01	01.25.2019 10:30	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-002	S	FS02	01.25.2019 10:35	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-003	S	FS03	01.25.2019 10:40	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-004	S	FS04	01.25.2019 10:45	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-005	S	FS05	01.25.2019 11:05	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-006	S	FS06	01.25.2019 11:10	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-007	S	FS07	01.25.2019 11:15	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-008	S	FS08	01.25.2019 11:30	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-009	S	FS09	01.25.2019 11:35	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-010	S	FS10	01.25.2019 11:40	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-011	S	FS11	01.25.2019 11:45	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-012	S	FS12	01.25.2019 11:50	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-013	S	FS13	01.25.2019 11:55	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-014	S	SW01	01.25.2019 12:35	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-015	S	SW02	01.25.2019 12:40	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-016	S	SW03	01.25.2019 12:45	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-017	S	SW04	01.25.2019 12:50	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-018	S	SS07	01.25.2019 13:30	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-019	S	SS07A	01.25.2019 13:40	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-020	S	SS08	01.25.2019 14:05	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	
612818-021	S	SS08A	01.25.2019 14:10	E300	Inorganic Anions by EPA 300	02.04.2019	02/22/19	JKR	CL	

Inter-Office Shipment

IOS Number : 121592

Date/Time: 01.30.2019 16:12 Created by: Katie Lowe
Lab# From: **Midland** Delivery Priority:
Lab# To: **Houston** Air Bill No.: 774354353240

Please send report to: Jessica Kramer
Address: 1211 W. Florida Ave, Midland TX 79701
E-Mail: jessica.kramer@xenco.com

Inter Office Shipment or Sample Comments:

Relinquished By: 
Katie Lowe

Date Relinquished: 01/30/2019

Received By: 
Rene Vandenberghe

Date Received: 01/31/2019 10:00

Cooler Temperature: 2.8



Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 121592

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : hou-068

Sent By: Katie Lowe

Date Sent: 01/30/2019 04:12 PM

Received By: Rene Vandenberghe

Date Received: 01/31/2019 10:00 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 *Custody Seals Signed and dated for Containers/coolers	N/A
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

 Rene Vandenberghe

Date: 01/31/2019



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01/29/2019 01:15:00 PM

Work Order #: 612818

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	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: 01/29/2019

Checklist reviewed by:

Jessica Kramer

Date: 01/29/2019

ATTACHMENT 3: PHOTOTGRAPHIC LOG





View facing northeast of the release area.

Project: 012918137	XTO Energy, Inc. Poker Lake Unit 347H	 Advancing Opportunity
July 13, 2018	Photographic Log	



View facing north of the open excavation.

Project: 012918137	XTO Energy, Inc. Poker Lake Unit 347H	 Advancing Opportunity
January 25, 2019	Photographic Log	



View facing southeast of the open excavation.

Project: 012918137	XTO Energy, Inc. Poker Lake Unit 347H	 Advancing Opportunity
January 25, 2019	Photographic Log	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 190409

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 190409
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	Site will need to meet the requirements of 19.15.29.13 NMAC at time of plugging and abandonment.	2/24/2023