LT Environmental, Inc.
3300 North A Street, Building 1, #103
Midland, Texas 79705
T 432.704.5178 / F 432.704.5179

April 26, 2018

Ms. Crystal Weaver
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Closure Request
James Ranch Unit #65 Flow Line
Remediation Permit Number 2RP-2872
Eddy County, New Mexico

Dear Ms. Weaver;

LT Environmental, Inc. (LTE) on behalf of XTO Energy Inc. (XTO), presents the following letter report detailing the soil sampling activities at the James Ranch Unit (JRU) #65 flow line (Site) in Section 6 of Township 23 South, Range 31 East, in Eddy County, New Mexico (Figure 1). The purpose of the investigation was to assess impacts to soil after external corrosion to a flow line approximately 1,700 feet south of the JRU #65 well pad caused a release of approximately 13 barrels (bbls) of produced water on February 28, 2015. The spill impacted approximately 480 square feet of pasture and approximately 895 square feet of the caliche road. Eight bbls of free-standing fluid were recovered with a vacuum truck. An emergency clamp was placed on the affected flow line and the well was shut down while a section of the flow line was replaced under the caliche road on March 3, 2015. The previous operator reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on March 9, 2015, and was assigned Remediation Permit Number (RP) 2RP-2872 (Attachment 1). Although the impact occurred while the well was operated by the previous operator, XTO is the current operator and is committed to addressing any releases that remain unresolved. The sampling was conducted to assess current site conditions. Based on the results of the sampling event as described herein, XTO is requesting no further action for this release.

BACKGROUND

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 and known aquifer properties. The nearest permitted water well is C 02492, located approximately 4,116 feet south southeast of the Site, with a depth to groundwater of 125 feet bgs and a total depth of 400 feet bgs. The Site is greater than 1,000 feet from a water source and greater than 200 feet from a private or domestic water source. The closest surface water to the Site is an arroyo located approximately 4,410 feet southwest of the Site. Based on these criteria, the NMOCD site ranking for remediation action levels is 0, and the following remediation action levels apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg benzene, toluene, ethylbenzene, and total xylenes (BTEX); and 5,000 mg/kg total petroleum hydrocarbons (TPH). Based on standard practice in this region, LTE proposes a site-specific chloride action level of 600 mg/kg or within 10 percent (%) of the background concentrations.

SOIL SAMPLING

Soil sample locations were based on visual inspection of the Site and the information provided on the initial C-141 Form. Based on the description of the affected area, LTE determined the release occurred approximately 1,700 feet south of the well pad. LTE made an effort to collect representative samples around the reported release source and areas potentially affected by the release. Because the C-141 form does not specify that remediation occurred, other than removal of standing fluids following the 2015 release, it is unlikely that any soil was removed. No visual or olfactory evidence of the release was observed at the Site. LTE collected six soil samples on February 6, 2018, as depicted on Figure 2.

To eliminate effects from weathering and natural degradation of contaminants at the ground surface, subsurface samples were collected from each location at roughly 0.5 feet bgs by hand auger. The soil samples were collected directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis and immediately placed on ice. The samples were delivered at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories in Midland, Texas, for analysis of BTEX by United States Environmental Protection Agency (USEPA) Method 8021B, TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-motor oil range organics (MRO) by USEPA Method SW8015 Modified, and chloride by USEPA Method 300.

ANALYTICAL RESULTS

Laboratory analytical results for all six soil samples indicated BTEX concentrations were below laboratory reporting limits. Laboratory analytical results indicated TPH concentrations in five of the six samples were below laboratory reporting limits. One sample (SS4) had a TPH concentration of 162 mg/kg. Chloride concentrations ranged from below the laboratory reporting limit in soil samples SS2, SS5, and SS6 to 77.7 mg/kg in soil sample SS1. The laboratory analytical results are presented on Figure 2 and in Table 1, and the complete laboratory analytical report is included as Attachment 2.

CONCLUSIONS

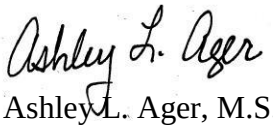
Laboratory analytical results for soil samples collected within the anticipated former release footprint indicate impact to soil, as defined by concentrations of BTEX, TPH, and chloride, do not exceed NMOCD site-specific standards. Initial response efforts and natural degradation have remediated this Site, and XTO requests no further action for this release.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Adrian Baker
Project Geologist



Ashley L. Ager, M.S., P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Mike Bratcher, NMOCD
Jim Amos, BLM
Shelly Tucker, BLM

Attachments:

Figure 1 Site Location Map
Figure 2 Soil Sample Locations
Table 1 Soil Analytical Results: Volatile Organic Compounds
Attachment 1 Initial/ Final NMOCD Form C-141
Attachment 2 Laboratory Analytical Report

FIGURES

Advancing Opportunity

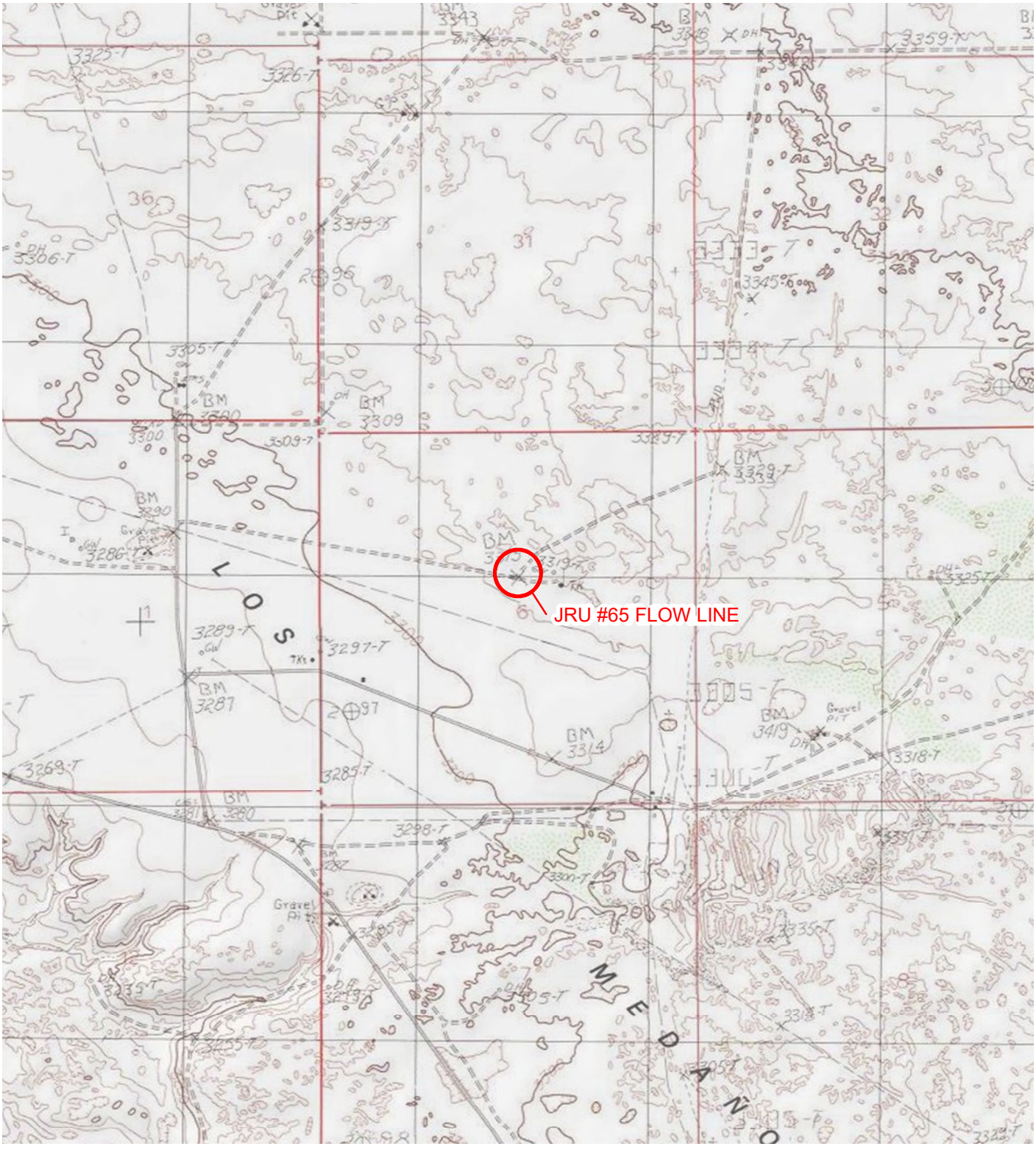


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
JRU #65 FLOW LINE
UNIT F SEC 6 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Remediation Permit Number 2RP-2872

P:\XTO Energy\GIS\MXD\012918033_JRU 65 FLOW LINE\012918033_FIG01_SL_2018.mxd

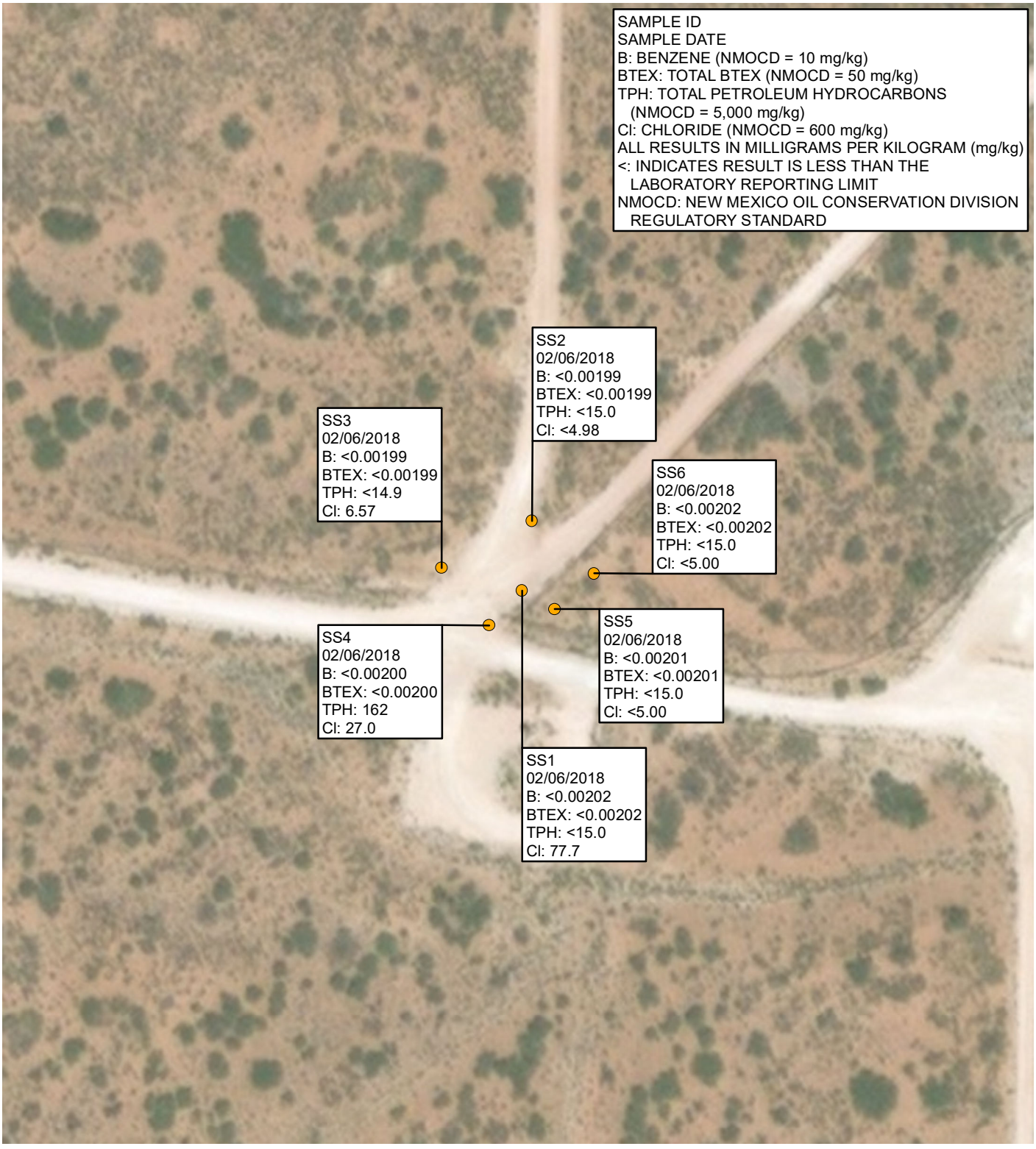


IMAGE COURTESY OF ESRI

LEGEND

- SOIL SAMPLE

0 100 200

Feet

N

FIGURE 2
SOIL SAMPLE LOCATIONS
JRU #65 FLOW LINE
UNIT F SEC 6 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Remediation Permit Number 2RP-2872

P:\XTO Energy\GIS\MXD\012918033_JRU 65 FLOW LINE\012918033_FIG02_SITE_2018.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS
JRU #65 FLOW LINE
REMEDIATION PERMIT NUMBER 2RP-2872
EDDY COUNTY, NEW MEXICO
XTO ENERGY INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6 - C10 Gasoline Range Organics (mg/kg)	C10-C28 Diesel Range Organics (mg/kg)	C28-40 Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS1	0.5	02/06/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	77.7
SS2	0.5	02/06/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<4.98
SS3	0.5	02/06/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	6.57
SS4	0.5	02/06/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	133	28.8	162	27.0
SS5	0.5	02/06/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<5.00
SS6	0.5	02/06/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<5.00
NMOCD Remediation Action Levels			10	NE	NE	NE	50	NE	NE	NE	5,000	600

Notes:
bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
mg/kg - milligrams per kilogram
NE - Not established
NMOCD - New Mexico Oil Conservation Division
TPH - total petroleum hydrocarbons
< - indicates result is below laboratory reporting limits

ATTACHMENT 1

INITIAL/FINAL NMOCD FORM C-141

Advancing Opportunity

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

NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 9 2015
RECEIVED

Form C-141
Revised August 8, 2011
Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1506929643

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. 260737	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: JRU-65 The flow line leak was 1700 ft. south of the well location.	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-27995

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County:
F	6	23S	31E					Eddy

Latitude N 32.335260 **Longitude** W 103.816507

NATURE OF RELEASE

Type of Release: Produced water	Volume of Release: 13 bbls.	Volume Recovered: 8 bbls
Source of Release: 2 7/8" flow line	Date and Hour of Occurrence: 2/28/15 time unknown	Date and Hour of Discovery: 2/28/15 at approximately 1:30 p.m.
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The well had recently been cleaned out. Producing mostly water. The flow line developed a leak due to external corrosion; an emergency clamp was placed on the line. A section of flow line was replaced under the caliche road on 3/3/15.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 480 sq.ft of pasture and approximately 895 sq.ft. of caliche road. All of the free standing fluid was recovered with a vacuum truck. The stained area was left as is pending the final remediation.

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: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Management and Remediation Specialist

E-mail Address: tasavoie@basspet.com

Date: 3/9/15 Phone: 432-556-8730

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 3/10/15 Expiration Date: N/A

Conditions of Approval:
Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 4/10/15

Attached ☐

2RP-2872

* 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

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

nAB1506929643

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company XTO Energy	Contact Kyle Littrell
Address 3104 E Greene Street Carlsbad, N.M. 88220	Telephone No. 432-221-7331
Facility Name JRU-65 The flow line leak was 1700 ft. south of the well location.	Facility Type Exploration and Production

Surface Owner Federal	Mineral Owner Federal	API No. 30-015-27995

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	6	23S	31E					Eddy

Latitude N 32.335260 **Longitude** -103.816507 NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 13 bbls	Volume Recovered 8 bbls
Source of Release 2 7/8" flow line	Date and Hour of Occurrence 2/25/15 time unknown	Date and Hour of Discovery 2/28/2015 @1:30pm
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? NA	
By Whom? NA	Date and Hour NA	
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.*
The well had recently been cleaned out. Producing mostly water. The flow line developed a lead due to external corrosion; an emergency clamp was placed on the line. A section of flow line was replaced under the caliche road on 3/3/15.

Describe Area Affected and Cleanup Action Taken.*

The spill impacted approximately 480 square feet of pasture and approximately 895 square feet southwest of caliche road. All the free-standing fluid was recovered with a vacuum truck. The stained area was left as is pending the final remediation.

LTE collected six soil samples on February 6, 2018. Laboratory analytical results for the six soil samples indicated BTEX, TPH, and chloride were below the NMOCD remediation action levels for this site. XTO requests no further action for the release.

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:

Printed Name: Kyle Littrell

Title: SH&E Coordinator

E-mail Address: Kyle_Littrell@xtoenergy.com

Date: 5/03/2018 Phone: 432-221-7331

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Bradford Billings

Approval Date: 3/19/2020 Expiration Date:

Conditions of Approval:

Attached ☐

* Attach Additional Sheets If Necessary

ATTACHMENT 2

LABORATORY ANALYTICAL REPORT

Advancing Opportunity

Analytical Report 575584

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU 65 Flowline/ 30-015-27995

15-FEB-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

15-FEB-18

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

Reference: XENCO Report No(s): **575584**
JRU 65 Flowline/ 30-015-27995
Project Address: NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 575584. 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. 575584 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
Odessa Laboratory Director

Sample Cross Reference 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS1	S	02-06-18 11:30	6"	575584-001
SS2	S	02-06-18 11:32	6"	575584-002
SS3	S	02-06-18 11:36	6"	575584-003
SS4	S	02-06-18 11:37	6"	575584-004
SS5	S	02-06-18 11:39	6"	575584-005
SS6	S	02-06-18 11:40	6"	575584-006

Client Name: LT Environmental, Inc.

Project Name: JRU 65 Flowline/ 30-015-27995

Project ID:
Work Order Number(s): *575584*

Report Date: *15-FEB-18*
Date Received: *02/07/2018*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3040890 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3040912 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 575584

LT Environmental, Inc., Arvada, CO

Project Name: JRU 65 Flowline/ 30-015-27995

Project Id:

Contact: Adrian Baker

Project Location: NM

Date Received in Lab: Wed Feb-07-18 08:00 am

Report Date: 15-FEB-18

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	575584-001		575584-002		575584-003		575584-004		575584-005		575584-006	
	Field Id:	SS1		SS2		SS3		SS4		SS5		SS6	
	Depth:	6"-		6"-		6"-		6"-		6"-		6"-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-06-18 11:30		Feb-06-18 11:32		Feb-06-18 11:36		Feb-06-18 11:37		Feb-06-18 11:39		Feb-06-18 11:40	
BTEX by EPA 8021B	***Extracted:***	Feb-10-18 08:45		Feb-10-18 08:45		Feb-13-18 10:00		Feb-13-18 10:00		Feb-10-18 08:45		Feb-10-18 08:45	
	Analyzed:	Feb-10-18 18:48		Feb-10-18 19:46		Feb-13-18 16:50		Feb-13-18 17:09		Feb-10-18 20:40		Feb-10-18 20:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
Toluene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
m,p-Xylenes		<0.00403	0.00403	<0.00398	0.00398	<0.00398	0.00398	<0.00399	0.00399	<0.00402	0.00402	<0.00404	0.00404
o-Xylene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
Total Xylenes		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
Total BTEX		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
Inorganic Anions by EPA 300	***Extracted:***	Feb-14-18 11:00		Feb-14-18 11:00		Feb-14-18 11:00		Feb-14-18 11:00		Feb-14-18 11:00		Feb-14-18 11:00	
	Analyzed:	Feb-14-18 15:26		Feb-14-18 15:44		Feb-14-18 15:50		Feb-14-18 15:56		Feb-14-18 16:02		Feb-14-18 16:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		77.7	4.99	<4.98	4.98	6.57	5.00	27.0	4.91	<5.00	5.00	<5.00	5.00
TPH by SW8015 Mod	***Extracted:***	Feb-10-18 13:00		Feb-10-18 13:00		Feb-10-18 13:00		Feb-10-18 13:00		Feb-10-18 13:00		Feb-10-18 13:00	
	Analyzed:	Feb-11-18 21:01		Feb-11-18 21:22		Feb-11-18 21:43		Feb-11-18 22:03		Feb-11-18 22:23		Feb-11-18 23:25	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	133	14.9	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	28.8	14.9	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<14.9	14.9	162	14.9	<15.0	15.0	<15.0	15.0

Jessica Kramer
Odessa Laboratory Director

Certificate of Analytical Results 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS1**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-001	Date Collected:	02.06.18 11.30	Sample Depth:	6"

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.14.18 11.00	Basis:	Wet Weight
Seq Number:	3041037				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**77.7**	4.99	mg/kg	02.14.18 15.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.10.18 13.00	Basis:	Wet Weight
Seq Number:	3040800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.11.18 21.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.11.18 21.01	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.11.18 21.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.11.18 21.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.11.18 21.01	
o-Terphenyl	84-15-1	95	%	70-135	02.11.18 21.01	

Certificate of Analytical Results 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS1**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-001	Date Collected:	02.06.18 11.30	Sample Depth:	6"
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.10.18 08.45	Basis:	Wet Weight
Seq Number:	3040890				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.10.18 18.48	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.10.18 18.48	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.10.18 18.48	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.10.18 18.48	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.10.18 18.48	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.10.18 18.48	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.10.18 18.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	80-120	02.10.18 18.48	
1,4-Difluorobenzene	540-36-3	92	%	80-120	02.10.18 18.48	

Certificate of Analytical Results 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS2**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-002	Date Collected:	02.06.18 11.32	Sample Depth:	6"

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.14.18 11.00	Basis:	Wet Weight
Seq Number:	3041037				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	02.14.18 15.44	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.10.18 13.00	Basis:	Wet Weight
Seq Number:	3040800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.11.18 21.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.11.18 21.22	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.11.18 21.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.11.18 21.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	02.11.18 21.22	
o-Terphenyl	84-15-1	113	%	70-135	02.11.18 21.22	

Certificate of Analytical Results 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS2**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-002	Date Collected:	02.06.18 11.32	Sample Depth:	6"
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.10.18 08.45	Basis:	Wet Weight
Seq Number:	3040890				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.10.18 19.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.10.18 19.46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.10.18 19.46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.10.18 19.46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.10.18 19.46	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.10.18 19.46	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.10.18 19.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	85	%	80-120	02.10.18 19.46	
4-Bromofluorobenzene	460-00-4	111	%	80-120	02.10.18 19.46	

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS3**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-003	Date Collected:	02.06.18 11.36	Sample Depth:	6"

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.14.18 11.00	Basis:	Wet Weight
Seq Number:	3041037				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.57**	5.00	mg/kg	02.14.18 15.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.10.18 13.00	Basis:	Wet Weight
Seq Number:	3040800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.11.18 21.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.11.18 21.43	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.11.18 21.43	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.11.18 21.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	02.11.18 21.43	
o-Terphenyl	84-15-1	116	%	70-135	02.11.18 21.43	

Certificate of Analytical Results 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS3**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-003	Date Collected:	02.06.18 11.36	Sample Depth:	6"
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.13.18 10.00	Basis:	Wet Weight
Seq Number:	3040912				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.13.18 16.50	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.13.18 16.50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.13.18 16.50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.13.18 16.50	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.13.18 16.50	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.13.18 16.50	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.13.18 16.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	80-120	02.13.18 16.50	
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.13.18 16.50	

Certificate of Analytical Results 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS4**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-004	Date Collected:	02.06.18 11.37	Sample Depth:	6"

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.14.18 11.00	Basis:	Wet Weight
Seq Number:	3041037				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**27.0**	4.91	mg/kg	02.14.18 15.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.10.18 13.00	Basis:	Wet Weight
Seq Number:	3040800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.11.18 22.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	**133**	14.9	mg/kg	02.11.18 22.03		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**28.8**	14.9	mg/kg	02.11.18 22.03		1
Total TPH	PHC635	**162**	14.9	mg/kg	02.11.18 22.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	02.11.18 22.03	
o-Terphenyl	84-15-1	105	%	70-135	02.11.18 22.03	

Certificate of Analytical Results 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS4**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-004	Date Collected:	02.06.18 11.37	Sample Depth:	6"
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.13.18 10.00	Basis:	Wet Weight
Seq Number:	3040912				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.18 17.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.13.18 17.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.13.18 17.09	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.13.18 17.09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.13.18 17.09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.13.18 17.09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.13.18 17.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	80-120	02.13.18 17.09	
4-Bromofluorobenzene	460-00-4	103	%	80-120	02.13.18 17.09	

Certificate of Analytical Results 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS5**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-005	Date Collected:	02.06.18 11.39	Sample Depth:	6"

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.14.18 11.00	Basis:	Wet Weight
Seq Number:	3041037				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	02.14.18 16.02	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.10.18 13.00	Basis:	Wet Weight
Seq Number:	3040800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.11.18 22.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.11.18 22.23	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.11.18 22.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.11.18 22.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	02.11.18 22.23	
o-Terphenyl	84-15-1	115	%	70-135	02.11.18 22.23	

Certificate of Analytical Results 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS5**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-005	Date Collected:	02.06.18 11.39	Sample Depth:	6"
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.10.18 08.45	Basis:	Wet Weight
Seq Number:	3040890				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.10.18 20.40	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.10.18 20.40	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.10.18 20.40	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.10.18 20.40	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.10.18 20.40	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.10.18 20.40	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.10.18 20.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.10.18 20.40	
4-Bromofluorobenzene	460-00-4	98	%	80-120	02.10.18 20.40	

Certificate of Analytical Results 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS6**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-006	Date Collected:	02.06.18 11.40	Sample Depth:	6"

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.14.18 11.00	Basis:	Wet Weight
Seq Number:	3041037				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	02.14.18 16.08	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.10.18 13.00	Basis:	Wet Weight
Seq Number:	3040800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.11.18 23.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.11.18 23.25	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.11.18 23.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.11.18 23.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.11.18 23.25	
o-Terphenyl	84-15-1	101	%	70-135	02.11.18 23.25	

Certificate of Analytical Results 575584

LT Environmental, Inc., Arvada, CO

JRU 65 Flowline/ 30-015-27995

Sample Id:	**SS6**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575584-006	Date Collected:	02.06.18 11.40	Sample Depth:	6"
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.10.18 08.45	Basis:	Wet Weight
Seq Number:	3040890				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.10.18 20.59	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.10.18 20.59	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.10.18 20.59	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.10.18 20.59	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.10.18 20.59	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.10.18 20.59	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.10.18 20.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.10.18 20.59	
4-Bromofluorobenzene	460-00-4	96	%	80-120	02.10.18 20.59	

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

+ NELAC certification not offered for this compound.

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

QC Summary 575584

LT Environmental, Inc.

JRU 65 Flowline/ 30-015-27995

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041037 Matrix: Solid Date Prep: 02.14.18
MB Sample Id: 7639085-1-BLK LCS Sample Id: 7639085-1-BKS LCSD Sample Id: 7639085-1-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	273	109	273	109	90-110	0	20	mg/kg	02.14.18 12:44	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041037 Matrix: Soil Date Prep: 02.14.18
Parent Sample Id: 575583-005 MS Sample Id: 575583-005 S MSD Sample Id: 575583-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.90	245	288	118	293	120	90-110	2	20	mg/kg	02.14.18 15:09	X

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041037 Matrix: Soil Date Prep: 02.14.18
Parent Sample Id: 576310-003 MS Sample Id: 576310-003 S MSD Sample Id: 576310-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	846	250	1110	106	1090	98	90-110	2	20	mg/kg	02.14.18 13:02	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3040800 Matrix: Solid Date Prep: 02.10.18
MB Sample Id: 7638965-1-BLK LCS Sample Id: 7638965-1-BKS LCSD Sample Id: 7638965-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1010	101	1030	103	70-135	2	35	mg/kg	02.11.18 17:53	
Diesel Range Organics (DRO)	<15.0	1000	1130	113	1100	110	70-135	3	35	mg/kg	02.11.18 17:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		114		114		70-135	%	02.11.18 17:53
o-Terphenyl	105		113		108		70-135	%	02.11.18 17:53

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
E = MSD/LCSD Result

QC Summary 575584

LT Environmental, Inc.

JRU 65 Flowline/ 30-015-27995

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3040800 Matrix: Soil Date Prep: 02.10.18
Parent Sample Id: 575590-001 MS Sample Id: 575590-001 S MSD Sample Id: 575590-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	815	82	840	84	70-135	3	35	mg/kg	02.11.18 18:55	
Diesel Range Organics (DRO)	<15.0	999	920	92	969	97	70-135	5	35	mg/kg	02.11.18 18:55	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		91		70-135	%	02.11.18 18:55
o-Terphenyl	85		93		70-135	%	02.11.18 18:55

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3040890 Matrix: Solid Date Prep: 02.10.18
MB Sample Id: 7638896-1-BLK LCS Sample Id: 7638896-1-BKS LCSD Sample Id: 7638896-1-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	0.0996	0.0751	75	0.0780	79	70-130	4	35	mg/kg	02.10.18 11:00	
Toluene	<0.00199	0.0996	0.0755	76	0.0763	77	70-130	1	35	mg/kg	02.10.18 11:00	
Ethylbenzene	<0.00199	0.0996	0.0784	79	0.0791	80	71-129	1	35	mg/kg	02.10.18 11:00	
m,p-Xylenes	<0.00398	0.199	0.153	77	0.155	78	70-135	1	35	mg/kg	02.10.18 11:00	
o-Xylene	<0.00199	0.0996	0.0769	77	0.0776	78	71-133	1	35	mg/kg	02.10.18 11:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	82		89		97		80-120	%	02.10.18 11:00
4-Bromofluorobenzene	81		95		104		80-120	%	02.10.18 11:00

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3040912 Matrix: Solid Date Prep: 02.13.18
MB Sample Id: 7639041-1-BLK LCS Sample Id: 7639041-1-BKS LCSD Sample Id: 7639041-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.0991	100	0.0885	89	70-130	11	35	mg/kg	02.13.18 11:26	
Toluene	<0.00198	0.0990	0.0965	97	0.0869	87	70-130	10	35	mg/kg	02.13.18 11:26	
Ethylbenzene	<0.00198	0.0990	0.100	101	0.0903	90	71-129	10	35	mg/kg	02.13.18 11:26	
m,p-Xylenes	<0.00396	0.198	0.195	98	0.176	88	70-135	10	35	mg/kg	02.13.18 11:26	
o-Xylene	<0.00198	0.0990	0.0993	100	0.0899	90	71-133	10	35	mg/kg	02.13.18 11:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	82		88		92		80-120	%	02.13.18 11:26
4-Bromofluorobenzene	112		119		115		80-120	%	02.13.18 11:26

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

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

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

QC Summary 575584

LT Environmental, Inc.

JRU 65 Flowline/ 30-015-27995

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

Seq Number: 3040890 Matrix: Soil Date Prep: 02.10.18

Parent Sample Id: 575587-001 MS Sample Id: 575587-001 S MSD Sample Id: 575587-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.155	155	0.0946	94	70-130	48	35	mg/kg	02.10.18 11:38	XF
Toluene	<0.00200	0.100	0.0852	85	0.0896	89	70-130	5	35	mg/kg	02.10.18 11:38	
Ethylbenzene	<0.00200	0.100	0.0881	88	0.0929	92	71-129	5	35	mg/kg	02.10.18 11:38	
m,p-Xylenes	<0.00401	0.200	0.171	86	0.181	90	70-135	6	35	mg/kg	02.10.18 11:38	
o-Xylene	<0.00200	0.100	0.0859	86	0.0909	90	71-133	6	35	mg/kg	02.10.18 11:38	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		92		80-120	%	02.10.18 11:38
4-Bromofluorobenzene	100		100		80-120	%	02.10.18 11:38

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

Seq Number: 3040912 Matrix: Soil Date Prep: 02.13.18

Parent Sample Id: 576101-001 MS Sample Id: 576101-001 S MSD Sample Id: 576101-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0829	83	0.0930	92	70-130	11	35	mg/kg	02.13.18 12:41	
Toluene	0.00203	0.0994	0.0440	42	0.0441	42	70-130	0	35	mg/kg	02.13.18 12:41	X
Ethylbenzene	<0.00199	0.0994	0.0437	44	0.0367	36	71-129	17	35	mg/kg	02.13.18 12:41	X
m,p-Xylenes	<0.00398	0.199	0.0860	43	0.0666	33	70-135	25	35	mg/kg	02.13.18 12:41	X
o-Xylene	<0.00199	0.0994	0.0430	43	0.0329	33	71-133	27	35	mg/kg	02.13.18 12:41	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		83		80-120	%	02.13.18 12:41
4-Bromofluorobenzene	81		80		80-120	%	02.13.18 12:41

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

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

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

Page 1 Of 1

Revision 2016.1

XENCO LABORATORIES

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Service Center- Hobbs, NM (575) 392-7550

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Xenco Quote #

Xenco Job # 575584

Client / Reporting Information

Company Name / Branch: LT environmental / Permian
Company Address: 3300 N A Street Bldg 1 Suite 103
Email: Abaker@LTEN[illegible].com Phone No: 432-704-5178
Project Contact: Adrian Baker
Samplers's Name: Aaron Williamson

Project Information

Project Name/Number: JRU 65 Flow Line / 30-015-27995
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30 015 27995

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface Water
SL - Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Btex Method 8021	TPH Method 8015	Chloride Method 300.1	Field Comments
1	SS1	6"	4/6/18	11:30	S	1									X	X	X	
2	SS2			11:32											X	X	X	
3	SS3			11:36											X	X	X	
4	SS4			11:37											X	X	X	
5	SS5			11:39											X	X	X	
6	SS6			11:40											X	X	X	
7																		
8																		
9																		
10	NFE Permian																	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY — Standard TAT
- TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] Level II Report with TRRP checklist

Notes:

Temp: 4 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.8

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		4/6/18 17:45	1	2	4/7/18 8:00 Am	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice ✓ Cooler Temp. Thermo. Corr. Factor

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

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/07/2018 08:00:00 AM

Work Order #: 575584

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)?	3.8
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Connie Hernandez Date: 02/07/2018

Checklist reviewed by: Jessica Kramer Date: 02/07/2018