Advancing Opportunity

July 11, 2019

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

RE: Closure Request
Poker Lake Unit 153
Remediation Permit Number 2RP-3293
Eddy County, New Mexico

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing site assessment and soil sampling activities at the Poker Lake Unit 153 (Site) in Unit G, Section 6, Township 24 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 soil impacts resulting from a release of produced water within the tank battery containment berm at the Site. Based on field screening, field observations, and laboratory analytical results from soil sampling activities, XTO is submitting this Closure Report and requesting no further action for Remediation Permit (RP) Number 2RP-3293.

RELEASE BACKGROUND

On September 18, 2015, a pinhole leak developed in the swedge of the produced water tank load line, resulting in the release of 15 barrels (bbls) of produced water within the tank battery containment berm. A vacuum truck was dispatched to the Site to recover free-standing fluid; approximately 5 bbls of produced water were recovered from within the containment berm. The former operator reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on September 22, 2015, and was assigned RP Number 2RP-3293 (Attachment 1). Although this release occurred while the facility was operated by the previous operator, XTO is the current operator and is committed to addressing any releases that remain unresolved.

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018. The purpose of the Compliance Agreement is to ensure that reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The release is categorized as a Tier IV site in the Compliance Agreement,

LT ENVIRONMENTAL 25 YEARS ADVANCING OPPORTUNITY 1992 2017

meaning remediation of the release began before prior to August 14, 2018, the effective date of 19.15.29 NMAC, however remediation was ongoing.

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 water well data. The nearest permitted water well is C 02108, located approximately 7,309 feet south of the Site, with a depth to groundwater of 186 feet bgs and a total depth of 200 feet bgs. The water well is 60 feet lower in elevation than the Site. The nearest continuously flowing water or significant watercourse to the Site is an intermittent drainage located approximately 1,587 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located within a low potential karst area.

CLOSURE CRITERIA

Based on the results of the site characterization, the following NMOCD Table 1 closure criteria apply:

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

SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On April 30, 2019, LTE personnel was at the Site to assess for the presence or absence of soil impacts resulting from the historical release. In order to assess soil inside the tank battery containment berm around the point of release, LTE personnel advanced boreholes via hand auger inside the earthen berm. Boreholes PH01 through PH04 were advanced, utilizing a stainless steel hand auger, to a depth of 2 feet bgs. Soil samples were collected at two discrete depths from each borehole location. Soil samples PH01 through PH04 were collected at a depth of 1 foot bgs and soil samples PH01A through PH04A were collected at a depth of 2 feet bgs. LTE observed soil staining inside the containment berm and advanced PH02 in the center of the staining.

Photographic documentation was conducted during the site visit. Photographs of the release area are included in Attachment 2.

Soil samples were screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results from the four boreholes did not indicate elevated concentrations of volatile aromatic hydrocarbons or chloride. Stained soil was identified as shown in the photos. LTE collected samples from the stained area (PH02). Field screening results and observations for each borehole were logged on lithologic/soil sampling logs, which are included in Attachment 3.

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 (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0.

All boreholes were backfilled with the soil removed from the boreholes. The soil sample locations are depicted on Figure 2.

ANALYTICAL RESULTS

Laboratory analytical results indicated benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria in soil samples PH01 through PH04 collected at 1 foot bgs and PH01A through PH04A collected at 2 feet bgs. Laboratory analytical results are presented on Figure 2 and summarized in Table 1. The complete laboratory analytical report is included as Attachment 4.

CONCLUSIONS

Soil samples were collected within the release area from boreholes PH01 through PH04 at depths of 1 foot and 2 feet bgs, to assess for the presence or absence of soil impacts as a result of the September 18, 2015, release event. Field screening of soil from boreholes PH01 through PH04 indicated volatile aromatic hydrocarbons and chloride concentrations were not elevated. Laboratory analytical results for all borehole soil samples indicated benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria.

Based on the absence of elevated field screening results, no visual or olfactory observations indicative of soil impact, and soil sample laboratory analytical results compliant with the NMOCD Table 1 closure criteria, XTO is requesting no further action for RP Number 2RP-3293. An updated Form C-141 is included as Attachment 1.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Carol Ann Whaley
Staff Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Jim Amos, U.S. Bureau of Land Management
Mike Bratcher, NMOCD
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Attachments:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-3293)
Attachment 2	Photographic Log
Attachment 3	Lithologic / Soil Sample Logs
Attachment 4	Laboratory Analytical Reports

FIGURES

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-3293

FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT 153
UNIT G SEC 6 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918045_PLU 153\012918045_FIG01_SL_2018.mxd

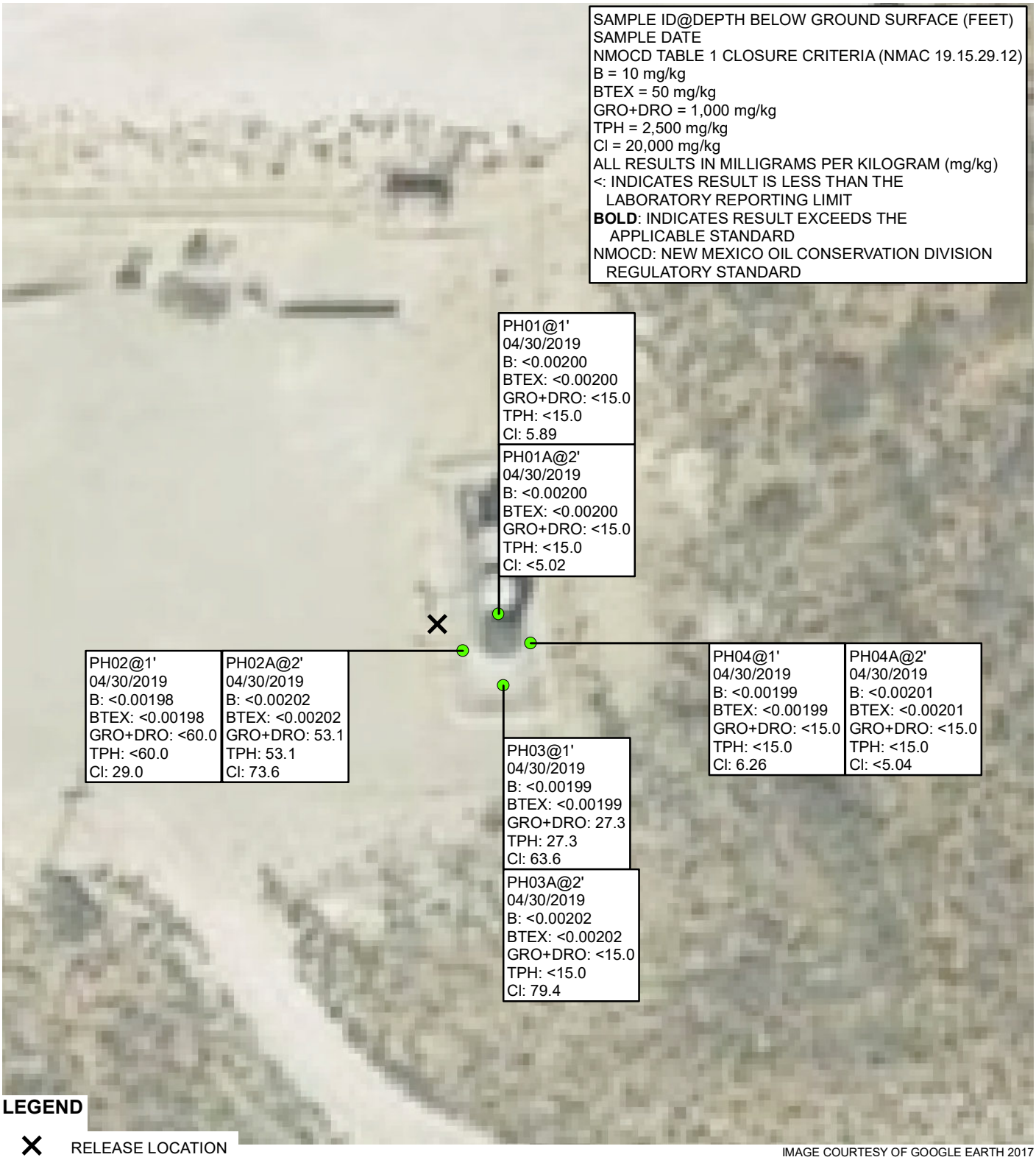

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT 153
UNIT G SEC 6 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918045_PLU 153\012918045_FIG02_DELINEATION_3293.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT 153
REMEDIATION PERMIT NUMBER 2RP-3293
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)
PH01	1	04/30/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	5.89
PH02	1	04/30/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	60.0	<14.9	60.0	60.0	29.0
PH03	1	04/30/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	27.3	<15.0	27.3	27.3	63.6
PH04	1	04/30/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	6.26
PH01A	2	04/30/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.02
PH02A	2	04/30/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	53.1	<15.0	53.1	53.1	73.6
PH03A	2	04/30/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	79.4
PH04A	2	04/30/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<5.04
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

ORO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

mg/kg - milligrams per kilogram

< - indicates result is below laboratory reporting limits

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

TPH - total petroleum hydrocarbons

NE - not established

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-3293)

NM OIL CONSERVATION
ARTESIA DISTRICT
SEP 22 2015
RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1526657039

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. 260737	Contact: Bradley Blevins
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: PLU 153	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 3001531412

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	6	24s	30E	1830		1980		Eddy

Latitude: 32.248582 **Longitude:** 103.918065

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 15 barrels	Volume Recovered: 5 barrels
Source of Release: Swedge on produced water tank	Date and Hour of Occurrence: 9-18-15 @1:00pm	Date and Hour of Discovery: 9-18-15 @ 1:30pm
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
BOPCO EHS was notified of a spill that occurred when a pin hole developed in the swedge of the produced water tank load line. A vacuum truck was called to the location and recovered 5 barrels from within the earth berm.

Describe Area Affected and Cleanup Action Taken.*
A vacuum truck was called to the location and was able to recover 5 barrels of produced water from within the carth berm.

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

Signature: Bradley Blevins

Printed Name: Bradley Blevins

Title: Assistant Remediation Foreman

E-mail Address: bblevins@basspet.com

Date: 9-22-15 Phone: 432-214-3704

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By Mike Bratcher

Approval Date: 9/23/15 Expiration Date: N/A

Conditions of Approval: Attached ☐

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 10/25/15

2RP-3293

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	2RP-3293
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.248582 Longitude -103.918065
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit 153	Site Type Exploration and Production
Date Release Discovered 09/18/2015	API# *(if applicable)* 30-015-31412

Unit Letter	Section	Township	Range	County
G	6	24S	30E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 15	Volume Recovered (bbls) 5
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A release occurred due to a pin hole that developed in the swedge of the produced water tank load line. A vacuum truck was called to the location and recovered 5 barrels from within the earthen berm.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3293
Facility ID	
Application ID	

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

Initial Response

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

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 7/11/2019

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

OCD Only

Received by: Date:

Incident ID	
District RP	2RP-3293
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-3293
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: _____7/11/2019_____

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-3293
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: 7/11/2019

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: Brittany Hall Date: 2/24/2023

Printed Name: Brittany Hall Title: Environmental Specialist

ATTACHMENT 2: PHOTOGRAPHIC LOG

Southeastern view of tank battery containment during delineation activities.

Project: 012918045	XTO Energy, Inc. Poker Lake Unit 153	Advancing Opportunity
April 30, 2019	Photographic Log	

Northern view of the point of release and release area during delineation activities.

Project: 012918045	XTO Energy, Inc. Poker Lake Unit 153	LTE Advancing Opportunity
April 30, 2019	Photographic Log	

ATTACHMENT 3: LITHOLOGIC SOIL SAMPLE LOGS

LT Environmental, Inc. *508 West Stevens Street* *Carlsbad, New Mexico 88220* *Compliance · Engineering · Remediation*		Identifier: PH01	Date: 4/30/2019
		Project Name: Poker Lake Unit 153	RP Number: 2RP-3293
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: GG	Method: hand auger
Lat/Long:	Field Screening: PID/HACH	Hole Diameter: NA	Total Depth: 2'
Comments:			

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
moist	<180	3.3	no	PH01	0	1'	SM	brown sandy loam, white caliche, low plasticity
moist	<180	3.3	no	PH01A	2	2'	SM	brown sandy loam, low plasticity
								Total Depth 2 foot bgs
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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

Identifier:	Date:
PH02	4/30/2019
Project Name:	RP Number:
Poker Lake Unit 153	2RP-3293

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: GG	Method: hand auger

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
	PID/HACH	NA	2'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
moist	<180	1.3	yes	PH02		1'	SM	brown sandy loam, white caliche, low plasticity
moist	<180	3.5	no	PH02A	2	2'	SM	brown sandy loam, low plasticity
								Total Depth 2 foot bgs

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

Identifier:	Date:
PH03	4/30/2019
Project Name:	RP Number:
Poker Lake Unit 153	2RP-3293

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: GG	Method: hand auger

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
	PID/HACH	NA	2'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
moist	262	3.6	no	PH03		1'	SM	brown sandy loam, white caliche, low plasticity
moist	<180	2.9	no	PH03A	2	2'	SM	brown sandy loam, low plasticity
								Total Depth 2 foot bgs

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

Identifier:	Date:
PH04	4/30/2019
Project Name:	RP Number:
Poker Lake Unit 153	2RP-3293

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: GG	Method: hand auger

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
	PID/HACH	NA	2'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
moist	<180	0.4	no	PH04		1'	SM	brown sandy loam, white caliche, low plasticity
moist	<180	0.8	no	PH04A	2	2'	SM	brown sandy loam, low plasticity
								Total Depth 2 foot bgs

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 623109

for

LT Environmental, Inc.

Project Manager: Ashley Ager

PLU 153

09-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

09-MAY-19

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

Reference: XENCO Report No(s): **623109**
PLU 153
Project Address: Delaware Basin

Ashley Ager:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 623109. 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. 623109 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 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	04-30-19 12:00	1 ft	623109-001
PH01A	S	04-30-19 12:05	2 ft	623109-002
PH02	S	04-30-19 13:30	1 ft	623109-003
PH02A	S	04-30-19 13:40	2 ft	623109-004
PH03	S	04-30-19 14:00	1 ft	623109-005
PH03A	S	04-30-19 14:10	2 ft	623109-006
PH04	S	04-30-19 14:20	1 ft	623109-007
PH04A	S	04-30-19 14:25	2 ft	623109-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 153

Project ID:
Work Order Number(s): *623109*

Report Date: *09-MAY-19*
Date Received: *05/03/2019*

Sample receipt non conformances and comments:

Client requested re run for chlorides on sample 006, re run data imported. NEW VERSION GENERATED. JK 05/09/19

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3088027 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 623109-002.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 623109

LT Environmental, Inc., Arvada, CO

Project Name: PLU 153

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

Date Received in Lab: Fri May-03-19 11:17 am
Report Date: 09-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	623109-001		623109-002		623109-003		623109-004		623109-005		623109-006	
	Field Id:	PH01		PH01A		PH02		PH02A		PH03		PH03A	
	Depth:	1- ft		2- ft		1- ft		2- ft		1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-30-19 12:00		Apr-30-19 12:05		Apr-30-19 13:30		Apr-30-19 13:40		Apr-30-19 14:00		Apr-30-19 14:10	
BTEX by EPA 8021B	***Extracted:***	May-03-19 11:30		May-03-19 11:30		May-03-19 11:30		May-03-19 11:30		May-03-19 11:30		May-03-19 11:30	
	Analyzed:	May-03-19 15:48		May-03-19 16:07		May-03-19 16:26		May-03-19 17:40		May-03-19 17:59		May-03-19 18:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202
m,p-Xylenes		<0.00399	0.00399	<0.00399	0.00399	<0.00397	0.00397	<0.00403	0.00403	<0.00398	0.00398	<0.00404	0.00404
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	May-03-19 15:00		May-03-19 15:00		May-03-19 15:00		May-03-19 15:00		May-03-19 15:00		May-08-19 09:00	
	Analyzed:	May-04-19 11:53		May-04-19 12:15		May-04-19 12:22		May-04-19 12:30		May-04-19 12:37		May-08-19 15:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5.89	5.00	<5.02	5.02	29.0	24.9	73.6	5.00	63.6	25.0	79.4	5.01
TPH by SW8015 Mod	***Extracted:***	May-04-19 08:00		May-04-19 08:00		May-04-19 08:00		May-04-19 08:00		May-04-19 08:00		May-04-19 08:00	
	Analyzed:	May-04-19 17:15		May-04-19 18:16		May-04-19 18:37		May-04-19 18:58		May-04-19 19:18		May-04-19 19:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	60.0	14.9	53.1	15.0	27.3	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	60.0	14.9	53.1	15.0	27.3	15.0	<15.0	15.0
Total GRO-DRO		<15.0	15.0	<15.0	15.0	60.0	14.9	53.1	15.0	27.3	15.0	<15.0	15.0

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

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 623109

LT Environmental, Inc., Arvada, CO

Project Name: PLU 153

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

Date Received in Lab: Fri May-03-19 11:17 am
Report Date: 09-MAY-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	623109-007		623109-008					
	Field Id:	PH04		PH04A					
	Depth:	1- ft		2- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Apr-30-19 14:20		Apr-30-19 14:25					
BTEX by EPA 8021B	***Extracted:***	May-03-19 11:30		May-03-19 11:30					
	Analyzed:	May-03-19 18:49		May-03-19 19:08					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00201	0.00201				
Toluene		<0.00199	0.00199	<0.00201	0.00201				
Ethylbenzene		<0.00199	0.00199	<0.00201	0.00201				
m,p-Xylenes		<0.00398	0.00398	<0.00402	0.00402				
o-Xylene		<0.00199	0.00199	<0.00201	0.00201				
Total Xylenes		<0.00199	0.00199	<0.00201	0.00201				
Total BTEX		<0.00199	0.00199	<0.00201	0.00201				
Chloride by EPA 300	***Extracted:***	May-03-19 15:00		May-03-19 15:00					
	Analyzed:	May-04-19 13:15		May-04-19 13:23					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		6.26	5.00	<5.04	5.04				
TPH by SW8015 Mod	***Extracted:***	May-04-19 08:00		May-04-19 08:00					
	Analyzed:	May-04-19 19:59		May-04-19 20:20					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				
Total GRO-DRO		<15.0	15.0	<15.0	15.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-001	Date Collected:	04.30.19 12.00	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.03.19 15.00	Basis:	Wet Weight
Seq Number:	3088000				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.89**	5.00	mg/kg	05.04.19 11.53		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.19 08.00	Basis:	Wet Weight
Seq Number:	3088043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.04.19 17.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.04.19 17.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.04.19 17.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.04.19 17.15	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.04.19 17.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	05.04.19 17.15	
o-Terphenyl	84-15-1	105	%	70-135	05.04.19 17.15	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-001	Date Collected:	04.30.19 12.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.19 11.30	Basis:	Wet Weight
Seq Number:	3088027				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.03.19 15.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.03.19 15.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.03.19 15.48	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.03.19 15.48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.03.19 15.48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.03.19 15.48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.03.19 15.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.03.19 15.48	
4-Bromofluorobenzene	460-00-4	116	%	70-130	05.03.19 15.48	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-002	Date Collected:	04.30.19 12.05	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.03.19 15.00	Basis:	Wet Weight
Seq Number:	3088000				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.02	5.02	mg/kg	05.04.19 12.15	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.19 08.00	Basis:	Wet Weight
Seq Number:	3088043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.04.19 18.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.04.19 18.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.04.19 18.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.04.19 18.16	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.04.19 18.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	05.04.19 18.16	
o-Terphenyl	84-15-1	108	%	70-135	05.04.19 18.16	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-002	Date Collected:	04.30.19 12.05	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.19 11.30	Basis:	Wet Weight
Seq Number:	3088027				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.03.19 16.07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.03.19 16.07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.03.19 16.07	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.03.19 16.07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.03.19 16.07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.03.19 16.07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.03.19 16.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	149	%	70-130	05.03.19 16.07	**
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.03.19 16.07	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-003	Date Collected:	04.30.19 13.30	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.03.19 15.00	Basis:	Wet Weight
Seq Number:	3088000				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.0**	24.9	mg/kg	05.04.19 12.22		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.19 08.00	Basis:	Wet Weight
Seq Number:	3088043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.04.19 18.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	**60.0**	14.9	mg/kg	05.04.19 18.37		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.04.19 18.37	U	1
Total TPH	PHC635	**60.0**	14.9	mg/kg	05.04.19 18.37		1
Total GRO-DRO	PHC628	**60.0**	14.9	mg/kg	05.04.19 18.37		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.04.19 18.37	
o-Terphenyl	84-15-1	105	%	70-135	05.04.19 18.37	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-003	Date Collected:	04.30.19 13.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.19 11.30	Basis:	Wet Weight
Seq Number:	3088027				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.03.19 16.26	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.03.19 16.26	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.03.19 16.26	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.03.19 16.26	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.03.19 16.26	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.03.19 16.26	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.03.19 16.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	05.03.19 16.26	
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.03.19 16.26	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-004	Date Collected:	04.30.19 13.40	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.03.19 15.00	Basis:	Wet Weight
Seq Number:	3088000				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**73.6**	5.00	mg/kg	05.04.19 12.30		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.19 08.00	Basis:	Wet Weight
Seq Number:	3088043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.04.19 18.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	**53.1**	15.0	mg/kg	05.04.19 18.58		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.04.19 18.58	U	1
Total TPH	PHC635	**53.1**	15.0	mg/kg	05.04.19 18.58		1
Total GRO-DRO	PHC628	**53.1**	15.0	mg/kg	05.04.19 18.58		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.04.19 18.58	
o-Terphenyl	84-15-1	99	%	70-135	05.04.19 18.58	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-004	Date Collected:	04.30.19 13.40	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.19 11.30	Basis:	Wet Weight
Seq Number:	3088027				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.03.19 17.40	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.03.19 17.40	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.03.19 17.40	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.03.19 17.40	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.03.19 17.40	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.03.19 17.40	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.03.19 17.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	05.03.19 17.40	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.03.19 17.40	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-005	Date Collected:	04.30.19 14.00	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.03.19 15.00	Basis:	Wet Weight
Seq Number:	3088000				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**63.6**	25.0	mg/kg	05.04.19 12.37		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.19 08.00	Basis:	Wet Weight
Seq Number:	3088043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.04.19 19.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	**27.3**	15.0	mg/kg	05.04.19 19.18		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.04.19 19.18	U	1
Total TPH	PHC635	**27.3**	15.0	mg/kg	05.04.19 19.18		1
Total GRO-DRO	PHC628	**27.3**	15.0	mg/kg	05.04.19 19.18		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	05.04.19 19.18	
o-Terphenyl	84-15-1	116	%	70-135	05.04.19 19.18	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-005	Date Collected:	04.30.19 14.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.19 11.30	Basis:	Wet Weight
Seq Number:	3088027				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.03.19 17.59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.03.19 17.59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.03.19 17.59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.03.19 17.59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.03.19 17.59	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.03.19 17.59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.03.19 17.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	05.03.19 17.59	
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.03.19 17.59	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-006	Date Collected:	04.30.19 14.10	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.08.19 09.00	Basis:	Wet Weight
Seq Number:	3088366				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**79.4**	5.01	mg/kg	05.08.19 15.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.19 08.00	Basis:	Wet Weight
Seq Number:	3088043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.04.19 19.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.04.19 19.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.04.19 19.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.04.19 19.39	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.04.19 19.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.04.19 19.39	
o-Terphenyl	84-15-1	100	%	70-135	05.04.19 19.39	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-006	Date Collected:	04.30.19 14.10	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.19 11.30	Basis:	Wet Weight
Seq Number:	3088027				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.03.19 18.18	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.03.19 18.18	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.03.19 18.18	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.03.19 18.18	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.03.19 18.18	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.03.19 18.18	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.03.19 18.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.03.19 18.18	
4-Bromofluorobenzene	460-00-4	124	%	70-130	05.03.19 18.18	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-007	Date Collected:	04.30.19 14.20	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.03.19 15.00	Basis:	Wet Weight
Seq Number:	3088000				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.26**	5.00	mg/kg	05.04.19 13.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.19 08.00	Basis:	Wet Weight
Seq Number:	3088043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.04.19 19.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.04.19 19.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.04.19 19.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.04.19 19.59	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.04.19 19.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	05.04.19 19.59	
o-Terphenyl	84-15-1	97	%	70-135	05.04.19 19.59	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-007	Date Collected:	04.30.19 14.20	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.19 11.30	Basis:	Wet Weight
Seq Number:	3088027				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.03.19 18.49	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.03.19 18.49	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.03.19 18.49	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.03.19 18.49	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.03.19 18.49	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.03.19 18.49	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.03.19 18.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.03.19 18.49	
4-Bromofluorobenzene	460-00-4	125	%	70-130	05.03.19 18.49	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-008	Date Collected:	04.30.19 14.25	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.03.19 15.00	Basis:	Wet Weight
Seq Number:	3088000				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.04	5.04	mg/kg	05.04.19 13.23	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.19 08.00	Basis:	Wet Weight
Seq Number:	3088043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.04.19 20.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.04.19 20.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.04.19 20.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.04.19 20.20	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.04.19 20.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.04.19 20.20	
o-Terphenyl	84-15-1	103	%	70-135	05.04.19 20.20	

Certificate of Analytical Results 623109

LT Environmental, Inc., Arvada, CO

PLU 153

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	05.03.19 11.17
Lab Sample Id:	623109-008	Date Collected:	04.30.19 14.25	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.19 11.30	Basis:	Wet Weight
Seq Number:	3088027				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.03.19 19.08	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.03.19 19.08	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.03.19 19.08	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.03.19 19.08	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.03.19 19.08	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.03.19 19.08	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.03.19 19.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.03.19 19.08	
4-Bromofluorobenzene	460-00-4	119	%	70-130	05.03.19 19.08	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 623109

LT Environmental, Inc.

PLU 153

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088000 — Matrix: Solid — Date Prep: 05.03.19
MB Sample Id: 7677139-1-BLK — LCS Sample Id: 7677139-1-BKS — LCSD Sample Id: 7677139-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.59	250	270	108	272	109	90-110	1	20	mg/kg	05.04.19 11:39	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088366 — Matrix: Solid — Date Prep: 05.08.19
MB Sample Id: 7677368-1-BLK — LCS Sample Id: 7677368-1-BKS — LCSD Sample Id: 7677368-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	253	101	254	102	90-110	0	20	mg/kg	05.08.19 13:20	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088000 — Matrix: Soil — Date Prep: 05.03.19
Parent Sample Id: 623109-001 — MS Sample Id: 623109-001 S — MSD Sample Id: 623109-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5.89	250	274	107	274	107	90-110	0	20	mg/kg	05.04.19 12:01	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088000 — Matrix: Soil — Date Prep: 05.03.19
Parent Sample Id: 623200-002 — MS Sample Id: 623200-002 S — MSD Sample Id: 623200-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	31.1	250	299	107	300	108	90-110	0	20	mg/kg	05.04.19 13:52	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088366 — Matrix: Soil — Date Prep: 05.08.19
Parent Sample Id: 623445-003 — MS Sample Id: 623445-003 S — MSD Sample Id: 623445-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2390	252	2530	56	2540	60	90-110	0	20	mg/kg	05.08.19 13:36	X

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 623109

LT Environmental, Inc.

PLU 153

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088366 Matrix: Soil Date Prep: 05.08.19
Parent Sample Id: 623457-009 MS Sample Id: 623457-009 S MSD Sample Id: 623457-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1560	250	1740	72	1740	72	90-110	0	20	mg/kg	05.08.19 14:48	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3088043 Matrix: Solid Date Prep: 05.04.19
MB Sample Id: 7677203-1-BLK LCS Sample Id: 7677203-1-BKS LCSD Sample Id: 7677203-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1010	101	1040	104	70-135	3	20	mg/kg	05.04.19 12:51	
Diesel Range Organics (DRO)	<8.13	1000	1010	101	1070	107	70-135	6	20	mg/kg	05.04.19 12:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		127		122		70-135	%	05.04.19 12:51
o-Terphenyl	127		125		126		70-135	%	05.04.19 12:51

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3088043 Matrix: Soil Date Prep: 05.04.19
Parent Sample Id: 623108-001 MS Sample Id: 623108-001 S MSD Sample Id: 623108-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.98	997	1010	101	1010	101	70-135	0	20	mg/kg	05.04.19 13:52	
Diesel Range Organics (DRO)	148	997	1090	94	1080	93	70-135	1	20	mg/kg	05.04.19 13:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		127		70-135	%	05.04.19 13:52
o-Terphenyl	107		109		70-135	%	05.04.19 13:52

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 623109

LT Environmental, Inc.

PLU 153

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

Seq Number: 3088027 Matrix: Solid Date Prep: 05.03.19

MB Sample Id: 7677215-1-BLK LCS Sample Id: 7677215-1-BKS LCSD Sample Id: 7677215-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0973	98	0.104	103	70-130	7	35	mg/kg	05.03.19 11:43	
Toluene	<0.00198	0.0992	0.0935	94	0.0999	99	70-130	7	35	mg/kg	05.03.19 11:43	
Ethylbenzene	<0.00198	0.0992	0.102	103	0.108	107	70-130	6	35	mg/kg	05.03.19 11:43	
m,p-Xylenes	<0.00397	0.198	0.211	107	0.225	111	70-130	6	35	mg/kg	05.03.19 11:43	
o-Xylene	<0.00198	0.0992	0.104	105	0.110	109	70-130	6	35	mg/kg	05.03.19 11:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		96		96		70-130	%	05.03.19 11:43
4-Bromofluorobenzene	101		105		105		70-130	%	05.03.19 11:43

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

Seq Number: 3088027 Matrix: Soil Date Prep: 05.03.19

Parent Sample Id: 623115-001 MS Sample Id: 623115-001 S MSD Sample Id: 623115-001 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	0.0826	83	0.0785	79	70-130	5	35	mg/kg	05.03.19 12:21	
Toluene	<0.00199	0.0996	0.0703	71	0.0682	68	70-130	3	35	mg/kg	05.03.19 12:21	X
Ethylbenzene	<0.00199	0.0996	0.0640	64	0.0641	64	70-130	0	35	mg/kg	05.03.19 12:21	X
m,p-Xylenes	<0.00398	0.199	0.132	66	0.134	67	70-130	2	35	mg/kg	05.03.19 12:21	X
o-Xylene	<0.00199	0.0996	0.0666	67	0.0670	67	70-130	1	35	mg/kg	05.03.19 12:21	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		98		70-130	%	05.03.19 12:21
4-Bromofluorobenzene	110		111		70-130	%	05.03.19 12:21

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: 623109

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com Page 1 of 1

Project Manager:	Ashley Ager	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, Tx 79705
Phone:	432.704.5178	Email:	Ggreen@Ltenv.com

Work Order Comments

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

Project Name:	~~PH01~~ PLU 153	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	ZRP-3293	Rush: Yes	
Sampler's Name:	Garrett Green	Due Date: 5/6/19	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.5/0.4	Thermometer ID:	108	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes No N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH01	S	4/30/19	1200	1'	1	X	X	X
PH01A	S		1205	2'	1			
PH02	S		1330	1'	1			
PH02A	S		1340	2'	1			
PH03	S		1400	1'	1			
PH03A	S		1410	2'	1			
PH04	S		1420	1'	1			
PH04A	S		1425	2'	1			

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			050219 13:59	2		5/3/19 1117
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/03/2019 11:17:00 AM

Work Order #: 623109

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/03/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/03/2019
Jessica Kramer

Client: LT Environmental, Inc.

Date/ Time Received: 05/03/2019 11:17:00 AM

Work Order #: 623109

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/03/2019 11:17:00 AM

Work Order #: 623109

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

Sample Receipt Checklist

#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/03/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/03/2019
Jessica Kramer

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

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

CONDITIONS

Action 190395

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 190395
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	2/24/2023