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

January 8, 2020

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

RE: Closure Request
JRU DI #1 127H/169H
Remediation Permit Number 2RP-4826
Eddy County, New Mexico

Dear Mr. Billings:

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 JRU DI #1 127H/169H (Site), located in Unit G, Section 21, Township 22 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacted soil resulting from a release of crude oil within lined containment at the Site.

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the New Mexico Oil Conservation Division (NMOCD) effective November 13, 2018. The purpose of the Compliance Agreement is to ensure reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The release is categorized as a Tier IV site in the Compliance Agreement, meaning the release occurred prior to August 14, 2018, the effective date of 19.15.29 NMAC; however, remediation was ongoing. Based on the laboratory analytical results for soil samples collected at the Site, XTO is submitting this Closure Request, describing site assessment activities that have occurred and requesting no further action for the release event.

RELEASE BACKGROUND

On June 4, 2018, a drilling contractor was transferring oil from the primary hydraulic fracturing (frac) tanks to secondary frac tanks. One tank overfilled and released approximately 15 barrels (bbls) of oil into the lined containment surrounding the secondary frac tanks. A vacuum recovered all 15 bbls of free-standing oil from within the containment. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on June 19, 2018, and was assigned Remediation Permit (RP) Number 2RP-4826 (Attachment 1).

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 with depth to water data is NM OSE well 03015, located approximately 5,035 feet southeast of the Site. The water well has a depth to groundwater of 262 feet and a total depth of 1,316 feet. Ground surface elevation at the water well location is 3,286 feet above mean sea level (AMSL), which is approximately 126 feet higher in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is a tributary located approximately 195 feet east of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a high-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): 100 mg/kg; and
- Chloride: 600 mg/kg.

SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On June 3, 2019, LTE personnel inspected the Site to evaluate the release area. The frac tanks and lined containment were removed and no visible signs of the release were identified. Five preliminary soil samples (SS01 through SS05) were collected within and around the former frac tank release area to assess for potential soil impacts. The soil sample locations, depicted on Figure 2, were selected based on information provided on the initial Form C-141 and the documented release location. To eliminate the effects from weathering and natural degradation of contaminants at the ground surface, the soil samples were collected from each sample location from a depth of 0.5 feet bgs.

On June 24, 2019, LTE personnel returned to the Site to collect vertical delineation soil samples via hand auger to confirm the absence of impacted soil in the release area. Soil samples SS01A through SS05A were collected from a depth of 1 foot bgs at the SS01 through SS05 preliminary soil sample locations. Soil was field screened for volatile aromatic hydrocarbons and chloride

utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each sample location were logged on lithologic/soil sampling logs, which are included in Attachment 2. The soil sample locations were mapped utilizing a handheld Global Positing System (GPS) unit and are depicted on Figure 2. Photographic documentation was conducted during the Site visit. Photographs 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.

ANALYTICAL RESULTS

Laboratory analytical results indicated that BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria in soil samples SS01/SS01A through SS05/SS05A. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Site assessment and soil sampling activities were conducted to assess for potential soil impacts resulting from the June 4, 2018, crude oil release at the Site. Laboratory analytical results for soil samples SS01/SS01A through SS05/SS05A, collected from depths ranging from 0.5 feet to 1 foot bgs, indicated that BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria and no further remediation was required.

The released fluids were contained within lined containment and all released fluids were recovered during initial response activities. Based on visual observations, field screening, and laboratory analytical results, no impacted soil was identified as a result of the release. XTO requests no further action for RP Number 2RP-4826. An updated NMOCD 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.

Aimee Cole
Project Environmental Scientist

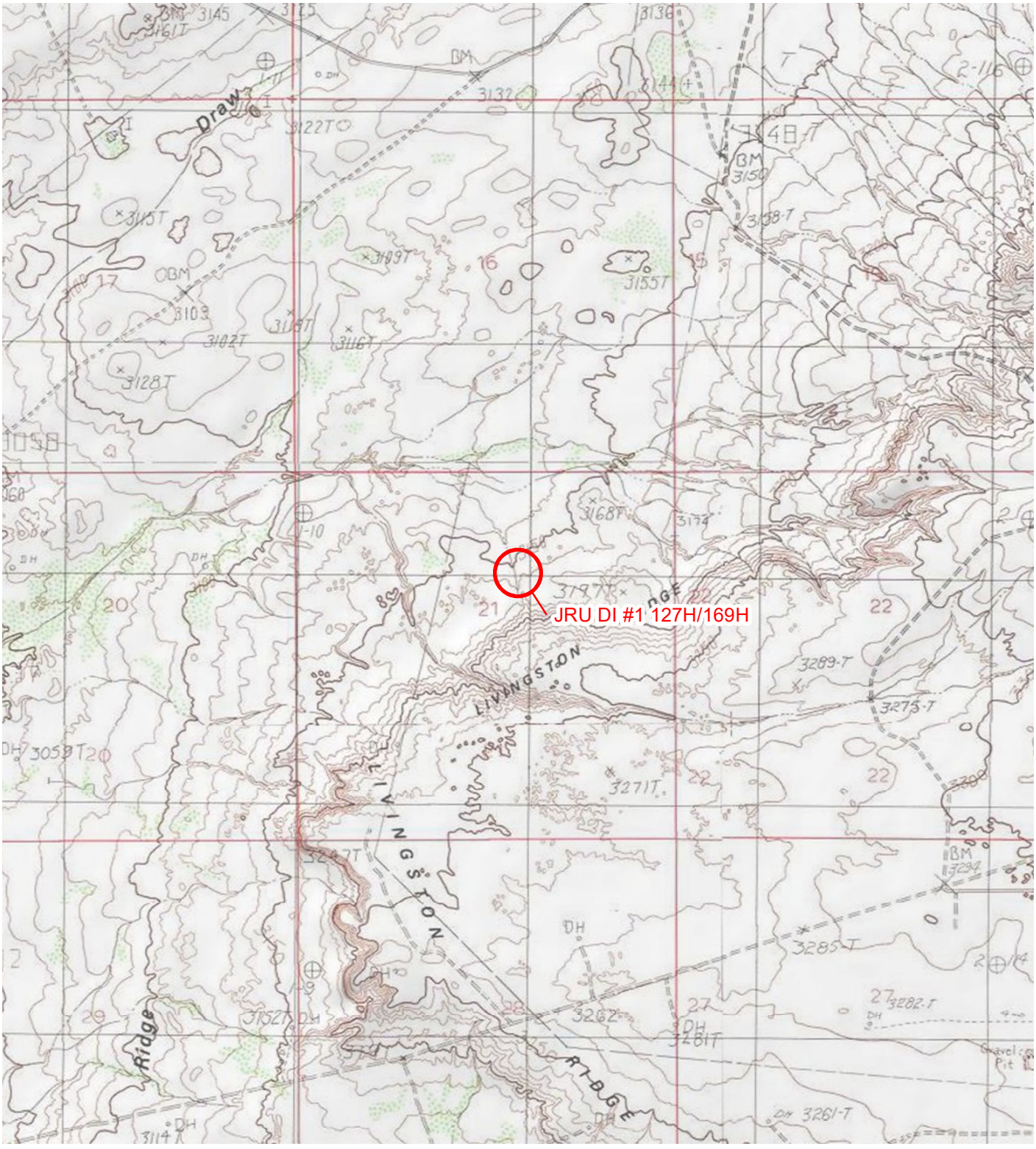
Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Mike Bratcher, NMOCD
Bureau of Land Management

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-4826)
Attachment 2	Lithologic/Soil Sample Logs
Attachment 3	Photographic Log
Attachment 4	Laboratory Analytical Reports

FIGURES



LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBERS 2RP-4826

FIGURE 1
SITE LOCATION MAP
JRU DI #1 127H/169H
UNIT G SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919121_JRU DI #1 127H-169H\012919121_FIG01_SL_4826.mxd

IMAGE COURTESY OF ESRI

LEGEND

- ✕ RELEASE LOCATION
- ● SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

0 100 200
Feet

N

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 2RP-4826

FIGURE 2
SOIL SAMPLE LOCATIONS
JRU DI #1 127H/169H
UNIT G SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919121_JRU DI #1 127H-169H\012919121_FIG02_DELINEATION_4826.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

JRU DI #1 127H/169H
REMEDIATION PERMIT NUMBER 2RP-4826
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)
SS01	0.5	06/03/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	73.6
SS01A	1	06/24/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	29.3	<14.9	29.3	29.3	5.36
SS02	0.5	06/03/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	122
SS02A	1	06/24/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	41.8	<15.0	41.8	41.8	24.8
SS03	0.5	06/03/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	129
SS03A	1	06/24/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	16.4
SS04	0.5	06/03/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	29.3	<15.0	29.3	29.3	316
SS04A	1	06/24/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	26.8	<15.0	26.8	26.8	8.06
SS05	0.5	06/03/2019	<0.00200	<0.00200	<0.00200	0.00202	0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	396
SS05A	1	06/24/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	85.5
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	NE	**100**	**600**

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

ORO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

NE - not established

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

TPH - total petroleum hydrocarbons

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-4826)

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

JUN 19 2018
DISTRICT II-ARTESIA O.C.D.

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

nAB1817350327 pBC@ BIPC@2160737

OPERATOR ☒ Initial Report ☐ Final Report

Name of Company: XTO Energy	Contact: Amy C. Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No: 575-689-3380
Facility Name: JRU DI#1 127H/169H (API for JRU DI1 #169H)	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No: 30-015-42628

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	21	22S	30E	1440	North	2480	East	Eddy

Latitude 32.380971° **Longitude** -103.885619° NAD83

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 15 bbls	Volume Recovered 15 bbls
Source of Release Frac Tank	Date and Hour of Occurrence 6/4/2018 10 am	Date and Hour of Discovery 6/4/2018 10 am
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour: N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
A contract employee was transferring oil from the primary frac tanks into the secondary frac tank farm. One tank overfilled and oil was released to lined containment.

Describe Area Affected and Cleanup Action Taken.*
The release affected the lined containment surrounding the secondary frac tank farm. Free standing oil was recovered.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Amy C. Ruth	Approved by Environmental Specialist: Signed By [signature]	
Title: Environmental Coordinator	Approval Date: 6/22/18	Expiration Date: N/A
E-mail Address: Amy_Ruth@xtoenergy.com	Conditions of Approval: See attached	Attached 2RP-4826
Date: 6/19/2018 Phone: 575-689-3380		

* 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	
Facility ID	2RP-4826
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-4826
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.380971 Longitude W -103.885619
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: JRU DI #1 127H/169H	Site Type: Production Well Facility
Date Release Discovered: 6/4/2018	API# *(if applicable):* 30-015-42628

Unit Letter	Section	Township	Range	County
G	21	22S	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): 15	Volume Recovered (bbls): 15
☐ Produced Water	Volume Released (bbls):	Volume Recovered (bbls):
	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 drilling contractor was transferring oil from the primary frac tanks to secondary frac tanks. One tank overfilled and released approximately 15 bbls of oil into the lined containment surrounding the secondary frac tanks. A vacuum recovered all 15 bbls of free-standing oil from the containment.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	2RP-4826
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? Less than 25 bbls was released.
If YES, was immediate notice given to the OCD? By whom? To whom? NA	

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: 1-8-2020

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

OCD Only

Received by: Date:

Incident ID	
District RP	
Facility ID	2RP-4826
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	
Facility ID	2RP-4826
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: 1-8-2020

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	nAB1817350327
District RP	
Facility ID	2RP-4826
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: 1-8-2020

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

OCD Only

Received by: Bradford Billings Date:

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

Closure Approved by: Bradford Billings Date: 02/01/2021

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

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLE LOGS

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

Identifier: SS01	Date: 06/24/19
Project Name: JRU DI #1 127H 169H	RP Number: 2RP-4826
Logged By: Robert M.	Method: Hand Auger
Lat/Long:	Field Screening:
Hole Diameter: 3"	Total Depth: 1'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
06/03/19 1600 dry	<124	5.2	Y		0	0.5'	S	Caliche pink/white trace sand
1220 dry	<124	4.2	N		1	1'	S	Caliche/sand Brown/tan
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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

Identifier: SS02	Date: 06/24/19
Project Name: JRV DI #1 127H 169H	RP Number: 2RP-4826
Logged By: Robert M.	Method: Hand Auger
Lat/Long:	Field Screening:
Hole Diameter: 3"	Total Depth: 1'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
06/03/19 1605 dry	<124	4.8	Y		0	0.5'	S	Caliche Pink/White trace sand
1225 dry	<124	3.6	N		1	1'	S	Caliche'/Sand Brown/tan
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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

Identifier: SS03	Date: 06/24/19
Project Name: JRU DI #1 127H 169H	RP Number: 2RP-4826
Logged By: Robert M.	Method: Hand Auger
Lat/Long:	Field Screening:
Hole Diameter: 3"	Total Depth: 1'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
06/03/19 1610 Dry	<124	5.1	Y		0	0.5'	S	Caliché Pink/White trace sand
1230 Dry	<124	4.7	N		1	1'	S	Caliché/~~Sand~~ ~~Pink~~ Brown/tan
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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

Identifier: SS04	Date: 06/24/19
Project Name: JRU DI #1 1274 169H	RP Number: 2RP-4826
Logged By: Robert M.	Method: Hand Auger
Hole Diameter: 3"	Total Depth: 1

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
06/03/19 1615 Dry	<124	4.9	Y		0	0.5'	S	Caliché Pink/White trace Sand
1235 Dry	<124	4.6	N		1	1'	S	Caliché/sand Brown/tan
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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Identifier: SS05	Date: 06/24/19
Project Name: JRU DI #1 127H 128H	RP Number: 2RP 4826
Logged By: Robert M.	Method: Hand Auger
Hole Diameter: 3"	Total Depth: 1'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
06/03/19 1620 Dry	200	4.9	Y		0	0.5'	S	Caliche Pink/White trace sand
1240 Dry	4124	5.1	N		1	1'	S	Caliche/Sand Brown tan
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photograph 1: View of release area during site assessment activities.

Photograph 2: View of release area during site assessment activities.

Photograph 3: View of release area during site assessment activities.

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 626933

for

LT Environmental, Inc.

Project Manager: Ashley Ager

JRU DI #1 127H

12-JUN-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)

12-JUN-19

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

Reference: XENCO Report No(s): **626933**
JRU DI #1 127H
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) 626933. 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. 626933 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 626933

LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	06-03-19 16:00	0.5	626933-001
SS02	S	06-03-19 16:05	0.5	626933-002
SS03	S	06-03-19 16:10	0.5	626933-003
SS04	S	06-03-19 16:15	0.5	626933-004
SS05	S	06-03-19 16:20	0.5	626933-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU DI #1 127H

Project ID:
Work Order Number(s): *626933*

Report Date: *12-JUN-19*
Date Received: *06/07/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3091974 BTEX by EPA 8021
Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected.
Samples affected are: 626931-010 S,626933-005.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 626933

LT Environmental, Inc., Arvada, CO

Project Name: JRU DI #1 127H

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

Date Received in Lab: Fri Jun-07-19 11:40 am
Report Date: 12-JUN-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	626933-001		626933-002		626933-003		626933-004		626933-005	
	Field Id:	SS01		SS02		SS03		SS04		SS05	
	Depth:	0.5-		0.5-		0.5-		0.5-		0.5-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-03-19 16:00		Jun-03-19 16:05		Jun-03-19 16:10		Jun-03-19 16:15		Jun-03-19 16:20	
BTEX by EPA 8021	***Extracted:***	Jun-11-19 08:30		Jun-11-19 08:30		Jun-11-19 08:30		Jun-11-19 08:30		Jun-11-19 08:30	
	Analyzed:	Jun-11-19 23:32		Jun-11-19 23:51		Jun-12-19 00:10		Jun-12-19 00:29		Jun-12-19 00:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00397	0.00397	<0.00401	0.00401	<0.00399	0.00399
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	0.00202	0.00200
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	0.00202	0.00200
Total BTEX		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	0.00202	0.00200
Chloride by EPA 300	***Extracted:***	Jun-08-19 14:00		Jun-08-19 14:00		Jun-08-19 14:00		Jun-08-19 14:00		Jun-08-19 14:00	
	Analyzed:	Jun-08-19 16:15		Jun-08-19 16:23		Jun-08-19 16:30		Jun-08-19 16:37		Jun-08-19 16:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		73.6	5.05	122	5.00	129	5.03	316	25.0	396	4.97
TPH by SW8015 Mod	***Extracted:***	** ** ** **		** ** ** **		** ** ** **		** ** ** **		Jun-07-19 16:00	
	Analyzed:	Jun-07-19 22:10		Jun-07-19 22:36		Jun-07-19 23:01		Jun-07-19 23:26		Jun-08-19 01:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	29.3	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	29.3	15.0	<15.0	15.0
Total GRO-DRO		<15.0	15.0	<15.0	15.0	<15.0	15.0	29.3	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 Analytical Results 626933

LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	06.07.19 11.40
Lab Sample Id:	626933-001	Date Collected:	06.03.19 16.00	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	06.08.19 14.00	Basis:	Wet Weight
Seq Number:	3091691				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**73.6**	5.05	mg/kg	06.08.19 16.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.07.19 11.00	Basis:	Wet Weight
Seq Number:	3091703				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.07.19 22.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.07.19 22.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.07.19 22.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.07.19 22.10	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.07.19 22.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	128	%	70-135	06.07.19 22.10	
o-Terphenyl	84-15-1	96	%	70-135	06.07.19 22.10	

Certificate of Analytical Results 626933

LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	06.07.19 11.40
Lab Sample Id:	626933-001	Date Collected:	06.03.19 16.00	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.11.19 08.30	Basis:	Wet Weight
Seq Number:	3091974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.11.19 23.32	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.11.19 23.32	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.11.19 23.32	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.11.19 23.32	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.11.19 23.32	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.11.19 23.32	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.11.19 23.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	06.11.19 23.32	
4-Bromofluorobenzene	460-00-4	79	%	70-130	06.11.19 23.32	

Certificate of Analytical Results 626933

LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	06.07.19 11.40
Lab Sample Id:	626933-002	Date Collected:	06.03.19 16.05	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	06.08.19 14.00	Basis:	Wet Weight
Seq Number:	3091691				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**122**	5.00	mg/kg	06.08.19 16.23		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.07.19 11.00	Basis:	Wet Weight
Seq Number:	3091703				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.07.19 22.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.07.19 22.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.07.19 22.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.07.19 22.36	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.07.19 22.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	06.07.19 22.36	
o-Terphenyl	84-15-1	100	%	70-135	06.07.19 22.36	

Certificate of Analytical Results 626933

LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	06.07.19 11.40
Lab Sample Id:	626933-002	Date Collected:	06.03.19 16.05	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.11.19 08.30	Basis:	Wet Weight
Seq Number:	3091974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.11.19 23.51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.11.19 23.51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.11.19 23.51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.11.19 23.51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.11.19 23.51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.11.19 23.51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.11.19 23.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	78	%	70-130	06.11.19 23.51	
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.11.19 23.51	

Certificate of Analytical Results 626933

LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	06.07.19 11.40
Lab Sample Id:	626933-003	Date Collected:	06.03.19 16.10	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	06.08.19 14.00	Basis:	Wet Weight
Seq Number:	3091691				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**129**	5.03	mg/kg	06.08.19 16.30		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.07.19 11.00	Basis:	Wet Weight
Seq Number:	3091703				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.07.19 23.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.07.19 23.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.07.19 23.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.07.19 23.01	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.07.19 23.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	06.07.19 23.01	
o-Terphenyl	84-15-1	84	%	70-135	06.07.19 23.01	

Certificate of Analytical Results 626933

LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	06.07.19 11.40
Lab Sample Id:	626933-003	Date Collected:	06.03.19 16.10	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.11.19 08.30	Basis:	Wet Weight
Seq Number:	3091974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.12.19 00.10	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.12.19 00.10	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.12.19 00.10	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.12.19 00.10	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.12.19 00.10	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.12.19 00.10	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.12.19 00.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.12.19 00.10	
4-Bromofluorobenzene	460-00-4	90	%	70-130	06.12.19 00.10	

Certificate of Analytical Results 626933

LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	06.07.19 11.40
Lab Sample Id:	626933-004	Date Collected:	06.03.19 16.15	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	06.08.19 14.00	Basis:	Wet Weight
Seq Number:	3091691				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**316**	25.0	mg/kg	06.08.19 16.37		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.07.19 11.00	Basis:	Wet Weight
Seq Number:	3091703				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.07.19 23.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	**29.3**	15.0	mg/kg	06.07.19 23.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.07.19 23.26	U	1
Total TPH	PHC635	**29.3**	15.0	mg/kg	06.07.19 23.26		1
Total GRO-DRO	PHC628	**29.3**	15.0	mg/kg	06.07.19 23.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	06.07.19 23.26	
o-Terphenyl	84-15-1	85	%	70-135	06.07.19 23.26	

Certificate of Analytical Results 626933

LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	06.07.19 11.40
Lab Sample Id:	626933-004	Date Collected:	06.03.19 16.15	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.11.19 08.30	Basis:	Wet Weight
Seq Number:	3091974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.12.19 00.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.12.19 00.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.12.19 00.29	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.12.19 00.29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.12.19 00.29	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.12.19 00.29	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.12.19 00.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.12.19 00.29	
4-Bromofluorobenzene	460-00-4	85	%	70-130	06.12.19 00.29	

Certificate of Analytical Results 626933

LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	06.07.19 11.40
Lab Sample Id:	626933-005	Date Collected:	06.03.19 16.20	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	06.08.19 14.00	Basis:	Wet Weight
Seq Number:	3091691				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**396**	4.97	mg/kg	06.08.19 16.44		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.07.19 16.00	Basis:	Wet Weight
Seq Number:	3091704				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.08.19 01.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.08.19 01.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.08.19 01.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.08.19 01.31	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.08.19 01.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	06.08.19 01.31	
o-Terphenyl	84-15-1	97	%	70-135	06.08.19 01.31	

Certificate of Analytical Results 626933

LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	06.07.19 11.40
Lab Sample Id:	626933-005	Date Collected:	06.03.19 16.20	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.11.19 08.30	Basis:	Wet Weight
Seq Number:	3091974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.12.19 00.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.12.19 00.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.12.19 00.48	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.12.19 00.48	U	1
o-Xylene	95-47-6	**0.00202**	0.00200	mg/kg	06.12.19 00.48		1
Total Xylenes	1330-20-7	**0.00202**	0.00200	mg/kg	06.12.19 00.48		1
Total BTEX		**0.00202**	0.00200	mg/kg	06.12.19 00.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	59	%	70-130	06.12.19 00.48	**
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.12.19 00.48	

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 626933

LT Environmental, Inc.

JRU DI #1 127H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3091691 Matrix: Solid Date Prep: 06.08.19
MB Sample Id: 7679534-1-BLK LCS Sample Id: 7679534-1-BKS LCSD Sample Id: 7679534-1-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	245	98	246	98	90-110	0	20	mg/kg	06.08.19 15:03	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3091691 Matrix: Soil Date Prep: 06.08.19
Parent Sample Id: 626932-003 MS Sample Id: 626932-003 S MSD Sample Id: 626932-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	245	250	482	95	483	95	90-110	0	20	mg/kg	06.08.19 15:25	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3091691 Matrix: Soil Date Prep: 06.08.19
Parent Sample Id: 626962-002 MS Sample Id: 626962-002 S MSD Sample Id: 626962-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	184	251	416	92	418	93	90-110	0	20	mg/kg	06.08.19 17:06	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3091703 Matrix: Solid Date Prep: 06.07.19
MB Sample Id: 7679503-1-BLK LCS Sample Id: 7679503-1-BKS LCSD Sample Id: 7679503-1-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	993	99	1030	103	70-135	4	20	mg/kg	06.07.19 13:13	
Diesel Range Organics (DRO)	<8.13	1000	1110	111	1030	103	70-135	7	20	mg/kg	06.07.19 13:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		102		102		70-135	%	06.07.19 13:13
o-Terphenyl	76		115		94		70-135	%	06.07.19 13:13

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 626933

LT Environmental, Inc.

JRU DI #1 127H

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3091704 — Matrix: Solid — Date Prep: 06.07.19
MB Sample Id: 7679504-1-BLK — LCS Sample Id: 7679504-1-BKS — LCSD Sample Id: 7679504-1-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)	10.7	1000	1190	119	1190	119	70-135	0	20	mg/kg	06.08.19 00:41	
Diesel Range Organics (DRO)	<8.13	1000	1160	116	1190	119	70-135	3	20	mg/kg	06.08.19 00:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		120		120		70-135	%	06.08.19 00:41
o-Terphenyl	94		121		111		70-135	%	06.08.19 00:41

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3091703 — Matrix: Soil — Date Prep: 06.07.19
Parent Sample Id: 626930-001 — MS Sample Id: 626930-001 S — MSD Sample Id: 626930-001 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)	12.8	999	976	96	982	97	70-135	1	20	mg/kg	06.07.19 14:29	
Diesel Range Organics (DRO)	108	999	973	87	1090	98	70-135	11	20	mg/kg	06.07.19 14:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		102		70-135	%	06.07.19 14:29
o-Terphenyl	87		106		70-135	%	06.07.19 14:29

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3091704 — Matrix: Soil — Date Prep: 06.07.19
Parent Sample Id: 626933-005 — MS Sample Id: 626933-005 S — MSD Sample Id: 626933-005 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)	13.6	997	1160	115	1200	119	70-135	3	20	mg/kg	06.08.19 01:56	
Diesel Range Organics (DRO)	8.96	997	1110	110	1150	114	70-135	4	20	mg/kg	06.08.19 01:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		119		70-135	%	06.08.19 01:56
o-Terphenyl	111		113		70-135	%	06.08.19 01:56

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 626933

LT Environmental, Inc.

JRU DI #1 127H

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

Seq Number: 3091974 Matrix: Solid Date Prep: 06.11.19

MB Sample Id: 7679699-1-BLK LCS Sample Id: 7679699-1-BKS LCSD Sample Id: 7679699-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0956	96	0.103	102	70-130	7	35	mg/kg	06.11.19 17:05	
Toluene	<0.00200	0.100	0.0910	91	0.0967	96	70-130	6	35	mg/kg	06.11.19 17:05	
Ethylbenzene	<0.00200	0.100	0.0991	99	0.104	103	70-130	5	35	mg/kg	06.11.19 17:05	
m,p-Xylenes	<0.00400	0.200	0.204	102	0.216	107	70-130	6	35	mg/kg	06.11.19 17:05	
o-Xylene	<0.00200	0.100	0.102	102	0.108	107	70-130	6	35	mg/kg	06.11.19 17:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		103		103		70-130	%	06.11.19 17:05
4-Bromofluorobenzene	76		107		96		70-130	%	06.11.19 17:05

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

Seq Number: 3091974 Matrix: Soil Date Prep: 06.11.19

Parent Sample Id: 626931-010 MS Sample Id: 626931-010 S MSD Sample Id: 626931-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.0871	87	0.0992	100	70-130	13	35	mg/kg	06.11.19 17:44	
Toluene	<0.000454	0.0996	0.0905	91	0.0943	95	70-130	4	35	mg/kg	06.11.19 17:44	
Ethylbenzene	<0.000563	0.0996	0.101	101	0.104	105	70-130	3	35	mg/kg	06.11.19 17:44	
m,p-Xylenes	<0.00101	0.199	0.205	103	0.213	107	70-130	4	35	mg/kg	06.11.19 17:44	
o-Xylene	0.000549	0.0996	0.0976	97	0.104	104	70-130	6	35	mg/kg	06.11.19 17:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		104		70-130	%	06.11.19 17:44
4-Bromofluorobenzene	63	**	91		70-130	%	06.11.19 17:44

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

Work Order No: 626933

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

Project Manager:	Ashley Ager	Bill to: (if different)	Kyle Littrel
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO-Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	432.704.5178 Email:		aager@ltenv.com rmcafee@ltenv.com

Work Order Comments

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

Project Name:	JRV DI #1 127H
Project Number:	
P.O. Number:	
Sampler's Name:	Robert McAfee

Turn Around

Routine ☐
Rush: 3 day
Due Date:

SAMPLE RECEIPT

Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.5 10.3	Thermometer ID	R8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01	S	06/03/19	1600	0.5	1	X	X	X
SS02			1605			X	X	X
SS03			1610			X	X	X
SS04			1615			X	X	X
SS05			1620			X	X	X

Work Order Notes

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

Sample Comments

discrete

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

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

1631 / 245.1 / 7470 / 7471 : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Robert McAfee		06-06-19 15:30	2		
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: 06/07/2019 11:40:00 AM

Work Order #: 626933

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 06/07/2019

Checklist reviewed by: Jessica Kramer Date: 06/07/2019

Jessica Kramer

Analytical Report 629500

for

LT Environmental, Inc.

Project Manager: Ashley Ager

JRU DI1 127H

05-JUL-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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)

05-JUL-19

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

Reference: XENCO Report No(s): **629500**
JRU DI1 127H
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) 629500. 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. 629500 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kalei Stout
Carlsbad Laboratory Director

Sample Cross Reference 629500

LT Environmental, Inc., Arvada, CO

JRU DI1 127H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	06-24-19 12:20	1 ft	629500-001
SS02	S	06-24-19 12:25	1 ft	629500-002
SS03	S	06-24-19 12:30	1 ft	629500-003
SS04	S	06-24-19 12:35	1 ft	629500-004
SS05	S	06-24-19 12:40	1 ft	629500-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU DI1 127H

Project ID:
Work Order Number(s): *629500*

Report Date: *05-JUL-19*
Date Received: *06/28/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3094507 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 629500-001.

Certificate of Analysis Summary 629500

LT Environmental, Inc., Arvada, CO

Project Name: JRU DI1 127H

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

Date Received in Lab: Fri Jun-28-19 12:00 pm
Report Date: 05-JUL-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	629500-001		629500-002		629500-003		629500-004		629500-005	
	Field Id:	SS01		SS02		SS03		SS04		SS05	
	Depth:	1- ft		1- ft		1- ft		1- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-24-19 12:20		Jun-24-19 12:25		Jun-24-19 12:30		Jun-24-19 12:35		Jun-24-19 12:40	
BTEX by EPA 8021B SUB: T104704400-18-16	*Extracted:*	Jul-02-19 11:00		Jul-02-19 11:00		Jul-02-19 11:00		Jul-02-19 11:00		Jul-02-19 11:00	
	Analyzed:	Jul-04-19 02:24		Jul-04-19 02:47		Jul-04-19 03:10		Jul-04-19 04:56		Jul-04-19 05:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes		<0.00397	0.00397	<0.00401	0.00401	<0.00400	0.00400	<0.00402	0.00402	<0.00399	0.00399
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Chloride by EPA 300 SUB: T104704400-18-16	*Extracted:*	Jul-01-19 15:30		Jul-01-19 15:30		Jul-01-19 15:30		Jul-01-19 15:30		Jul-01-19 15:30	
	Analyzed:	Jul-02-19 08:42		Jul-02-19 08:47		Jul-02-19 08:52		Jul-02-19 08:56		Jul-01-19 19:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5.36	5.00	24.8	5.05	16.4	4.99	8.06	5.02	85.5	50.4
TPH by SW8015 Mod SUB: T104704400-18-16	*Extracted:*	Jul-02-19 07:00		Jul-02-19 07:00		Jul-02-19 07:00		Jul-02-19 07:00		Jul-02-19 07:00	
	Analyzed:	Jul-02-19 17:53		Jul-02-19 18:37		Jul-02-19 19:01		Jul-02-19 19:26		Jul-02-19 19:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		29.3	14.9	41.8	15.0	<15.0	15.0	26.8	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		29.3	14.9	41.8	15.0	<15.0	15.0	26.8	15.0	<15.0	15.0
Total GRO-DRO		29.3	14.9	41.8	15.0	<15.0	15.0	26.8	15.0	<15.0	15.0

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

Kalei Stout
Carlsbad Laboratory Director

Certificate of Analytical Results 629500

LT Environmental, Inc., Arvada, CO

JRU DI1 127H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	06.28.19 12.00
Lab Sample Id:	629500-001	Date Collected:	06.24.19 12.20	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.01.19 15.30	Basis:	Wet Weight
Seq Number:	3094159			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.36**	5.00	mg/kg	07.02.19 08.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.02.19 07.00	Basis:	Wet Weight
Seq Number:	3094320			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.02.19 17.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	**29.3**	14.9	mg/kg	07.02.19 17.53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.02.19 17.53	U	1
Total TPH	PHC635	**29.3**	14.9	mg/kg	07.02.19 17.53		1
Total GRO-DRO	PHC628	**29.3**	14.9	mg/kg	07.02.19 17.53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.02.19 17.53	
o-Terphenyl	84-15-1	98	%	70-135	07.02.19 17.53	

Certificate of Analytical Results 629500

LT Environmental, Inc., Arvada, CO

JRU DI1 127H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	06.28.19 12.00
Lab Sample Id:	629500-001	Date Collected:	06.24.19 12.20	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	FOV			% Moisture:	
Analyst:	AMB	Date Prep:	07.02.19 11.00	Basis:	Wet Weight
Seq Number:	3094507			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.04.19 02.24	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.04.19 02.24	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.04.19 02.24	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.04.19 02.24	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.04.19 02.24	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.04.19 02.24	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.04.19 02.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	162	%	70-130	07.04.19 02.24	**
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.04.19 02.24	

Certificate of Analytical Results 629500

LT Environmental, Inc., Arvada, CO

JRU DI1 127H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	06.28.19 12.00
Lab Sample Id:	629500-002	Date Collected:	06.24.19 12.25	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.01.19 15.30	Basis:	Wet Weight
Seq Number:	3094159			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24.8**	5.05	mg/kg	07.02.19 08.47		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.02.19 07.00	Basis:	Wet Weight
Seq Number:	3094320			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 18.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	**41.8**	15.0	mg/kg	07.02.19 18.37		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 18.37	U	1
Total TPH	PHC635	**41.8**	15.0	mg/kg	07.02.19 18.37		1
Total GRO-DRO	PHC628	**41.8**	15.0	mg/kg	07.02.19 18.37		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	07.02.19 18.37	
o-Terphenyl	84-15-1	82	%	70-135	07.02.19 18.37	

Certificate of Analytical Results 629500

LT Environmental, Inc., Arvada, CO

JRU DI1 127H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	06.28.19 12.00
Lab Sample Id:	629500-002	Date Collected:	06.24.19 12.25	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	FOV			% Moisture:	
Analyst:	AMB	Date Prep:	07.02.19 11.00	Basis:	Wet Weight
Seq Number:	3094507			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.04.19 02.47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.04.19 02.47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.04.19 02.47	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.04.19 02.47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.04.19 02.47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.04.19 02.47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.04.19 02.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	07.04.19 02.47	
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.04.19 02.47	

Certificate of Analytical Results 629500

LT Environmental, Inc., Arvada, CO

JRU DI1 127H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	06.28.19 12.00
Lab Sample Id:	629500-003	Date Collected:	06.24.19 12.30	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.01.19 15.30	Basis:	Wet Weight
Seq Number:	3094159			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.4**	4.99	mg/kg	07.02.19 08.52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.02.19 07.00	Basis:	Wet Weight
Seq Number:	3094320			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 19.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 19.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 19.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 19.01	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 19.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	07.02.19 19.01	
o-Terphenyl	84-15-1	82	%	70-135	07.02.19 19.01	

Certificate of Analytical Results 629500

LT Environmental, Inc., Arvada, CO

JRU DI1 127H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	06.28.19 12.00
Lab Sample Id:	629500-003	Date Collected:	06.24.19 12.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	FOV			% Moisture:	
Analyst:	AMB	Date Prep:	07.02.19 11.00	Basis:	Wet Weight
Seq Number:	3094507			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.04.19 03.10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.04.19 03.10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.04.19 03.10	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.04.19 03.10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.04.19 03.10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.04.19 03.10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.04.19 03.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	07.04.19 03.10	
1,4-Difluorobenzene	540-36-3	89	%	70-130	07.04.19 03.10	

Certificate of Analytical Results 629500

LT Environmental, Inc., Arvada, CO

JRU DI1 127H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	06.28.19 12.00
Lab Sample Id:	629500-004	Date Collected:	06.24.19 12.35	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.01.19 15.30	Basis:	Wet Weight
Seq Number:	3094159			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.06**	5.02	mg/kg	07.02.19 08.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.02.19 07.00	Basis:	Wet Weight
Seq Number:	3094320			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 19.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	**26.8**	15.0	mg/kg	07.02.19 19.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 19.26	U	1
Total TPH	PHC635	**26.8**	15.0	mg/kg	07.02.19 19.26		1
Total GRO-DRO	PHC628	**26.8**	15.0	mg/kg	07.02.19 19.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	07.02.19 19.26	
o-Terphenyl	84-15-1	84	%	70-135	07.02.19 19.26	

Certificate of Analytical Results 629500

LT Environmental, Inc., Arvada, CO

JRU DI1 127H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	06.28.19 12.00
Lab Sample Id:	629500-004	Date Collected:	06.24.19 12.35	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	FOV			% Moisture:	
Analyst:	AMB	Date Prep:	07.02.19 11.00	Basis:	Wet Weight
Seq Number:	3094507			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.04.19 04.56	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.04.19 04.56	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.04.19 04.56	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.04.19 04.56	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.04.19 04.56	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.04.19 04.56	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.04.19 04.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	07.04.19 04.56	
4-Bromofluorobenzene	460-00-4	118	%	70-130	07.04.19 04.56	

Certificate of Analytical Results 629500

LT Environmental, Inc., Arvada, CO

JRU DI1 127H

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	06.28.19 12.00
Lab Sample Id:	629500-005	Date Collected:	06.24.19 12.40	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.01.19 15.30	Basis:	Wet Weight
Seq Number:	3094159			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**85.5**	50.4	mg/kg	07.01.19 19.56		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.02.19 07.00	Basis:	Wet Weight
Seq Number:	3094320			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 19.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 19.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 19.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 19.50	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 19.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	07.02.19 19.50	
o-Terphenyl	84-15-1	80	%	70-135	07.02.19 19.50	

Certificate of Analytical Results 629500

LT Environmental, Inc., Arvada, CO

JRU DI1 127H

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	06.28.19 12.00
Lab Sample Id:	629500-005	Date Collected:	06.24.19 12.40	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	FOV			% Moisture:	
Analyst:	AMB	Date Prep:	07.02.19 11.00	Basis:	Wet Weight
Seq Number:	3094507			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.04.19 05.19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.04.19 05.19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.04.19 05.19	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.04.19 05.19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.04.19 05.19	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.04.19 05.19	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.04.19 05.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	07.04.19 05.19	
1,4-Difluorobenzene	540-36-3	90	%	70-130	07.04.19 05.19	

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 629500

LT Environmental, Inc.

JRU DI1 127H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3094159 — Matrix: Solid — Date Prep: 07.01.19
MB Sample Id: 7681138-1-BLK — LCS Sample Id: 7681138-1-BKS — LCSD Sample Id: 7681138-1-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	252	101	90-110	0	20	mg/kg	07.01.19 18:53	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3094159 — Matrix: Soil — Date Prep: 07.01.19
Parent Sample Id: 629498-001 — MS Sample Id: 629498-001 S — MSD Sample Id: 629498-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	38.4	250	336	119	323	114	90-110	4	20	mg/kg	07.01.19 19:07	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3094159 — Matrix: Soil — Date Prep: 07.01.19
Parent Sample Id: 629503-003 — MS Sample Id: 629503-003 S — MSD Sample Id: 629503-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.08	248	279	110	276	108	90-110	1	20	mg/kg	07.01.19 20:15	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3094320 — Matrix: Solid — Date Prep: 07.02.19
MB Sample Id: 7681277-1-BLK — LCS Sample Id: 7681277-1-BKS — LCSD Sample Id: 7681277-1-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	868	87	873	87	70-135	1	20	mg/kg	07.02.19 09:42	
Diesel Range Organics (DRO)	<8.13	1000	903	90	872	87	70-135	3	20	mg/kg	07.02.19 09:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	83		75		74		70-135	%	07.02.19 09:42
o-Terphenyl	73		75		74		70-135	%	07.02.19 09:42

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 629500

LT Environmental, Inc.

JRU DI1 127H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P

Seq Number: 3094320 Matrix: Soil Date Prep: 07.02.19

Parent Sample Id: 629503-001 MS Sample Id: 629503-001 S MSD Sample Id: 629503-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.94	999	898	89	961	95	70-135	7	20	mg/kg	07.02.19 10:59	
Diesel Range Organics (DRO)	9.76	999	912	90	1030	102	70-135	12	20	mg/kg	07.02.19 10:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	84		93		70-135	%	07.02.19 10:59
o-Terphenyl	82		105		70-135	%	07.02.19 10:59

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

Seq Number: 3094507 Matrix: Solid Date Prep: 07.02.19

MB Sample Id: 7681347-1-BLK LCS Sample Id: 7681347-1-BKS LCSD Sample Id: 7681347-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0871	88	0.0863	88	70-130	1	35	mg/kg	07.03.19 21:16	
Toluene	<0.00199	0.0994	0.0987	99	0.0994	101	70-130	1	35	mg/kg	07.03.19 21:16	
Ethylbenzene	0.000579	0.0994	0.108	109	0.111	113	70-130	3	35	mg/kg	07.03.19 21:16	
m,p-Xylenes	<0.00101	0.199	0.211	106	0.217	110	70-130	3	35	mg/kg	07.03.19 21:16	
o-Xylene	0.000429	0.0994	0.0979	98	0.102	103	70-130	4	35	mg/kg	07.03.19 21:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		91		91		70-130	%	07.03.19 21:16
4-Bromofluorobenzene	115		97		99		70-130	%	07.03.19 21:16

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

Seq Number: 3094507 Matrix: Soil Date Prep: 07.02.19

Parent Sample Id: 629442-001 MS Sample Id: 629442-001 S MSD Sample Id: 629442-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0794	79	0.0795	80	70-130	0	35	mg/kg	07.03.19 22:03	
Toluene	<0.00201	0.101	0.0765	76	0.0753	75	70-130	2	35	mg/kg	07.03.19 22:03	
Ethylbenzene	<0.00201	0.101	0.0691	68	0.0684	68	70-130	1	35	mg/kg	07.03.19 22:03	X
m,p-Xylenes	<0.00402	0.201	0.132	66	0.127	64	70-130	4	35	mg/kg	07.03.19 22:03	X
o-Xylene	0.00104	0.101	0.0617	60	0.0597	59	70-130	3	35	mg/kg	07.03.19 22:03	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		97		70-130	%	07.03.19 22:03
4-Bromofluorobenzene	98		97		70-130	%	07.03.19 22:03

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: 629500

www.xenco.com Page 1 of 1

Project Manager:	Ashley Ager	Bill to: (if different)	Kyle Littrel
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO-Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	432.704.5178 Email:		aager@ltenv.com rmcafee@ltenv.com

Work Order Comments

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

Project Name:	JRU DI1 127H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP-4826	Rush: 3 day	
Sampler's Name:	Robert McAfee	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	4.0	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	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS01	S	06/24/19	1220	1'	1	X	X	X
SS02			1225	1'		X	X	X
SS03			1230	1'		X	X	X
SS04			1235	1'		X	X	X
SS05			1240	1'		X	X	X

ANALYSIS REQUEST

Work Order Notes

TAT starts the day received 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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Robert McAfee		06/28/2019 11:45	4		06/28/2019 12:00
			6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **42562**

Date/Time: 06/28/19 15:17
Lab# From: **Carlsbad**
Lab# To: **Midland**

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

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
629500-001	S	SS01	06/24/19 12:20	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/08/19	JKR	GRO-DRO PHCC10C28 PI	
629500-001	S	SS01	06/24/19 12:20	E300_CL	Chloride by EPA 300	07/05/19	12/21/19	JKR	CL	
629500-001	S	SS01	06/24/19 12:20	SW8021B	BTEX by EPA 8021B	07/05/19	07/08/19	JKR	BR4FBZ BZ BZME EBZ X	
629500-002	S	SS02	06/24/19 12:25	SW8021B	BTEX by EPA 8021B	07/05/19	07/08/19	JKR	BR4FBZ BZ BZME EBZ X	
629500-002	S	SS02	06/24/19 12:25	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/08/19	JKR	GRO-DRO PHCC10C28 PI	
629500-002	S	SS02	06/24/19 12:25	E300_CL	Chloride by EPA 300	07/05/19	12/21/19	JKR	CL	
629500-003	S	SS03	06/24/19 12:30	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/08/19	JKR	GRO-DRO PHCC10C28 PI	
629500-003	S	SS03	06/24/19 12:30	SW8021B	BTEX by EPA 8021B	07/05/19	07/08/19	JKR	BR4FBZ BZ BZME EBZ X	
629500-003	S	SS03	06/24/19 12:30	E300_CL	Chloride by EPA 300	07/05/19	12/21/19	JKR	CL	
629500-004	S	SS04	06/24/19 12:35	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/08/19	JKR	GRO-DRO PHCC10C28 PI	
629500-004	S	SS04	06/24/19 12:35	E300_CL	Chloride by EPA 300	07/05/19	12/21/19	JKR	CL	
629500-004	S	SS04	06/24/19 12:35	SW8021B	BTEX by EPA 8021B	07/05/19	07/08/19	JKR	BR4FBZ BZ BZME EBZ X	
629500-005	S	SS05	06/24/19 12:40	SW8021B	BTEX by EPA 8021B	07/05/19	07/08/19	JKR	BR4FBZ BZ BZME EBZ X	
629500-005	S	SS05	06/24/19 12:40	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/08/19	JKR	GRO-DRO PHCC10C28 PI	
629500-005	S	SS05	06/24/19 12:40	E300_CL	Chloride by EPA 300	07/05/19	12/21/19	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 06/28/2019

Received By: Brianna Teel

Date Received: 07/01/2019 07:26

Cooler Temperature: 0.6

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 42562

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

Sent By: Elizabeth McClellan **Date Sent:** 06/28/2019 03:17 PM

Received By: Brianna Teel **Date Received:** 07/01/2019 07:26 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?	**N/A**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Brianna Teel Date: 07/01/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 06.28.2019 12.00.00 PM

Work Order #: 629500

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)?	4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**No**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 Custody Seals intact on sample bottles?	**No**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Subbed to Xenco 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: 06.28.2019

Checklist reviewed by: Jessica Kramer Date: 07.01.2019

Jessica Kramer