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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NRM1932238401
District RP	2RP-5699
Facility ID	
Application ID	pRM1932239200

Release Notification

ID3TN-191014-C-1410

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)*
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.096429 Longitude -103.864004
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 421	Site Type Well Site
Date Release Discovered 10/04/2019	API# *(if applicable)* 30-015-41033 (Poker Lake Unit 421 H)

Unit Letter	Section	Township	Range	County
P	27	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) 0.01	Volume Recovered (bbls) 0.0
☒ Produced Water	Volume Released (bbls) 6.02	Volume Recovered (bbls) 0.0
	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: Lease Operator found a release at the compressor suction line. A weld failed on the 4" poly line. Release impacted pad surface soil with nothing recovered. Additional third party resources have been retained to assist in the remediation.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NRM1932238401
District RP	2RP-5699
Facility ID	
Application ID	pRM1932239200

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

Initial Response

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

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

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

There were no free fluids contained via the use of berms or dikes, absorbent pads, or other containment devices.
No fluid remained to be removed.

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 10/14/2019

email: Kyle_Littrell@xtoenergy.com Telephone:

OCD Only

Received by: Ramona Marcus Date: 11/18/2019

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Page 3

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5699
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5699
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12/23/2019

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5699
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12/23/2019

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

OCD Only

Received by: Date:

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

Closure Approved by: Date:

Printed Name: Title:

LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

December 24, 2019

Mr. Mike Bratcher
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Closure Request
Poker Lake Unit 421
Remediation Permit Number 2RP-5699
Incident Number NRM1932238401
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment and soil sampling activities at the Poker Lake Unit 421 (Site) in Unit P, Section 27, Township 25 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to confirm the presence or absence of impacts to soil following the release of produced water and crude oil at the Site. Based on field observations, field screening, and laboratory analytical results from soil sampling activities, XTO is submitting this Closure Request and requesting no further action (NFA) for Remediation Permit (RP) Number 2RP-5699.

RELEASE BACKGROUND

On October 4, 2019, a four-inch poly line ruptured as a result of the weld failing on the compressor suction line at the Site. This resulted in the release of approximately 6.02 barrels (bbls) of produced water and 0.01 bbls of crude oil. The poly line was repaired by XTO personnel prior to remediation activities. No fluids were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (form C-141) on October 14, 2019 and was subsequently issued RP 2RP-5699.

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) Well C 202954, located approximately 1.66 miles southwest of the Site. The groundwater well has a

depth to groundwater of approximately 227 feet bgs and a total depth of 805 feet bgs. The closest continuously-flowing water or significant watercourse to the Site is an intermittent stream, located approximately 2,218 feet southeast of the Site and release extent. 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 potential karst area.

CLOSURE CRITERIA

Based on the results of the site characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

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

SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On October 4, 2019, LTE personnel evaluated the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected five preliminary soil samples (SS01 through SS05) within the release extent from a depth of approximately 0.5 feet bgs to assess for the presence or absence of soil impacts at the ground surface. Soil was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Based on laboratory analytical results for the preliminary soil samples SS01 through SS05, excavation activities did not appear warranted; however, additional assessment activities were

scheduled to further confirm the presence or absence of impacted soil. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 2.

On December 18, 2019, LTE personnel returned to the Site to oversee additional soil assessment activities. Five boreholes (BH01 through BH05) were advanced via hand-auger, to a depth of two feet bgs, within the release extent. Boreholes BH01 through BH05 were advanced at SS01 through SS05 preliminary soil sample locations, respectively.

Soil from the boreholes were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each borehole were documented on a lithologic/soil sampling log and are included as Attachment 1. The delineation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico. All boreholes were backfilled with the soil removed. The preliminary and delineation soil sample locations are depicted on Figure 2.

ANALYTICAL RESULTS

Laboratory analytical results indicated benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in soil samples SS01 through SS05 collected at approximately 0.5 ft bgs and in delineation borehole samples BH01 through BH05 collected at two feet bgs. Laboratory analytical results are presented on Figure 2 and summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

CONCLUSIONS

Preliminary soil samples SS01 through SS05 and delineation borehole samples BH01 through BH05 were collected from within the release extent from depths ranging from 0.5 feet to two feet bgs to assess for the presence or absence of soil impacts as a result of the produced water release on October 4, 2019. Laboratory analytical results for all soil samples indicated benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Additionally, field screening of soil indicated volatile aromatic hydrocarbons and chloride concentrations were not elevated and soil staining and petroleum hydrocarbon odors were not identified within the release extent.

Based on initial response efforts, absence of elevated field screening results, and soil sample laboratory analytical results compliant with the Closure Criteria, no impacted soil was identified and no soil excavation was warranted as a result of the produced water release. XTO requests NFA for RP Number 2RP-5699.

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

Sincerely,
LT ENVIRONMENTAL, INC.

Kalei Jennings
Project Environmental Scientist

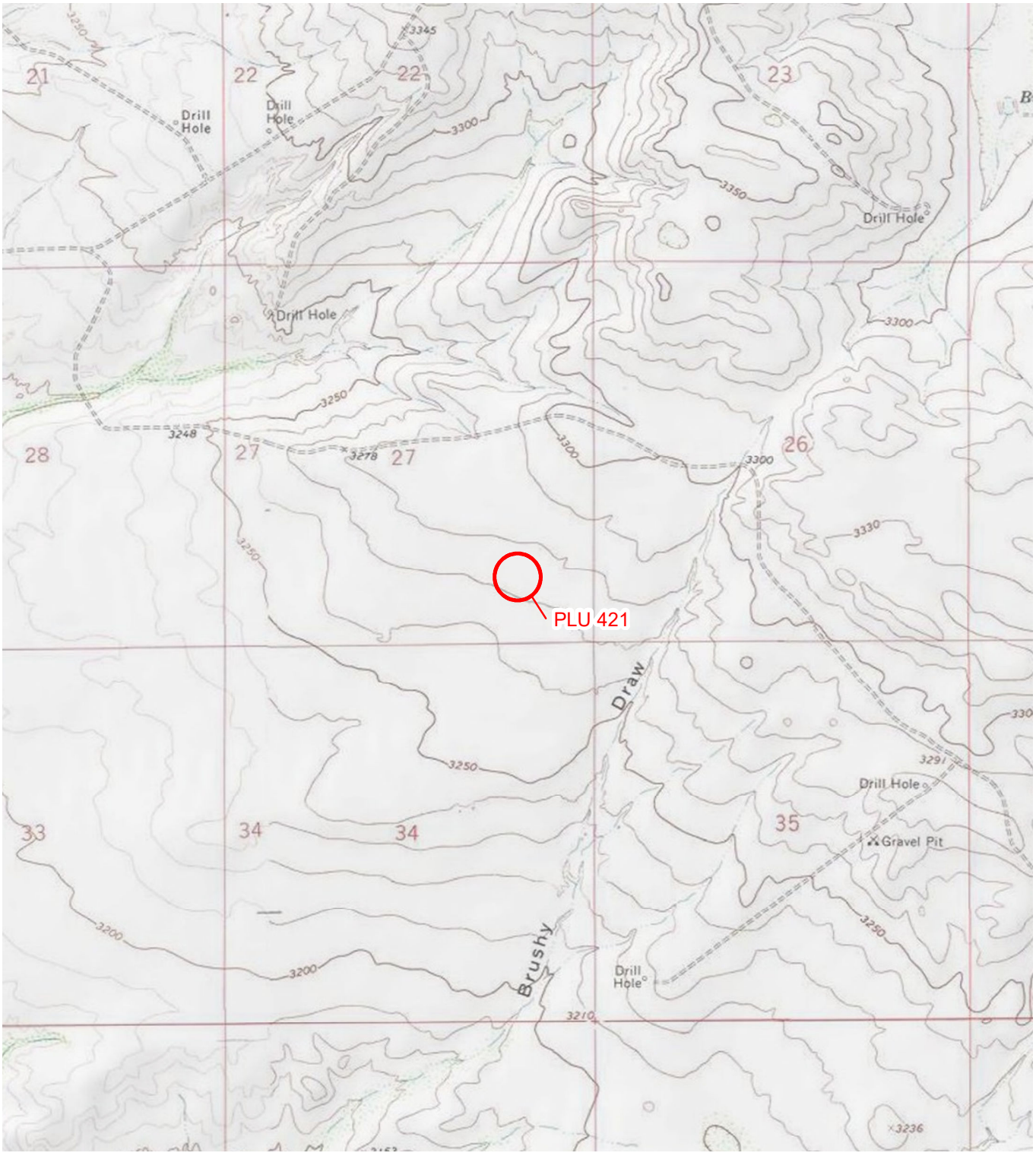
Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
United States Bureau of Land Management- New Mexico
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Appendices:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Lithologic/Soil Sampling Logs
Attachment 2	Photographic Log
Attachment 3	Laboratory Analytical Reports

FIGURES



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

Feet

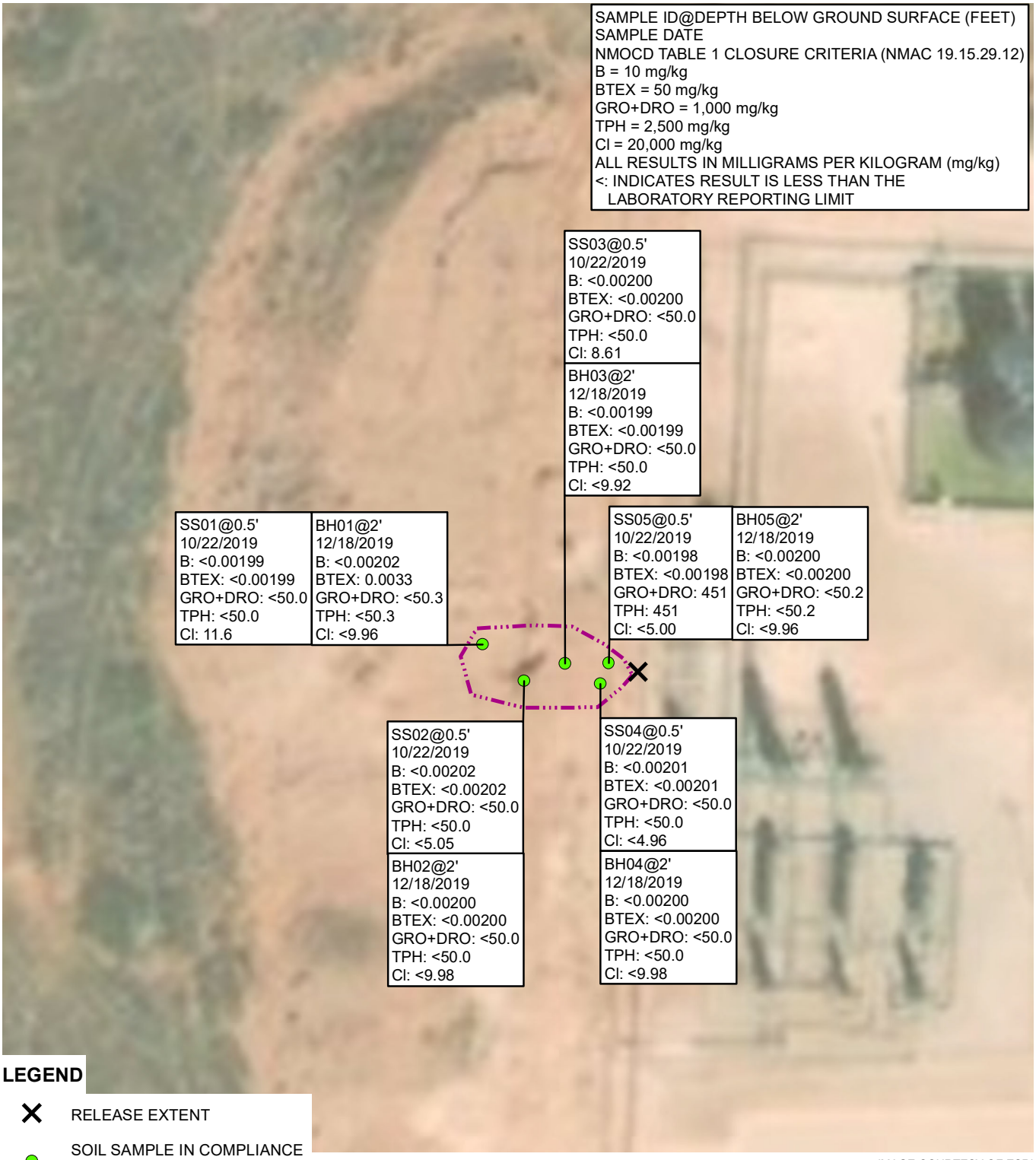
N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-5699

FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT 421
UNIT P SEC 27 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919253_PLU421 (10-4-19)\012919253_FIG01_SL_2019.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5699

FIGURE 2
SOIL SAMPLE LOCATIONS
POKER LAKE UNIT 421
UNIT P SEC 27 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919253_PLU421 (10-4-19)\012919253_FIG02_SS LOC_2019.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT 421
REMEDIATION PERMIT NUMBER 2RP-5699
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
SS01	0.5	10/22/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	11.6
SS02	0.5	10/22/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	<5.05
SS03	0.5	10/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	8.61
SS04	0.5	10/22/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	<4.96
SS05	0.5	10/22/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	451	<49.9	451	451	<5.00
BH01	2	12/18/2019	<0.00202	<0.00202	<0.00202	0.0033	0.0033	<50.3	<50.3	<50.3	<50.3	<50.3	<9.96
BH02	2	12/18/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98
BH03	2	12/18/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	<9.92
BH04	2	12/18/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98
BH05	2	12/18/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	<9.96

Notes:

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

ATTACHMENT 1: LITHOLOGIC/SOIL SAMPLING LOGS

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

Identifier: BH01	Date: 12/18/2019
Project Name: POKER LAKE UNIT 421	RP Number: 2RP-5699

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Ellie	Method: Hand Auger		
Lat/Long:	Field Screening: Chloride, TPH	Hole Diameter:	Total Depth: 2 ft

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
Dry	523	0	N	BH01	2	2 ft	SM	Sand, trace silt, no staining, no odor

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

Identifier: BH02		Date: 12/18/2019	
Project Name: POKER LAKE UNIT 421		RP Number: 2RP-5699	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Ellie	Method: Hand Auger	
Lat/Long:	Field Screening: Chloride, TPH	Hole Diameter:	Total Depth: 2 ft
Comments:			

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
Dry	<112	0.3	N	BH02	2	2 ft	SM	Sand, trace silt, no staining, no odor

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

Identifier: BH03	Date: 12/18/2019		
Project Name: POKER LAKE UNIT 421	RP Number: 2RP-5699		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Ellie	Method: Hand Auger	
Lat/Long:	Field Screening: Chloride, TPH	Hole Diameter:	Total Depth: 2 ft
Comments:			

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
Dry	<112	0	N	BH03	2	2 ft	SM	Sand, trace silt, no staining, no odor

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

Identifier: BH04	Date: 12/18/2019
Project Name: POKER LAKE UNIT 421	RP Number: 2RP-5699

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Ellie	Method: Hand Auger		
Lat/Long:	Field Screening: Chloride, TPH	Hole Diameter:	Total Depth: 2 ft

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
Dry	<112	0	N	BH04	2	2 ft	SM	caliche, no staining, no odor

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

Identifier: BH05	Date: 12/18/2019
Project Name: POKER LAKE UNIT 421	RP Number: 2RP-5699

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Ellie	Method: Hand Auger		
Lat/Long:	Field Screening: Chloride, TPH	Hole Diameter:	Total Depth: 2 ft

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
Dry	<112	0	N	BH05	2	2 ft	SM	caliche, no staining, no odor

ATTACHMENT 2: PHOTOGRAPHIC LOG

Western view of release area during site assessment activities.

Project: 012919253	XTO Energy, Inc. POKER LAKE UNIT 421	LTE Advancing Opportunity
October 22, 2019	Photographic Log	

Eastern view of release area during delineation soil sampling activities.

Project: 012919253	XTO Energy, Inc. POKER LAKE UNIT 421	LTE Advancing Opportunity
December 18, 2019	Photographic Log	

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

Analytical Report 640827

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 421 Battery

012919253

31-OCT-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

31-OCT-19

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

Reference: XENCO Report No(s): **640827**
PLU 421 Battery
Project Address:

Dan Moir:

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) 640827. 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. 640827 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

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 640827

LT Environmental, Inc., Arvada, CO

PLU 421 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	10-22-19 14:45	0.5 ft	640827-001
SS02	S	10-22-19 14:48	0.5 ft	640827-002
SS03	S	10-22-19 14:51	0.5 ft	640827-003
SS04	S	10-22-19 14:52	0.5 ft	640827-004
SS05	S	10-22-19 14:55	0.5 ft	640827-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 421 Battery

Project ID: *012919253*
Work Order Number(s): *640827*

Report Date: *31-OCT-19*
Date Received: *10/23/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3105707 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3105953 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 640827

LT Environmental, Inc., Arvada, CO

Project Name: PLU 421 Battery

Project Id: 012919253
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Oct-23-19 12:25 pm
Report Date: 31-OCT-19
Project Manager: Jessica Kramer

Analysis Requested																	
	Lab Id:	640827-001		640827-002		640827-003		640827-004		640827-005							
	Field Id:	SS01		SS02		SS03		SS04		SS05							
	Depth:	0.5- ft		0.5- ft		0.5- ft		0.5- ft		0.5- ft							
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL							
	Sampled:	Oct-22-19 14:45		Oct-22-19 14:48		Oct-22-19 14:51		Oct-22-19 14:52		Oct-22-19 14:55							
BTEX by EPA 8021B	***Extracted:***	Oct-28-19 11:45		Oct-28-19 11:45		Oct-28-19 11:45		Oct-29-19 09:00		Oct-29-19 09:00							
SUB: T104704400-19-19	***Analyzed:***	Oct-28-19 19:13		Oct-28-19 19:34		Oct-28-19 19:54		Oct-29-19 18:44		Oct-29-19 19:04							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198						
Toluene		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198						
Ethylbenzene		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198						
m,p-Xylenes		<0.00398	0.00398	<0.00403	0.00403	<0.00401	0.00401	<0.00402	0.00402	<0.00397	0.00397						
o-Xylene		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198						
Total Xylenes		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198						
Total BTEX		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198						
Chloride by EPA 300	***Extracted:***	Oct-24-19 14:30		Oct-24-19 14:30		Oct-24-19 14:30		Oct-24-19 14:30		Oct-24-19 14:30							
SUB: T104704400-19-19	***Analyzed:***	Oct-24-19 23:01		Oct-24-19 23:06		Oct-24-19 23:11		Oct-24-19 23:16		Oct-24-19 23:21							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		11.6	5.05	<5.05	5.05	8.61	5.01	<4.96	4.96	<5.00	5.00						
TPH by SW8015 Mod	***Extracted:***	Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00							
SUB: T104704400-19-19	***Analyzed:***	Oct-24-19 13:13		Oct-24-19 14:16		Oct-24-19 14:37		Oct-24-19 14:58		Oct-24-19 15:32							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9						
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	451	49.9						
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9						
Total GRO-DRO		<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	451	49.9						
Total TPH		<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	451	49.9						

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 640827

LT Environmental, Inc., Arvada, CO

PLU 421 Battery

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	10.23.19 12.25
Lab Sample Id:	640827-001	Date Collected:	10.22.19 14.45	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.6**	5.05	mg/kg	10.24.19 23.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105466			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 13.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 13.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 13.13	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 13.13	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 13.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	10.24.19 13.13	
o-Terphenyl	84-15-1	85	%	70-135	10.24.19 13.13	

Certificate of Analytical Results 640827

LT Environmental, Inc., Arvada, CO

PLU 421 Battery

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	10.23.19 12.25
Lab Sample Id:	640827-001	Date Collected:	10.22.19 14.45	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.28.19 11.45	Basis:	Wet Weight
Seq Number:	3105707			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.28.19 19.13	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.28.19 19.13	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.28.19 19.13	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.28.19 19.13	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.28.19 19.13	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.28.19 19.13	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.28.19 19.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	10.28.19 19.13	
4-Bromofluorobenzene	460-00-4	117	%	70-130	10.28.19 19.13	

Certificate of Analytical Results 640827

LT Environmental, Inc., Arvada, CO

PLU 421 Battery

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	10.23.19 12.25
Lab Sample Id:	640827-002	Date Collected:	10.22.19 14.48	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.05	5.05	mg/kg	10.24.19 23.06	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105466			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 14.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	10.24.19 14.16	
o-Terphenyl	84-15-1	83	%	70-135	10.24.19 14.16	

Certificate of Analytical Results 640827

LT Environmental, Inc., Arvada, CO

PLU 421 Battery

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	10.23.19 12.25
Lab Sample Id:	640827-002	Date Collected:	10.22.19 14.48	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.28.19 11.45	Basis:	Wet Weight
Seq Number:	3105707			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.28.19 19.34	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.28.19 19.34	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.28.19 19.34	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.28.19 19.34	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.28.19 19.34	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.28.19 19.34	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.28.19 19.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.28.19 19.34	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.28.19 19.34	

Certificate of Analytical Results 640827

LT Environmental, Inc., Arvada, CO

PLU 421 Battery

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	10.23.19 12.25
Lab Sample Id:	640827-003	Date Collected:	10.22.19 14.51	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.61**	5.01	mg/kg	10.24.19 23.11		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105466			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 14.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 14.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 14.37	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 14.37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 14.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	10.24.19 14.37	
o-Terphenyl	84-15-1	86	%	70-135	10.24.19 14.37	

Certificate of Analytical Results 640827

LT Environmental, Inc., Arvada, CO

PLU 421 Battery

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	10.23.19 12.25
Lab Sample Id:	640827-003	Date Collected:	10.22.19 14.51	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.28.19 11.45	Basis:	Wet Weight
Seq Number:	3105707			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.28.19 19.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.28.19 19.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.28.19 19.54	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.28.19 19.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.28.19 19.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.28.19 19.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.28.19 19.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	10.28.19 19.54	
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.28.19 19.54	

Certificate of Analytical Results 640827

LT Environmental, Inc., Arvada, CO

PLU 421 Battery

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	10.23.19 12.25
Lab Sample Id:	640827-004	Date Collected:	10.22.19 14.52	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	10.24.19 23.16	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105466			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 14.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	10.24.19 14.58	
o-Terphenyl	84-15-1	83	%	70-135	10.24.19 14.58	

Certificate of Analytical Results 640827

LT Environmental, Inc., Arvada, CO

PLU 421 Battery

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	10.23.19 12.25
Lab Sample Id:	640827-004	Date Collected:	10.22.19 14.52	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.29.19 09.00	Basis:	Wet Weight
Seq Number:	3105953			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.29.19 18.44	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.29.19 18.44	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.29.19 18.44	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.29.19 18.44	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.29.19 18.44	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.29.19 18.44	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.29.19 18.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.29.19 18.44	
4-Bromofluorobenzene	460-00-4	114	%	70-130	10.29.19 18.44	

Certificate of Analytical Results 640827

LT Environmental, Inc., Arvada, CO

PLU 421 Battery

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	10.23.19 12.25
Lab Sample Id:	640827-005	Date Collected:	10.22.19 14.55	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	10.24.19 23.21	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105466			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 15.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	**451**	49.9	mg/kg	10.24.19 15.32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 15.32	U	1
Total GRO-DRO	PHC628	**451**	49.9	mg/kg	10.24.19 15.32		1
Total TPH	PHC635	**451**	49.9	mg/kg	10.24.19 15.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	10.24.19 15.32	
o-Terphenyl	84-15-1	95	%	70-135	10.24.19 15.32	

Certificate of Analytical Results 640827

LT Environmental, Inc., Arvada, CO

PLU 421 Battery

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	10.23.19 12.25
Lab Sample Id:	640827-005	Date Collected:	10.22.19 14.55	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.29.19 09.00	Basis:	Wet Weight
Seq Number:	3105953			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.29.19 19.04	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.29.19 19.04	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.29.19 19.04	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.29.19 19.04	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.29.19 19.04	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.29.19 19.04	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.29.19 19.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.29.19 19.04	
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.29.19 19.04	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 640827

LT Environmental, Inc.

PLU 421 Battery

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105377 — Matrix: Solid — Date Prep: 10.24.19
MB Sample Id: 7688863-1-BLK — LCS Sample Id: 7688863-1-BKS — LCSD Sample Id: 7688863-1-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	265	106	264	106	90-110	0	20	mg/kg	10.24.19 21:06	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105377 — Matrix: Soil — Date Prep: 10.24.19
Parent Sample Id: 640781-009 — MS Sample Id: 640781-009 S — MSD Sample Id: 640781-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.4	250	303	112	305	113	90-110	1	20	mg/kg	10.24.19 21:21	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105377 — Matrix: Soil — Date Prep: 10.24.19
Parent Sample Id: 640781-020 — MS Sample Id: 640781-020 S — MSD Sample Id: 640781-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	633	250	922	116	930	119	90-110	1	20	mg/kg	10.24.19 22:31	X

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105466 — Matrix: Solid — Date Prep: 10.24.19
MB Sample Id: 7688841-1-BLK — LCS Sample Id: 7688841-1-BKS — LCSD Sample Id: 7688841-1-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)	<15.0	1000	983	98	981	98	70-135	0	20	mg/kg	10.24.19 12:32	
Diesel Range Organics (DRO)	<50.0	1000	927	93	1040	104	70-135	11	20	mg/kg	10.24.19 12:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		101		102		70-135	%	10.24.19 12:32
o-Terphenyl	99		101		100		70-135	%	10.24.19 12:32

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105466 — Matrix: Solid — Date Prep: 10.24.19
MB Sample Id: 7688841-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.24.19 12:11	

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

QC Summary 640827

LT Environmental, Inc.

PLU 421 Battery

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3105466 | Matrix: Soil | Date Prep: 10.24.19
Parent Sample Id: 640827-001 | MS Sample Id: 640827-001 S | MSD Sample Id: 640827-001 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)	<15.0	997	975	98	965	97	70-135	1	20	mg/kg	10.24.19 13:34	
Diesel Range Organics (DRO)	22.3	997	924	90	899	88	70-135	3	20	mg/kg	10.24.19 13:34	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		89		70-135	%	10.24.19 13:34
o-Terphenyl	86		84		70-135	%	10.24.19 13:34

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3105707 | Matrix: Solid | Date Prep: 10.28.19
MB Sample Id: 7689008-1-BLK | LCS Sample Id: 7689008-1-BKS | LCSD Sample Id: 7689008-1-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	0.101	101	0.102	102	70-130	1	35	mg/kg	10.28.19 15:33	
Toluene	<0.00200	0.100	0.0919	92	0.0942	94	70-130	2	35	mg/kg	10.28.19 15:33	
Ethylbenzene	<0.00200	0.100	0.0924	92	0.0945	95	70-130	2	35	mg/kg	10.28.19 15:33	
m,p-Xylenes	<0.00400	0.200	0.185	93	0.188	94	70-130	2	35	mg/kg	10.28.19 15:33	
o-Xylene	<0.00200	0.100	0.0874	87	0.0900	90	70-130	3	35	mg/kg	10.28.19 15:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		97		103		70-130	%	10.28.19 15:33
4-Bromofluorobenzene	95		101		110		70-130	%	10.28.19 15:33

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3105953 | Matrix: Solid | Date Prep: 10.29.19
MB Sample Id: 7689129-1-BLK | LCS Sample Id: 7689129-1-BKS | LCSD Sample Id: 7689129-1-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	0.102	102	0.113	113	70-130	10	35	mg/kg	10.29.19 10:45	
Toluene	<0.00200	0.100	0.101	101	0.108	108	70-130	7	35	mg/kg	10.29.19 10:45	
Ethylbenzene	<0.00200	0.100	0.105	105	0.109	109	70-130	4	35	mg/kg	10.29.19 10:45	
m,p-Xylenes	<0.00400	0.200	0.214	107	0.222	111	70-130	4	35	mg/kg	10.29.19 10:45	
o-Xylene	<0.00200	0.100	0.105	105	0.110	110	70-130	5	35	mg/kg	10.29.19 10:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		96		98		70-130	%	10.29.19 10:45
4-Bromofluorobenzene	93		103		103		70-130	%	10.29.19 10:45

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

QC Summary 640827

LT Environmental, Inc.

PLU 421 Battery

Analytical Method: BTEX by EPA 8021B
Prep Method: SW5030B
Seq Number: 3105707
Matrix: Soil
Date Prep: 10.28.19
Parent Sample Id: 641072-001
MS Sample Id: 641072-001 S
MSD Sample Id: 641072-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0728	73	0.0914	92	70-130	23	35	mg/kg	10.28.19 16:13	
Toluene	<0.00199	0.0996	0.0714	72	0.0839	84	70-130	16	35	mg/kg	10.28.19 16:13	
Ethylbenzene	<0.00199	0.0996	0.0620	62	0.0831	84	70-130	29	35	mg/kg	10.28.19 16:13	X
m,p-Xylenes	<0.00398	0.199	0.123	62	0.167	84	70-130	30	35	mg/kg	10.28.19 16:13	X
o-Xylene	<0.00199	0.0996	0.0606	61	0.0784	79	70-130	26	35	mg/kg	10.28.19 16:13	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		99		70-130	%	10.28.19 16:13
4-Bromofluorobenzene	99		111		70-130	%	10.28.19 16:13

Analytical Method: BTEX by EPA 8021B
Prep Method: SW5030B
Seq Number: 3105953
Matrix: Soil
Date Prep: 10.29.19
Parent Sample Id: 640965-001
MS Sample Id: 640965-001 S
MSD Sample Id: 640965-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0824	83	0.0615	62	70-130	29	35	mg/kg	10.29.19 11:25	X
Toluene	0.0114	0.0992	0.0813	70	0.0622	51	70-130	27	35	mg/kg	10.29.19 11:25	X
Ethylbenzene	0.0113	0.0992	0.0785	68	0.0563	45	70-130	33	35	mg/kg	10.29.19 11:25	X
m,p-Xylenes	0.0454	0.198	0.172	64	0.128	41	70-130	29	35	mg/kg	10.29.19 11:25	X
o-Xylene	0.0157	0.0992	0.0820	67	0.0604	45	70-130	30	35	mg/kg	10.29.19 11:25	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		100		70-130	%	10.29.19 11:25
4-Bromofluorobenzene	102		104		70-130	%	10.29.19 11:25

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

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: 640827

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc.	Company Name:	XTO Energy
Address:	508 W. Stevens St.	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:		Email:	Dan, Tacoma, Kalei, Rebecca, Carol

Work Order Comments

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

Project Name:	PLU 421 Battery	Turn Around	
Project Number:	012919253	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Kalei Jennings	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	1.0	Thermometer ID	
Received Intact:	Yes No	T-NM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	5

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	BTEX (EPA8021B)	TPH (SW8015 Mod)	Chloride (E300)	Work Order Notes
SS01	S	10-22-19	14:45	0.5'		X	X	X	
SS02	S	10-22-19	14:48	0.5'		X	X	X	TAT starts the day recevied by the lab, if received by 4:30pm
SS03	S	10-22-19	14:51	0.5'		X	X	X	
SS04	S	10-22-19	14:52	0.5'		X	X	X	Sample Comments
SS05	S	10-22-19	14:55	0.5'		X	X	X	

NAE

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	K Jennings		10/23/19 12:25	2		10/23/19 12:25
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **50702**

Date/Time: 10/23/19 14:08
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776797683616

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640827-001	S	SS01	10/22/19 14:45	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640827-001	S	SS01	10/22/19 14:45	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PH	
640827-001	S	SS01	10/22/19 14:45	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640827-002	S	SS02	10/22/19 14:48	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640827-002	S	SS02	10/22/19 14:48	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PH	
640827-002	S	SS02	10/22/19 14:48	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640827-003	S	SS03	10/22/19 14:51	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640827-003	S	SS03	10/22/19 14:51	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PH	
640827-003	S	SS03	10/22/19 14:51	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640827-004	S	SS04	10/22/19 14:52	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PH	
640827-004	S	SS04	10/22/19 14:52	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640827-004	S	SS04	10/22/19 14:52	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640827-005	S	SS05	10/22/19 14:55	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PH	
640827-005	S	SS05	10/22/19 14:55	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640827-005	S	SS05	10/22/19 14:55	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/23/2019

Received By: Brianna Teel

Date Received: 10/24/2019 11:18

Cooler Temperature: 0.6

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 50702

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

Sent By: Elizabeth McClellan **Date Sent:** 10/23/2019 02:08 PM

Received By: Brianna Teel **Date Received:** 10/24/2019 11:18 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.6	
#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: Brianna Teel Date: 10/24/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/23/2019 12:25:00 PM

Work Order #: 640827

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1	
#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?	**Yes**	
#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)?	**Yes**	Subbed to Midland
#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: Elizabeth McClellan Date: 10/23/2019

Checklist reviewed by: Jessica Kramer Date: 10/24/2019

Analytical Report 647023

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 421

012918253

20-DEC-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

20-DEC-19

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

Reference: XENCO Report No(s): **647023**
PLU 421
Project Address: Eddy County

Dan Moir:

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) 647023. 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. 647023 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
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Sample Cross Reference 647023

LT Environmental, Inc., Arvada, CO

PLU 421

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	12-18-19 00:00	2 ft	647023-001
BH02	S	12-18-19 00:00	2 ft	647023-002
BH03	S	12-18-19 00:00	2 ft	647023-003
BH04	S	12-18-19 00:00	2 ft	647023-004
BH05	S	12-18-19 00:00	2 ft	647023-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: PLU 421

Project ID:	*012918253*	Report Date:	*20-DEC-19*
Work Order Number(s):	*647023*	Date Received:	*12/19/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3111207 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 647023

LT Environmental, Inc., Arvada, CO

Project Name: PLU 421

Project Id: 012918253
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Thu Dec-19-19 09:41 am
Report Date: 20-DEC-19
Project Manager: Jessica Kramer

Analysis Requested																
	Lab Id:	647023-001		647023-002		647023-003		647023-004		647023-005						
	Field Id:	BH01		BH02		BH03		BH04		BH05						
	Depth:	2- ft		2- ft		2- ft		2- ft		2- ft						
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL						
	Sampled:	Dec-18-19 00:00		Dec-18-19 00:00		Dec-18-19 00:00		Dec-18-19 00:00		Dec-18-19 00:00						
BTEX by EPA 8021B	*Extracted:*	Dec-19-19 13:21		Dec-19-19 13:21		Dec-19-19 13:21		Dec-19-19 13:21		Dec-19-19 13:21						
	Analyzed:	Dec-19-19 15:58		Dec-19-19 16:17		Dec-19-19 16:36		Dec-19-19 16:55		Dec-19-19 17:15						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL					
Benzene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200					
Toluene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200					
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200					
m,p-Xylenes		<0.00404	0.00404	<0.00399	0.00399	<0.00398	0.00398	<0.00399	0.00399	<0.00399	0.00399					
o-Xylene		0.00330	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200					
Total Xylenes		0.00330	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200					
Total BTEX		0.00330	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200					
Chloride by EPA 300	*Extracted:*	Dec-19-19 14:16		Dec-19-19 14:16		Dec-19-19 14:16		Dec-19-19 14:16		Dec-19-19 14:16						
	Analyzed:	Dec-19-19 14:59		Dec-19-19 15:05		Dec-19-19 15:23		Dec-19-19 15:28		Dec-19-19 15:34						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL					
Chloride		<9.96	9.96	<9.98	9.98	<9.92	9.92	<9.98	9.98	<9.96	9.96					
TPH by SW8015 Mod	*Extracted:*	Dec-19-19 11:20		Dec-19-19 11:20		Dec-19-19 11:20		Dec-19-19 11:20		Dec-19-19 11:20						
	Analyzed:	Dec-19-19 14:27		Dec-19-19 14:27		Dec-19-19 14:47		Dec-19-19 14:47		Dec-19-19 15:06						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		<50.3	50.3	<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.2	50.2					
Diesel Range Organics (DRO)		<50.3	50.3	<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.2	50.2					
Motor Oil Range Hydrocarbons (MRO)		<50.3	50.3	<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.2	50.2					
Total GRO-DRO		<50.3	50.3	<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.2	50.2					
Total TPH		<50.3	50.3	<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.2	50.2					

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 647023

LT Environmental, Inc., Arvada, CO

PLU 421

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	12.19.19 09.41
Lab Sample Id:	647023-001	Date Collected:	12.18.19 00.00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.19.19 14.16	Basis:	Wet Weight
Seq Number:	3111196				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	12.19.19 14.59	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.19.19 11.20	Basis:	Wet Weight
Seq Number:	3111216				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.19.19 14.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.19.19 14.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.19.19 14.27	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.19.19 14.27	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.19.19 14.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	12.19.19 14.27	
o-Terphenyl	84-15-1	102	%	70-135	12.19.19 14.27	

Certificate of Analytical Results 647023

LT Environmental, Inc., Arvada, CO

PLU 421

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	12.19.19 09.41
Lab Sample Id:	647023-001	Date Collected:	12.18.19 00.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.19.19 13.21	Basis:	Wet Weight
Seq Number:	3111207				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.19.19 15.58	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.19.19 15.58	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.19.19 15.58	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.19.19 15.58	U	1
o-Xylene	95-47-6	**0.00330**	0.00202	mg/kg	12.19.19 15.58		1
Total Xylenes	1330-20-7	**0.00330**	0.00202	mg/kg	12.19.19 15.58		1
Total BTEX		**0.00330**	0.00202	mg/kg	12.19.19 15.58		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.19.19 15.58	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.19.19 15.58	

Certificate of Analytical Results 647023

LT Environmental, Inc., Arvada, CO

PLU 421

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	12.19.19 09.41
Lab Sample Id:	647023-002	Date Collected:	12.18.19 00.00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.19.19 14.16	Basis:	Wet Weight
Seq Number:	3111196				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	12.19.19 15.05	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.19.19 11.20	Basis:	Wet Weight
Seq Number:	3111216				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.19.19 14.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.19.19 14.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.19.19 14.27	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.19.19 14.27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.19.19 14.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.19.19 14.27	
o-Terphenyl	84-15-1	102	%	70-135	12.19.19 14.27	

Certificate of Analytical Results 647023

LT Environmental, Inc., Arvada, CO

PLU 421

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	12.19.19 09.41
Lab Sample Id:	647023-002	Date Collected:	12.18.19 00.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.19.19 13.21	Basis:	Wet Weight
Seq Number:	3111207				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.19.19 16.17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.19.19 16.17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.19.19 16.17	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.19.19 16.17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.19.19 16.17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.19.19 16.17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.19.19 16.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.19.19 16.17	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.19.19 16.17	

Certificate of Analytical Results 647023

LT Environmental, Inc., Arvada, CO

PLU 421

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	12.19.19 09.41
Lab Sample Id:	647023-003	Date Collected:	12.18.19 00.00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.19.19 14.16	Basis:	Wet Weight
Seq Number:	3111196				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	12.19.19 15.23	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.19.19 11.20	Basis:	Wet Weight
Seq Number:	3111216				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.19.19 14.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.19.19 14.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.19.19 14.47	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.19.19 14.47	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.19.19 14.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.19.19 14.47	
o-Terphenyl	84-15-1	104	%	70-135	12.19.19 14.47	

Certificate of Analytical Results 647023

LT Environmental, Inc., Arvada, CO

PLU 421

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	12.19.19 09.41
Lab Sample Id:	647023-003	Date Collected:	12.18.19 00.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.19.19 13.21	Basis:	Wet Weight
Seq Number:	3111207				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.19.19 16.36	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.19.19 16.36	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.19.19 16.36	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.19.19 16.36	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.19.19 16.36	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.19.19 16.36	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.19.19 16.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.19.19 16.36	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.19.19 16.36	

Certificate of Analytical Results 647023

LT Environmental, Inc., Arvada, CO

PLU 421

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	12.19.19 09.41
Lab Sample Id:	647023-004	Date Collected:	12.18.19 00.00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.19.19 14.16	Basis:	Wet Weight
Seq Number:	3111196				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	12.19.19 15.28	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.19.19 11.20	Basis:	Wet Weight
Seq Number:	3111216				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.19.19 14.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.19.19 14.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.19.19 14.47	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.19.19 14.47	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.19.19 14.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.19.19 14.47	
o-Terphenyl	84-15-1	104	%	70-135	12.19.19 14.47	

Certificate of Analytical Results 647023

LT Environmental, Inc., Arvada, CO

PLU 421

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	12.19.19 09.41
Lab Sample Id:	647023-004	Date Collected:	12.18.19 00.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.19.19 13.21	Basis:	Wet Weight
Seq Number:	3111207				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.19.19 16.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.19.19 16.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.19.19 16.55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.19.19 16.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.19.19 16.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.19.19 16.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.19.19 16.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.19.19 16.55	
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.19.19 16.55	

Certificate of Analytical Results 647023

LT Environmental, Inc., Arvada, CO

PLU 421

Sample Id:	**BH05**	Matrix:	Soil	Date Received:	12.19.19 09.41
Lab Sample Id:	647023-005	Date Collected:	12.18.19 00.00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.19.19 14.16	Basis:	Wet Weight
Seq Number:	3111196				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	12.19.19 15.34	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.19.19 11.20	Basis:	Wet Weight
Seq Number:	3111216				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.19.19 15.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.19.19 15.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.19.19 15.06	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.19.19 15.06	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.19.19 15.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	12.19.19 15.06	
o-Terphenyl	84-15-1	105	%	70-135	12.19.19 15.06	

Certificate of Analytical Results 647023

LT Environmental, Inc., Arvada, CO

PLU 421

Sample Id:	**BH05**	Matrix:	Soil	Date Received:	12.19.19 09.41
Lab Sample Id:	647023-005	Date Collected:	12.18.19 00.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.19.19 13.21	Basis:	Wet Weight
Seq Number:	3111207				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.19.19 17.15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.19.19 17.15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.19.19 17.15	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.19.19 17.15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.19.19 17.15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.19.19 17.15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.19.19 17.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.19.19 17.15	
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.19.19 17.15	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 647023

LT Environmental, Inc.

PLU 421

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3111196 Matrix: Solid Date Prep: 12.19.19
MB Sample Id: 7692886-1-BLK LCS Sample Id: 7692886-1-BKS LCSD Sample Id: 7692886-1-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	250	253	101	253	101	90-110	0	20	mg/kg	12.19.19 12:12	

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3111196 Matrix: Soil Date Prep: 12.19.19
Parent Sample Id: 647019-001 MS Sample Id: 647019-001 S MSD Sample Id: 647019-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	292	201	509	108	514	110	90-110	1	20	mg/kg	12.19.19 13:27	

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3111196 Matrix: Soil Date Prep: 12.19.19
Parent Sample Id: 647022-001 MS Sample Id: 647022-001 S MSD Sample Id: 647022-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1170	198	1390	111	1370	100	90-110	1	20	mg/kg	12.19.19 14:48	X

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Seq Number: 3111216 Matrix: Solid Date Prep: 12.19.19
MB Sample Id: 7692900-1-BLK LCS Sample Id: 7692900-1-BKS LCSD Sample Id: 7692900-1-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)	<50.0	1000	913	91	862	86	70-135	6	35	mg/kg	12.19.19 11:49	
Diesel Range Organics (DRO)	<50.0	1000	773	77	743	74	70-135	4	35	mg/kg	12.19.19 11:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		112		115		70-135	%	12.19.19 11:49
o-Terphenyl	95		108		104		70-135	%	12.19.19 11:49

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Seq Number: 3111216 Matrix: Solid Date Prep: 12.19.19
MB Sample Id: 7692900-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.19.19 11:29	

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

QC Summary 647023

LT Environmental, Inc.

PLU 421

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3111216 — Matrix: Soil — Date Prep: 12.19.19
Parent Sample Id: 647022-001 — MS Sample Id: 647022-001 S — MSD Sample Id: 647022-001 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)	<50.3	1010	890	88	948	95	70-135	6	35	mg/kg	12.19.19 12:08	
Diesel Range Organics (DRO)	52.6	1010	785	73	826	78	70-135	5	35	mg/kg	12.19.19 12:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		91		70-135	%	12.19.19 12:08
o-Terphenyl	84		84		70-135	%	12.19.19 12:08

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3111207 — Matrix: Solid — Date Prep: 12.19.19
MB Sample Id: 7692887-1-BLK — LCS Sample Id: 7692887-1-BKS — LCSD Sample Id: 7692887-1-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	0.0879	88	0.0918	92	70-130	4	35	mg/kg	12.19.19 13:57	
Toluene	<0.00200	0.100	0.0895	90	0.0941	94	70-130	5	35	mg/kg	12.19.19 13:57	
Ethylbenzene	<0.00200	0.100	0.0883	88	0.0932	93	71-129	5	35	mg/kg	12.19.19 13:57	
m,p-Xylenes	<0.00400	0.200	0.187	94	0.198	99	70-135	6	35	mg/kg	12.19.19 13:57	
o-Xylene	<0.00200	0.100	0.0944	94	0.0999	100	71-133	6	35	mg/kg	12.19.19 13:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		101		101		70-130	%	12.19.19 13:57
4-Bromofluorobenzene	116		115		117		70-130	%	12.19.19 13:57

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3111207 — Matrix: Soil — Date Prep: 12.19.19
Parent Sample Id: 647022-001 — MS Sample Id: 647022-001 S — MSD Sample Id: 647022-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0829	82	0.0830	82	70-130	0	35	mg/kg	12.19.19 14:35	
Toluene	0.00226	0.101	0.0844	81	0.0827	80	70-130	2	35	mg/kg	12.19.19 14:35	
Ethylbenzene	0.00668	0.101	0.0816	74	0.0863	79	71-129	6	35	mg/kg	12.19.19 14:35	
m,p-Xylenes	0.0145	0.202	0.183	83	0.169	76	70-135	8	35	mg/kg	12.19.19 14:35	
o-Xylene	0.0111	0.101	0.0898	78	0.0845	73	71-133	6	35	mg/kg	12.19.19 14:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	12.19.19 14:35
4-Bromofluorobenzene	113		119		70-130	%	12.19.19 14:35

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

Chain of Custody

Work Order No: 447023

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

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Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

Work Order Comments

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

Project Name:	PLU 421	Turn Around	
Project Number:	012919253	Routine	☐
P.O. Number:	Eddy County	Rush:	24hour
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	1.4	Thermometer ID	T-NM-007	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes (No) N/A	Total Containers:	5	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
BH01	S	12/18/19		2'	1	X	X	X
BH02								
BH03								
BH04								
BH05								

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

discrete

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Elizabeth Naka		12/19/19 @ 9:30	2			12/19/19 0941
3				4			
5				6			

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/19/2019 09:41:00 AM

Work Order #: 647023

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

Temperature Measuring device used : T-NM-007

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?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#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)?	**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: Elizabeth McClellan Date: 12/19/2019

Checklist reviewed by: Jessica Kramer Date: 12/20/2019