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	NRM2003049447
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.34648 Longitude -103.83548
(NAD 83 in decimal degrees to 5 decimal places)

Site Name JRU 29	Site Type Tank Battery and Well Location
Date Release Discovered 12/09/2019	API# *(if applicable)* 30-015-27735 (James Ranch Unit 29)

Unit Letter	Section	Township	Range	County
K	36	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) 0.0	Volume Recovered (bbls) 0.0
☒ Produced Water	Volume Released (bbls) 20.38	Volume Recovered (bbls) 20.0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Produced Water load line valve was leaking into impermeable containment and overflowed onto caliche well pad. Additional third party resources have been retained to assist in the remediation.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NRM2003049447
District RP	
Facility ID	
Application ID	

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

Initial Response

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

☒ The source of the release has been stopped.

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

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

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

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

N/A

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12/19/2019

email: Kyle_Littrell@xtoenergy.com Telephone:

OCD Only

Received by: Ramona Marcus Date: 1/30/2020

State of New Mexico
Oil Conservation Division

Incident ID	NRM2003049447
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NRM2003049447
District RP	
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 3/6/20

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NRM2003049447
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: _____ Date: 3/6/20

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

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

March 6, 2020

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

RE: Closure Request
JRU 29
Incident ID NRM2003049447
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, soil sampling, and remediation activities at the James Ranch Unit (JRU) 29 (Site) in Unit K, Section 36, 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 confirm the presence or absence of impacts to soil from a release of produced water at the Site. Based on field observations, field screening, and laboratory analytical results from soil sampling activities, XTO is submitting this Closure Request and requesting no further action (NFA) for Incident ID NRM2003049447.

RELEASE BACKGROUND

On December 9, 2019, a produced water load line valve was leaking, resulting in the release of approximately 20.38 barrels (bbls) of produced water into an impermeable containment, which overflowed onto the caliche well pad. A vacuum truck was dispatched to the Site to recover freestanding fluids; an estimated 20.0 bbls of produced water were recovered. The net volume of produced water released was 0.38 bbls. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on December 19, 2019. The NMOCD subsequently assigned Incident ID NRM2003049447.

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 321946103492001, located approximately 1.26 miles southeast of the Site. The groundwater well

has a reported depth to groundwater of approximately 144 feet bgs and a total depth of approximately 180 feet bgs. There is a New Mexico Office of the State Engineer (NMOSE) groundwater well that is closer to the Site. The C 03561 is a cluster of four points of diversion (POD), however, they are all dry and have no depth to groundwater data available. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash, located approximately 1.35 miles southwest 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 medium potential karst area.

CLOSURE CRITERIA

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

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

SITE ASSESSMENT AND ANALYTICAL RESULTS

On December 19, 2019, LTE personnel conducted site assessment activities at the Site to evaluate the release extent. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positing System (GPS). LTE personnel collected and field screened three preliminary soil assessment samples at three locations, SS01 through SS03, within the release extent. Locations of preliminary soil samples are presented on Figure 2.

The three soil samples were collected at a depth of 0.5 feet below ground surface (bgs). Soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. All 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 Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for preliminary soil samples SS01 through SS03 indicated benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were below the Closure Criteria. Based on no visible staining in the release areas, field screening results, and laboratory analytical results, excavation activities did not appear to be warranted within the release area; however, LTE personnel planned to return to the site to further confirm the presence or absence of impacts to the soil via vertical delineation.

DELINEATION SOIL SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

On February 4, 2020, LTE personnel oversaw delineation soil sampling at the Site. Two delineation potholes, SS02A and SS03A, were advanced to a depth of approximately two feet bgs. Due to the presence of equipment and underground lines, LTE personnel was unable to collect a delineation soil sample in the location of SS01. One discrete soil sample was collected from each pothole utilizing a track-mounted backhoe at depths of approximately two feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach© chloride QuanTab© test strips, respectively. The locations of delineation pothole samples SS02A and SS03A are presented on Figure 2. The delineation soil samples were handled and analyzed as described above at Xenco in Carlsbad, New Mexico. Photographic documentation was conducted during the delineation soil sampling and is included in Attachment 1.

Laboratory analytical results indicated benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in all the delineation samples. The laboratory analytical results are summarized in Table 1 and the laboratory data reports are provided in Attachment 2.

CONCLUSIONS

Visual observations, field screening results, and laboratory analytical results for preliminary soil samples SS01 through SS03 and delineation soil samples SS02A and SS03A indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. As a result, XTO respectfully requests closure and NFA for Incident ID NRM2003049447.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Tacoma Morrissey
Project Geologist

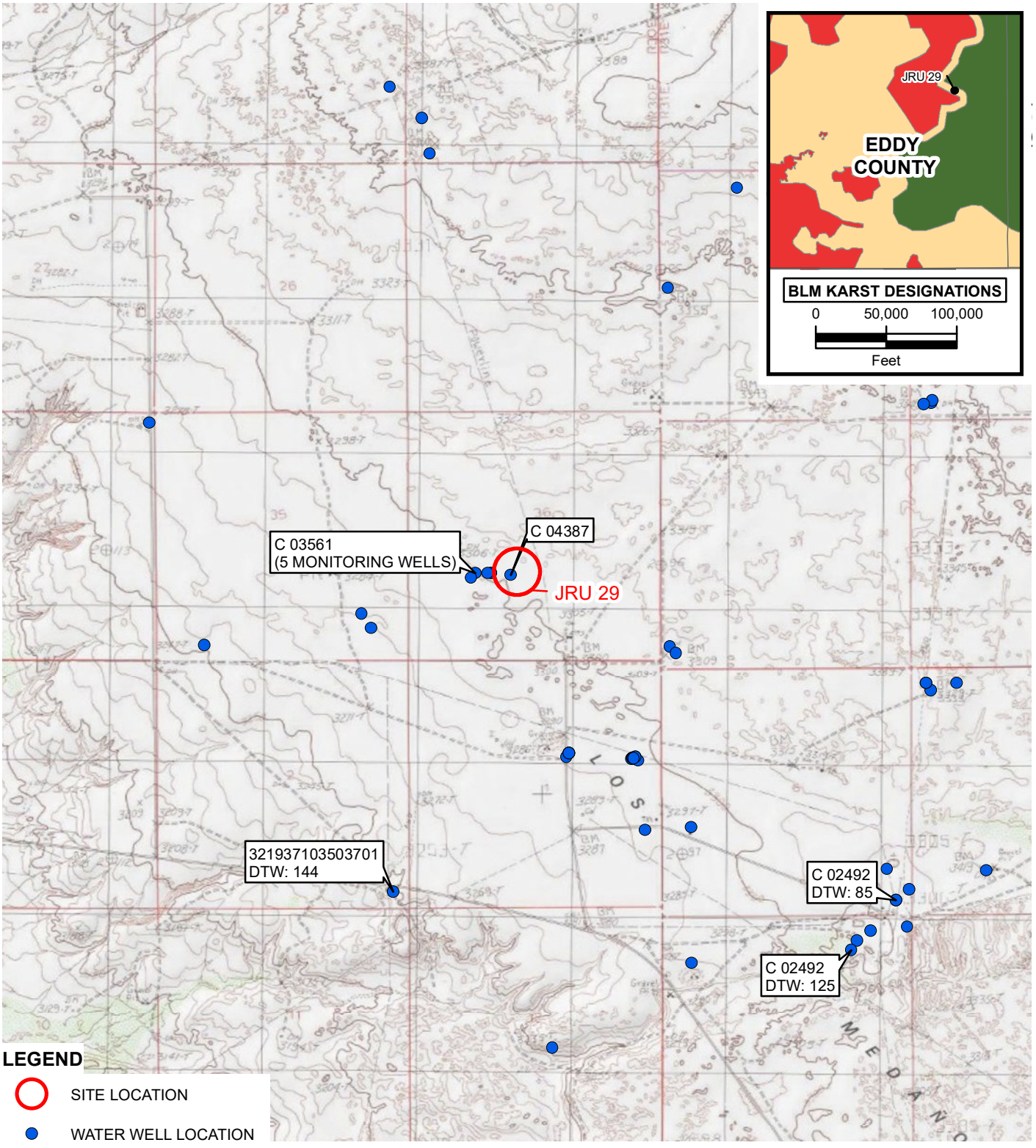
Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Ryan Mann, State Land Office
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Appendices:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Analytical Reports
Attachment 1	Photographic Log
Attachment 2	Laboratory Analytical Reports

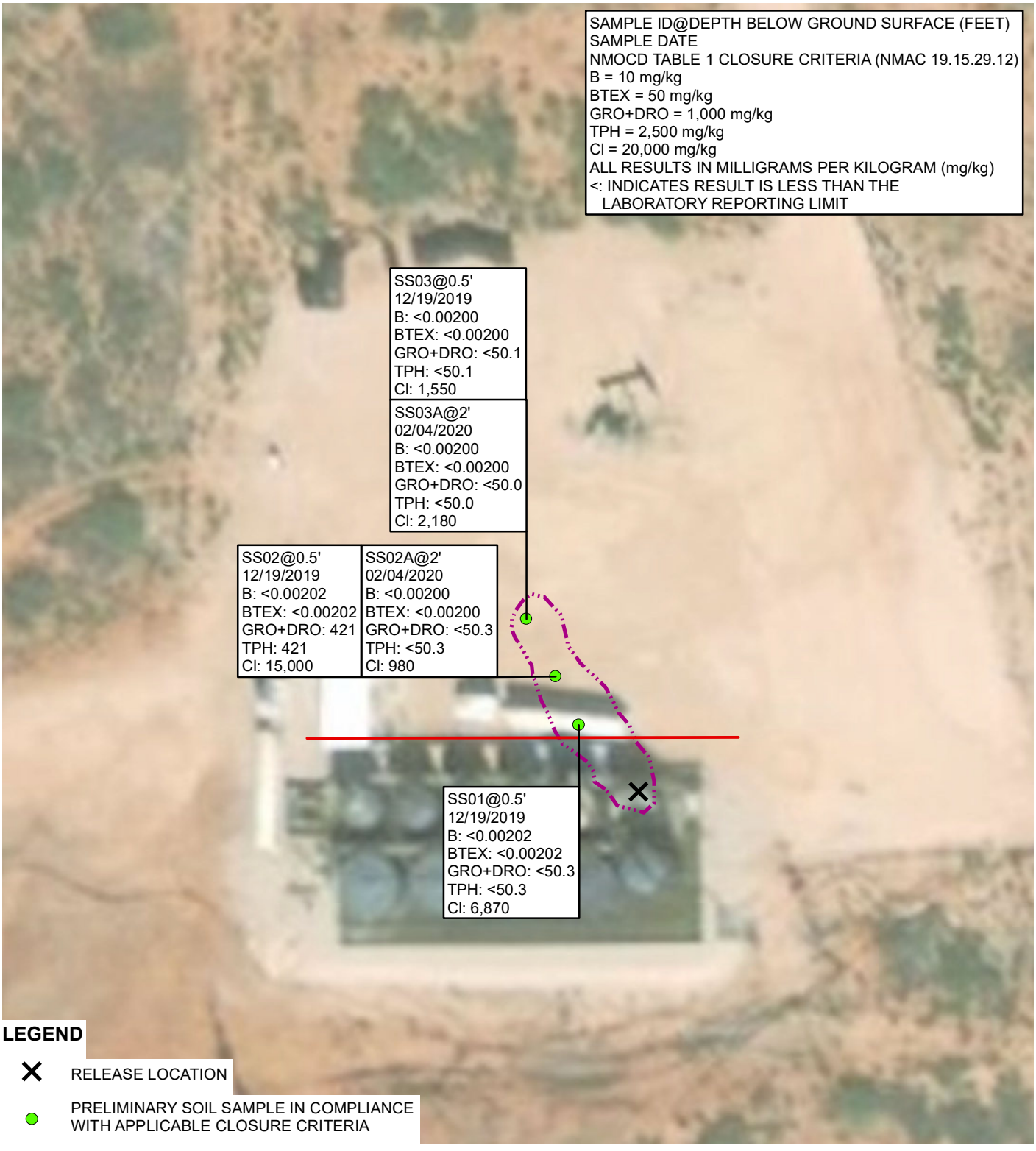
FIGURES



NOTE: INCIDENT NUMBER NRM2003049447
DTW: DEPTH TO WATER IN FEET

FIGURE 1
SITE LOCATION MAP
JRU 29
UNIT K SEC 36 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919304_JRU 29\012919304_FIG01_SL_2020.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: INCIDENT NUMBER NRM2003049447

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
JRU 29
UNIT K SEC 36 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919304_JRU 29\012919304_FIG02_PRELIMINARY_2020.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

JRU 29
INCIDENT ID NRM2003049447
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
SS01	0.5	12/19/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	6,870
SS02	0.5	12/19/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	421	<50.0	421	421	15,000
SS02A	2	02/04/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	980
SS03	0.5	12/19/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,550
SS03A	2	02/04/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	2,180

Notes:

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

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ATTACHMENT 1: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photograph 1: View of the well pad and tank battery facing south.

Photograph 2: View of the release extent during delineation sampling facing south.

JRU 29
32.34648, -103.83548
Photographs Taken: February 4, 2019

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ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

Analytical Report 647198

for

LT Environmental, Inc.

Project Manager: Dan Moir

JRU 29

23-DEC-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

23-DEC-19

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

Reference: XENCO Report No(s): **647198**
JRU 29
Project Address: Spill Date 12/09/19

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 647198. 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. 647198 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 647198

LT Environmental, Inc., Arvada, CO

JRU 29

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	12-19-19 13:50	0.5 ft	647198-001
SS02	S	12-19-19 13:55	0.5 ft	647198-002
SS03	S	12-19-19 14:00	0.5 ft	647198-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 29

Project ID:
Work Order Number(s): *647198*

Report Date: *23-DEC-19*
Date Received: *12/19/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3111386 Chloride by EPA 300

Lab Sample ID 647240-008 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 647198-001, -002, -003.

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

Batch: LBA-3111395 BTEX by EPA 8021B

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

Certificate of Analysis Summary 647198

LT Environmental, Inc., Arvada, CO

Project Name: JRU 29

Project Id:
Contact: Dan Moir
Project Location: Spill Date 12/09/19

Date Received in Lab: Thu Dec-19-19 04:36 pm
Report Date: 23-DEC-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	647198-001		647198-002		647198-003			
	Field Id:	SS01		SS02		SS03			
	Depth:	0.5- ft		0.5- ft		0.5- ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Dec-19-19 13:50		Dec-19-19 13:55		Dec-19-19 14:00			
BTEX by EPA 8021B	***Extracted:***	Dec-20-19 11:30		Dec-20-19 11:30		Dec-20-19 11:30			
	Analyzed:	Dec-20-19 14:36		Dec-20-19 14:53		Dec-20-19 15:11			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200		
Toluene		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200		
Ethylbenzene		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200		
m,p-Xylenes		<0.00403	0.00403	<0.00404	0.00404	<0.00401	0.00401		
o-Xylene		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200		
Total Xylenes		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200		
Total BTEX		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200		
Chloride by EPA 300	***Extracted:***	Dec-20-19 13:00		Dec-20-19 13:00		Dec-20-19 13:00			
	Analyzed:	Dec-20-19 13:59		Dec-20-19 14:16		Dec-20-19 14:22			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		6870	99.8	15000	250	1550	50.4		
TPH by SW8015 Mod	***Extracted:***	Dec-20-19 12:00		Dec-20-19 12:00		Dec-20-19 12:00			
	Analyzed:	Dec-20-19 12:45		Dec-20-19 13:04		Dec-20-19 13:24			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<50.3	50.3	<50.0	50.0	<50.1	50.1		
Diesel Range Organics (DRO)		<50.3	50.3	421	50.0	<50.1	50.1		
Motor Oil Range Hydrocarbons (MRO)		<50.3	50.3	<50.0	50.0	<50.1	50.1		
Total GRO-DRO		<50.3	50.3	421	50.0	<50.1	50.1		
Total TPH		<50.3	50.3	421	50.0	<50.1	50.1		

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 647198

LT Environmental, Inc., Arvada, CO

JRU 29

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	12.19.19 16.36
Lab Sample Id:	647198-001	Date Collected:	12.19.19 13.50	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.20.19 13.00	Basis:	Wet Weight
Seq Number:	3111386				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6870**	99.8	mg/kg	12.20.19 13.59		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.20.19 12.00	Basis:	Wet Weight
Seq Number:	3111438				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.20.19 12.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.20.19 12.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.20.19 12.45	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.20.19 12.45	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.20.19 12.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	12.20.19 12.45	
o-Terphenyl	84-15-1	110	%	70-135	12.20.19 12.45	

Certificate of Analytical Results 647198

LT Environmental, Inc., Arvada, CO

JRU 29

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	12.19.19 16.36
Lab Sample Id:	647198-001	Date Collected:	12.19.19 13.50	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.20.19 11.30	Basis:	Wet Weight
Seq Number:	3111395				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.20.19 14.36	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.20.19 14.36	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.20.19 14.36	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.20.19 14.36	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.20.19 14.36	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.20.19 14.36	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.20.19 14.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.20.19 14.36	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.20.19 14.36	

Certificate of Analytical Results 647198

LT Environmental, Inc., Arvada, CO

JRU 29

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	12.19.19 16.36
Lab Sample Id:	647198-002	Date Collected:	12.19.19 13.55	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.20.19 13.00	Basis:	Wet Weight
Seq Number:	3111386				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15000**	250	mg/kg	12.20.19 14.16		25

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.20.19 12.00	Basis:	Wet Weight
Seq Number:	3111438				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.20.19 13.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	**421**	50.0	mg/kg	12.20.19 13.04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.20.19 13.04	U	1
Total GRO-DRO	PHC628	**421**	50.0	mg/kg	12.20.19 13.04		1
Total TPH	PHC635	**421**	50.0	mg/kg	12.20.19 13.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.20.19 13.04	
o-Terphenyl	84-15-1	103	%	70-135	12.20.19 13.04	

Certificate of Analytical Results 647198

LT Environmental, Inc., Arvada, CO

JRU 29

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	12.19.19 16.36
Lab Sample Id:	647198-002	Date Collected:	12.19.19 13.55	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.20.19 11.30	Basis:	Wet Weight
Seq Number:	3111395				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.20.19 14.53	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.20.19 14.53	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.20.19 14.53	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.20.19 14.53	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.20.19 14.53	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.20.19 14.53	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.20.19 14.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.20.19 14.53	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.20.19 14.53	

Certificate of Analytical Results 647198

LT Environmental, Inc., Arvada, CO

JRU 29

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	12.19.19 16.36
Lab Sample Id:	647198-003	Date Collected:	12.19.19 14.00	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.20.19 13.00	Basis:	Wet Weight
Seq Number:	3111386				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1550**	50.4	mg/kg	12.20.19 14.22		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.20.19 12.00	Basis:	Wet Weight
Seq Number:	3111438				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.20.19 13.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.20.19 13.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.20.19 13.24	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.20.19 13.24	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.20.19 13.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.20.19 13.24	
o-Terphenyl	84-15-1	105	%	70-135	12.20.19 13.24	

Certificate of Analytical Results 647198

LT Environmental, Inc., Arvada, CO

JRU 29

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	12.19.19 16.36
Lab Sample Id:	647198-003	Date Collected:	12.19.19 14.00	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.20.19 11.30	Basis:	Wet Weight
Seq Number:	3111395				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.19 15.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.19 15.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.19 15.11	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.20.19 15.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.19 15.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.19 15.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.19 15.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.20.19 15.11	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.20.19 15.11	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 647198

LT Environmental, Inc.

JRU 29

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3111386 — Matrix: Solid — Date Prep: 12.20.19
MB Sample Id: 7693006-1-BLK — LCS Sample Id: 7693006-1-BKS — LCSD Sample Id: 7693006-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	243	97	90-110	3	20	mg/kg	12.20.19 13:47	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3111386 — Matrix: Soil — Date Prep: 12.20.19
Parent Sample Id: 647198-001 — MS Sample Id: 647198-001 S — MSD Sample Id: 647198-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6870	203	7030	79	7000	65	90-110	0	20	mg/kg	12.20.19 14:04	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3111386 — Matrix: Soil — Date Prep: 12.20.19
Parent Sample Id: 647240-008 — MS Sample Id: 647240-008 S — MSD Sample Id: 647240-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5930	246	6240	126	6240	125	90-110	0	20	mg/kg	12.20.19 15:25	X

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3111438 — Matrix: Solid — Date Prep: 12.20.19
MB Sample Id: 7693003-1-BLK — LCS Sample Id: 7693003-1-BKS — LCSD Sample Id: 7693003-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	927	93	832	83	70-135	11	35	mg/kg	12.20.19 12:25	
Diesel Range Organics (DRO)	<50.0	1000	790	79	890	89	70-135	12	35	mg/kg	12.20.19 12:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		114		110		70-135	%	12.20.19 12:25
o-Terphenyl	120		106		95		70-135	%	12.20.19 12:25

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3111438 — Matrix: Solid — Date Prep: 12.20.19
MB Sample Id: 7693003-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.20.19 12:05	

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 647198

LT Environmental, Inc.

JRU 29

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3111438 — Matrix: Soil — Date Prep: 12.20.19
Parent Sample Id: 647198-001 — MS Sample Id: 647198-001 S — MSD Sample Id: 647198-001 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)	<49.9	997	830	83	964	96	70-135	15	35	mg/kg	12.20.19 12:45	
Diesel Range Organics (DRO)	<49.9	997	693	70	817	82	70-135	16	35	mg/kg	12.20.19 12:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		90		70-135	%	12.20.19 12:45
o-Terphenyl	71		79		70-135	%	12.20.19 12:45

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3111395 — Matrix: Solid — Date Prep: 12.20.19
MB Sample Id: 7693012-1-BLK — LCS Sample Id: 7693012-1-BKS — LCSD Sample Id: 7693012-1-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	0.0990	99	0.105	105	70-130	6	35	mg/kg	12.20.19 12:52	
Toluene	<0.00200	0.100	0.100	100	0.107	107	70-130	7	35	mg/kg	12.20.19 12:52	
Ethylbenzene	<0.00200	0.100	0.0999	100	0.106	106	71-129	6	35	mg/kg	12.20.19 12:52	
m,p-Xylenes	<0.00400	0.200	0.207	104	0.220	110	70-135	6	35	mg/kg	12.20.19 12:52	
o-Xylene	<0.00200	0.100	0.101	101	0.107	107	71-133	6	35	mg/kg	12.20.19 12:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		101		70-130	%	12.20.19 12:52
4-Bromofluorobenzene	100		102		105		70-130	%	12.20.19 12:52

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3111395 — Matrix: Soil — Date Prep: 12.20.19
Parent Sample Id: 647198-001 — MS Sample Id: 647198-001 S — MSD Sample Id: 647198-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0968	96	0.0981	97	70-130	1	35	mg/kg	12.20.19 13:27	
Toluene	<0.00202	0.101	0.0952	94	0.0967	96	70-130	2	35	mg/kg	12.20.19 13:27	
Ethylbenzene	<0.00202	0.101	0.0892	88	0.0910	90	71-129	2	35	mg/kg	12.20.19 13:27	
m,p-Xylenes	<0.000760	0.202	0.184	91	0.188	94	70-135	2	35	mg/kg	12.20.19 13:27	
o-Xylene	<0.00202	0.101	0.0906	90	0.0919	91	71-133	1	35	mg/kg	12.20.19 13:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		70-130	%	12.20.19 13:27
4-Bromofluorobenzene	99		98		70-130	%	12.20.19 13:27

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: 647198

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

Page 1 of 1

Project Manager:	Dan Moir	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:	dmoir@ltenv.com cagbor@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 29	Turn Around	
Project Number:		Routine	☑
P.O. Number:	SPILL DATE - 12/09/19	Rush:	
Sampler's Name:	Chris Agbor	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	6.0	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:	3

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SS01	S	12/09/19	1350	0.5	1	X	X	X	DISCRETE
SS02	↓	↓	1355	0.5	1	X	X	X	↓
SS03	↓	↓	1400	0.5	1	X	X	X	↓

Work Order Notes

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

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 CHRIS AGBOR		12/19/19 14:34	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Analytical Report 651681

for

LT Environmental, Inc.

Project Manager: Dan Moir

JRU - 29

012919304

10-FEB-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

10-FEB-20

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

Reference: XENCO Report No(s): **651681**
JRU - 29
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 651681. 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. 651681 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 651681

LT Environmental, Inc., Arvada, CO

JRU - 29

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS02 A	S	02-04-20 14:20	2 ft	651681-001
SS03 A	S	02-04-20 14:45	2 ft	651681-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU - 29

Project ID: *012919304*
Work Order Number(s): *651681*

Report Date: *10-FEB-20*
Date Received: *02/07/2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115988 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651681

LT Environmental, Inc., Arvada, CO

Project Name: JRU - 29

Project Id: 012919304
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri Feb-07-20 09:38 am
Report Date: 10-FEB-20
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	651681-001		651681-002					
	Field Id:	SS02 A		SS03 A					
	Depth:	2- ft		2- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Feb-04-20 14:20		Feb-04-20 14:45					
BTEX by EPA 8021B	***Extracted:***	Feb-07-20 11:00		Feb-07-20 11:00					
	Analyzed:	Feb-07-20 17:51		Feb-07-20 18:11					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00200	0.00200				
Toluene		<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes		<0.00399	0.00399	<0.00400	0.00400				
o-Xylene		<0.00200	0.00200	<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200				
Total BTEX		<0.00200	0.00200	<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	Feb-07-20 13:30		Feb-07-20 13:30					
	Analyzed:	Feb-07-20 14:22		Feb-07-20 14:28					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		980	10.1	2180	50.4				
TPH by SW8015 Mod	***Extracted:***	Feb-07-20 11:30		Feb-07-20 11:30					
	Analyzed:	Feb-07-20 14:16		Feb-07-20 14:38					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.3	50.3	<50.0	50.0				
Diesel Range Organics (DRO)		<50.3	50.3	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.3	50.3	<50.0	50.0				
Total GRO-DRO		<50.3	50.3	<50.0	50.0				
Total TPH		<50.3	50.3	<50.0	50.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 651681

LT Environmental, Inc., Arvada, CO

JRU - 29

Sample Id:	**SS02 A**	Matrix:	Soil	Date Received:	02.07.20 09.38
Lab Sample Id:	651681-001	Date Collected:	02.04.20 14.20	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.07.20 13.30	Basis:	Wet Weight
Seq Number:	3115992				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**980**	10.1	mg/kg	02.07.20 14.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	02.07.20 11.30	Basis:	Wet Weight
Seq Number:	3116028				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.07.20 14.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.07.20 14.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.07.20 14.16	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.07.20 14.16	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.07.20 14.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.07.20 14.16	
o-Terphenyl	84-15-1	97	%	70-135	02.07.20 14.16	

Certificate of Analytical Results 651681

LT Environmental, Inc., Arvada, CO

JRU - 29

Sample Id:	**SS02 A**	Matrix:	Soil	Date Received:	02.07.20 09.38
Lab Sample Id:	651681-001	Date Collected:	02.04.20 14.20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.07.20 11.00	Basis:	Wet Weight
Seq Number:	3115988				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.07.20 17.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.07.20 17.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.07.20 17.51	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.07.20 17.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.07.20 17.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.07.20 17.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.07.20 17.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.07.20 17.51	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.07.20 17.51	

Certificate of Analytical Results 651681

LT Environmental, Inc., Arvada, CO

JRU - 29

Sample Id: **SS03 A** Matrix: Soil Date Received:02.07.20 09.38

Lab Sample Id: 651681-002 Date Collected: 02.04.20 14.45 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 02.07.20 13.30 Basis: Wet Weight

Seq Number: 3115992

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2180**	50.4	mg/kg	02.07.20 14.28		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 02.07.20 11.30 Basis: Wet Weight

Seq Number: 3116028

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.07.20 14.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.07.20 14.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.07.20 14.38	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.07.20 14.38	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.07.20 14.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.07.20 14.38	
o-Terphenyl	84-15-1	99	%	70-135	02.07.20 14.38	

Certificate of Analytical Results 651681

LT Environmental, Inc., Arvada, CO

JRU - 29

Sample Id:	**SS03 A**	Matrix:	Soil	Date Received:	02.07.20 09.38
Lab Sample Id:	651681-002	Date Collected:	02.04.20 14.45	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.07.20 11.00	Basis:	Wet Weight
Seq Number:	3115988				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.07.20 18.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.07.20 18.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.07.20 18.11	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.07.20 18.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.07.20 18.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.07.20 18.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.07.20 18.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.07.20 18.11	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.07.20 18.11	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 651681

LT Environmental, Inc.

JRU - 29

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3115992 — Matrix: Solid — Date Prep: 02.07.20
MB Sample Id: 7696192-1-BLK — LCS Sample Id: 7696192-1-BKS — LCSD Sample Id: 7696192-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	250	100	90-110	0	20	mg/kg	02.07.20 08:35	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3115992 — Matrix: Soil — Date Prep: 02.07.20
Parent Sample Id: 651630-001 — MS Sample Id: 651630-001 S — MSD Sample Id: 651630-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4760	200	4920	80	4920	80	90-110	0	20	mg/kg	02.07.20 08:51	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3115992 — Matrix: Soil — Date Prep: 02.07.20
Parent Sample Id: 651666-006 — MS Sample Id: 651666-006 S — MSD Sample Id: 651666-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	290	200	495	103	490	101	90-110	1	20	mg/kg	02.07.20 13:37	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3116028 — Matrix: Solid — Date Prep: 02.07.20
MB Sample Id: 7696243-1-BLK — LCS Sample Id: 7696243-1-BKS — LCSD Sample Id: 7696243-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1140	114	1060	106	70-135	7	35	mg/kg	02.07.20 11:57	
Diesel Range Organics (DRO)	<50.0	1000	1180	118	1100	110	70-135	7	35	mg/kg	02.07.20 11:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		119		117		70-135	%	02.07.20 11:57
o-Terphenyl	101		113		109		70-135	%	02.07.20 11:57

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3116028 — Matrix: Solid — Date Prep: 02.07.20
MB Sample Id: 7696243-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.10.20 11:15	

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

QC Summary 651681

LT Environmental, Inc.

JRU - 29

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3116028 — Matrix: Soil — Date Prep: 02.07.20
Parent Sample Id: 651666-001 — MS Sample Id: 651666-001 S — MSD Sample Id: 651666-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	1190	119	1250	124	70-135	5	35	mg/kg	02.07.20 12:17	
Diesel Range Organics (DRO)	326	1000	1280	95	1390	105	70-135	8	35	mg/kg	02.07.20 12:17	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	131		130		70-135	%	02.07.20 12:17
o-Terphenyl	120		131		70-135	%	02.07.20 12:17

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3115988 — Matrix: Solid — Date Prep: 02.07.20
MB Sample Id: 7696221-1-BLK — LCS Sample Id: 7696221-1-BKS — LCSD Sample Id: 7696221-1-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	0.109	109	0.115	115	70-130	5	35	mg/kg	02.07.20 12:04	
Toluene	<0.00200	0.100	0.104	104	0.110	110	70-130	6	35	mg/kg	02.07.20 12:04	
Ethylbenzene	<0.00200	0.100	0.101	101	0.106	106	71-129	5	35	mg/kg	02.07.20 12:04	
m,p-Xylenes	<0.00400	0.200	0.208	104	0.219	110	70-135	5	35	mg/kg	02.07.20 12:04	
o-Xylene	<0.00200	0.100	0.103	103	0.109	109	71-133	6	35	mg/kg	02.07.20 12:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		105		70-130	%	02.07.20 12:04
4-Bromofluorobenzene	98		95		95		70-130	%	02.07.20 12:04

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3115988 — Matrix: Soil — Date Prep: 02.07.20
Parent Sample Id: 651666-001 — MS Sample Id: 651666-001 S — MSD Sample Id: 651666-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.124	125	0.120	120	70-130	3	35	mg/kg	02.07.20 12:45	
Toluene	<0.00198	0.0990	0.117	118	0.114	114	70-130	3	35	mg/kg	02.07.20 12:45	
Ethylbenzene	<0.00198	0.0990	0.110	111	0.107	107	71-129	3	35	mg/kg	02.07.20 12:45	
m,p-Xylenes	<0.00396	0.198	0.223	113	0.217	109	70-135	3	35	mg/kg	02.07.20 12:45	
o-Xylene	<0.00198	0.0990	0.109	110	0.107	107	71-133	2	35	mg/kg	02.07.20 12:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		70-130	%	02.07.20 12:45
4-Bromofluorobenzene	95		94		70-130	%	02.07.20 12:45

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

Chain of Custody

Work Order No: 651681

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

Project Manager:	Dan Moir	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:	dmoir@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 - 29	Turn Around	
Project Number:	012919304	Routine	☑
P.O. Number:		Rush:	
Sampler's Name:	Robert McAfee	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	1.4	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:	2	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SS02A	S	02/04/20	1420	2'	1	X	X	X	discrete
SS03A	S	02/04/20	1445	2'	1	X	X	X	discrete

Work Order Notes

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

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Robert McAfee	Elliot Hall	2/7/20 9:00am	2 Elliot Hall		2/7/20 938
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.07.2020 09.38.00 AM

Work Order #: 651681

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

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 02.07.2020

Checklist reviewed by: Jessica Kramer Date: 02.07.2020

Jessica Kramer