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

October 22, 2018

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

RE: Closure Request
PLU-333H Flow Line
Remediation Permit Number 2RP-2667
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following letter report detailing the soil sampling activities at a release from a flow line associated with the PLU #333H (Site) located in Unit P, Section 24, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The release occurred approximately 1.64 miles southeast of the well pad and approximately 963 feet northeast of the PLU-78 Tank Battery. The purpose of the investigation was to assess impacts to soil after the flow line developed a leak due to external corrosion. The leak caused a release of approximately 2 barrels (bbls) of crude oil and 6 bbls of produced water that was discovered on December 8, 2014. The spill impacted approximately 270 square feet of pasture and approximately 1,450 square feet of lease road. Approximately 5 bbls of total fluid was recovered with a vacuum truck. 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 December 15, 2014, and was assigned Remediation Permit Number (RP) 2RP-2667 (Attachment 1). Based on the results of the sampling events described herein, XTO is requesting no further action for this release.

BACKGROUND

Because the release and remediation work was conducted prior to August 14, 2018, LTE applied criteria in the NMOCD 1993 *Guidelines for Leaks, Spills, and Releases* for determining remediation action levels. Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on water well data and known aquifer properties. The nearest permitted water well with depth to water data is C 02110, located approximately 1.58 miles west of the Site with a depth to groundwater of 400 feet and a total depth of 600 feet bgs. The closest surface water to the Site is a seasonal playa lake located approximately 1.49 miles northwest of the Site. The Site is greater than 200 feet from any private domestic water source and greater than 1,000 feet from a water source. 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 total benzene, toluene, ethylbenzene, and total xylenes (BTEX); and 5,000 mg/kg total petroleum hydrocarbons (TPH). Based on standard practice in this region, LTE applied a site-specific chloride action level of 600 mg/kg.

SOIL SAMPLING

On April 9, 2018, an LTE scientist collected four soil samples (SS1 through SS4) from a depth of 0.5-foot bgs to assess the lateral and vertical extent of soil impacts. The soil sample locations, depicted on Figure 2, were based on information provided in the initial Form C-141 and field observations. Soil samples were screened for volatile aromatic hydrocarbons using a photo-ionization detector (PID) equipped with a 10.6 electron volt lamp in accordance with the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*, August 13, 1993. The soil samples were collected and placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler, method of analysis, and immediately placed on ice. The soil samples were shipped at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico, 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- oil range organics (ORO) by USEPA Method 8015M/D, and chloride by USEPA Method 300.

On June, 8 2018, an LTE scientist collected an additional four soil samples (SS05 through SS08) from a depth of 0.5-foot bgs to further delineate laterally from the release location, based on information in the initial Form C-141. Soil samples were handled as previously described and delivered to Xenco Laboratory in Midland, Texas. The soil sample locations are depicted on Figure 2.

ANALYTICAL RESULTS

Laboratory analytical results indicated that soil samples SS1 through SS08 were compliant with the NMOCD site-specific remediation action levels for BTEX, TPH, and chloride. Laboratory analytical results are presented on Figure 2, summarized in Table 1, and the complete laboratory analytical reports are included as Attachment 2.

CONCLUSIONS

Laboratory analytical results for the confirmation soil samples collected indicate impact to soil, as defined by concentrations of BTEX, TPH, and chloride, do not exceed NMOCD site-specific remediation action levels. Initial response efforts and natural degradation have remediated this Site. XTO requests no further action for this release. An updated NMOCD Form C-141 is included with Attachment 1.

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

Sincerely,

LT ENVIRONMENTAL, INC.

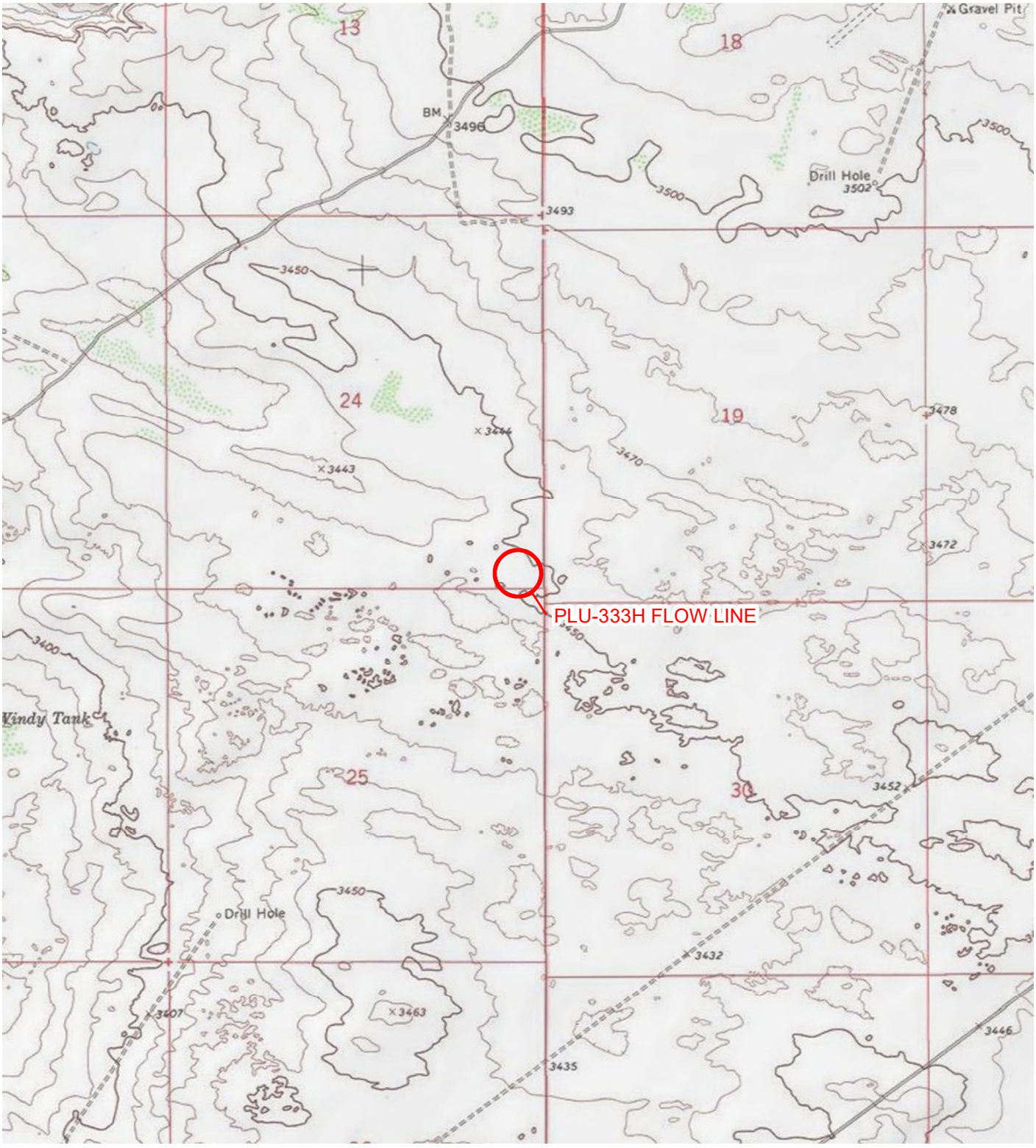
Adrian Baker
Project Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Maria Pruett, NMOCD
Shelly Tucker, BLM

Attachments:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-2667)
Attachment 2	Laboratory Analytical Reports



LEGEND

IMAGE COURTESY OF ESRI/USGS

SITE LOCATION

0 2,000 4,000

Feet

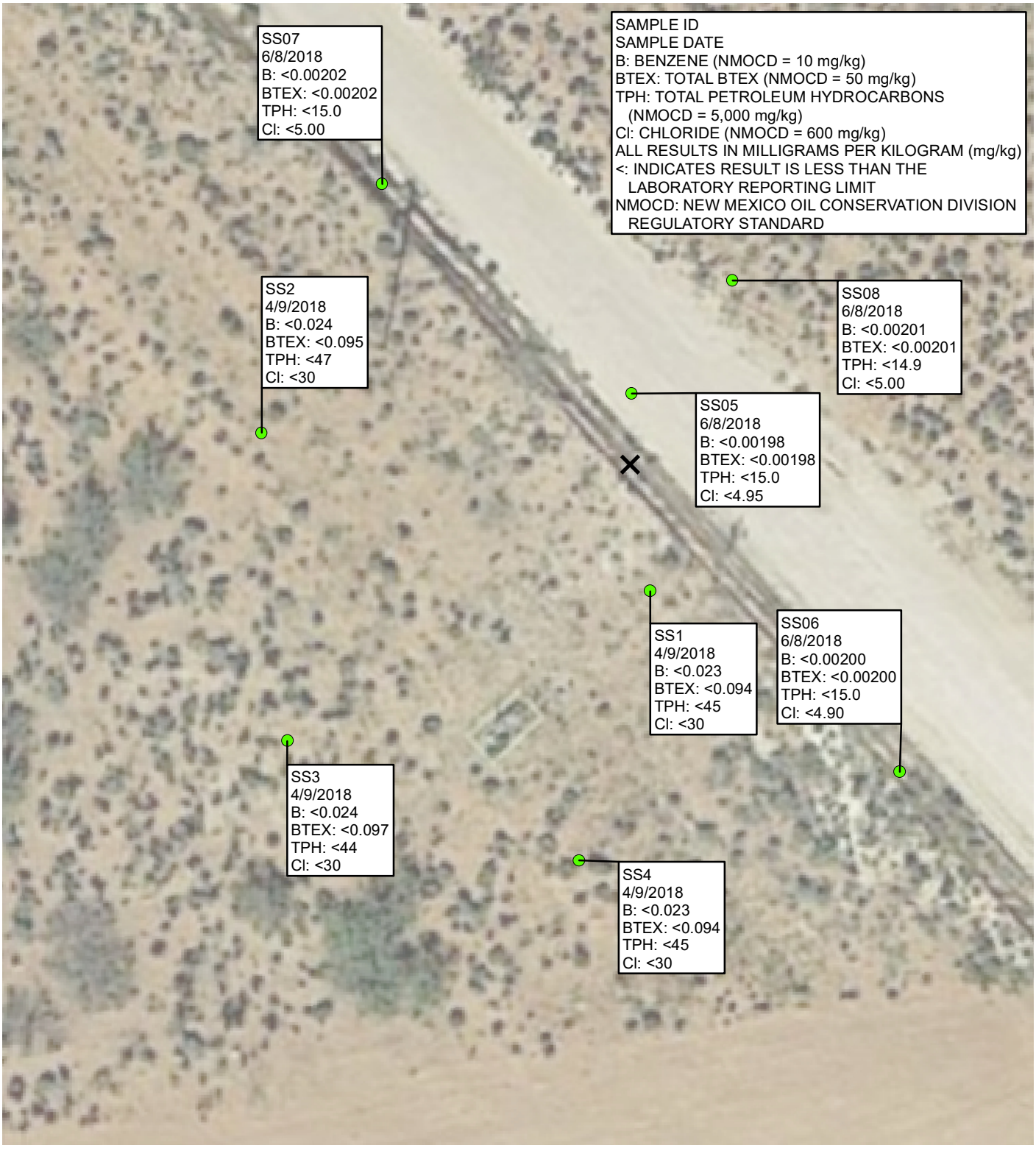
N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-2667

FIGURE 1
SITE LOCATION MAP
PLU-333H FLOW LINE
SESE SEC 24 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918084_PLU 333H_2RP-2667\012918084_FIG01_SL_2018_2667.mxd



LEGEND

IMAGE COURTESY OF GOOGLE EARTH 2017

✕ RELEASE LOCATION

● FINAL CONFIRMATION SOIL SAMPLE

0 30 60

Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-2667

FIGURE 2
SOIL SAMPLE LOCATIONS
PLU-333H FLOW LINE
UNIT P SEC 24 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918084_PLU 333H_2RP-2667\012918084_FIG02_SITE_2018_2667.mxd

TABLE 1
SOIL ANALYTICAL RESULTS

PLU-333H FLOW LINE
REMEDIATION PERMIT NUMBER 2RP-2667
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-C40 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS1	0.5	4/9/2018	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<9.1	<45	<45	<30
SS2	0.5	4/9/2018	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	<9.4	<47	<47	<30
SS3	0.5	4/9/2018	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<8.9	<44	<44	<30
SS4	0.5	4/9/2018	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<9.0	<45	<45	<30
SS05 @ 6"	0.5	6/8/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<4.95
SS06	0.5	6/8/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<4.90
SS07	0.5	6/8/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<5.00
SS08	0.5	6/8/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<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 detection limit
Bold indicates result exceeds the applicable regulatory standard.

ATTACHMENT 1: INITAIL/ FINAL NMOCD FORM C-141 (2RP-2667)

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
DEC 15 2014
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

nAB1435050931 — 3RP-737

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P.	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: PLU-333H Flow Line spill approximately 1.64 miles S.E. of the well and approximately 963 ft. N.E. of the Tank Battery at the PLU-78	Facility Type: Exploration and Production T.S. 39294

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-~~39924~~

LOCATION OF RELEASE

T.S

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	24	24S	~~24E~~ 30S					Eddy

Latitude N 32.196777 Longitude W 103.826680

NATURE OF RELEASE

Type of Release: Crude oil and produced water	Volume of Release: 2 bbl oil and 6 bbls produced water	Volume Recovered: 5 bbls. Total fluid
Source of Release: 2 7/8" flow line	Date and Hour of Occurrence: 12/8/14 time unknown	Date and Hour of Discovery: 12/8/14 at approximately 4:45 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 flow line developed a leak due to external corrosion. A repair clamp was placed on the affected area until the flow line could be drained and a section of pipe replaced.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 270 sq.ft. of pasture land and approximately 1450 sq.ft. of lease road. The flow line is located in an area with at least 10 other flow lines. There have been previous spills from the older flow lines in the corridor.
The spill area will be cleaned up in accordance to the NMOCD and BLM remediation guidelines.

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: 12/15/14 Phone: 432-556-8730

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By Mike Bratcher

Approval Date: 12/16/14 Expiration Date: N/A

Conditions of Approval: Attached ☐

Remediation per O.C.D. Rules & Guidelines
~~SUBMIT REMEDIATION PROPOSAL NO~~
LATER THAN: 1/16/15

2RP-2667

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	2RP-2667
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 3104 E Green St., Carlsbad, N.M. 88220	

Location of Release Source

Latitude 32.196777 Longitude 103.826680
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU-333H Flow Line spill approximately 1.64 miles SE of the well and approximately 963 ft. NE of the Tank Battery at the PLU-78	Site Type Exploration and Production
Date Release Discovered 12/8/2018	API# *(if applicable)* 30-015-39294

Unit Letter	Section	Township	Range	County
P	24	24S	30S	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) 2	Volume Recovered (bbls) 5 total fluids
☒ Produced Water	Volume Released (bbls) 6	Volume Recovered (bbls) 5 total fluids
	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
The flow line developed a leak due to external corrosion. A repair clamp was placed on the affected area until the flow line could be drained and a section of pipe replaced.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-2667
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?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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:

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 Coordinator

Signature: Date: 10/22/2018

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	nAB1435050931
District RP	2RP-2667
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: 10/22/2018

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: Bradford Billings Date: 03/19/2020

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

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 24, 2018

Adrian Baker
LTE
3300 N A St Bldg 1 #103
Midland, TX 79705
TEL: (432) 704-5178
FAX

RE: PLU 333H flowline spill OrderNo.: 1804860

Dear Adrian Baker:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/17/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1804860**
Date Reported: **4/24/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SS1
Project: PLU 333H flowline spill
Collection Date: 4/9/2018 10:05:00 AM
Lab ID: 1804860-001
Matrix: SOIL
Received Date: 4/17/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/23/2018 4:52:38 PM	37741
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/19/2018 10:04:13 PM	37670
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/19/2018 10:04:13 PM	37670
Surr: DNOP	98.2	70-130		%Rec	1	4/19/2018 10:04:13 PM	37670
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/19/2018 1:05:12 PM	37656
Surr: BFB	90.8	15-316		%Rec	1	4/19/2018 1:05:12 PM	37656
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	4/19/2018 1:05:12 PM	37656
Benzene	ND	0.023		mg/Kg	1	4/19/2018 1:05:12 PM	37656
Toluene	ND	0.047		mg/Kg	1	4/19/2018 1:05:12 PM	37656
Ethylbenzene	ND	0.047		mg/Kg	1	4/19/2018 1:05:12 PM	37656
Xylenes, Total	ND	0.094		mg/Kg	1	4/19/2018 1:05:12 PM	37656
Surr: 4-Bromofluorobenzene	81.1	80-120		%Rec	1	4/19/2018 1:05:12 PM	37656

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SS2
Project: PLU 333H flowline spill
Collection Date: 4/9/2018 10:10:00 AM
Lab ID: 1804860-002
Matrix: SOIL
Received Date: 4/17/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/23/2018 5:05:03 PM	37741
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/19/2018 10:28:01 PM	37670
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/19/2018 10:28:01 PM	37670
Surr: DNOP	97.8	70-130		%Rec	1	4/19/2018 10:28:01 PM	37670
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/19/2018 1:28:28 PM	37656
Surr: BFB	89.4	15-316		%Rec	1	4/19/2018 1:28:28 PM	37656
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	4/19/2018 1:28:28 PM	37656
Benzene	ND	0.024		mg/Kg	1	4/19/2018 1:28:28 PM	37656
Toluene	ND	0.048		mg/Kg	1	4/19/2018 1:28:28 PM	37656
Ethylbenzene	ND	0.048		mg/Kg	1	4/19/2018 1:28:28 PM	37656
Xylenes, Total	ND	0.095		mg/Kg	1	4/19/2018 1:28:28 PM	37656
Surr: 4-Bromofluorobenzene	79.9	80-120	S	%Rec	1	4/19/2018 1:28:28 PM	37656

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SS3
Project: PLU 333H flowline spill
Collection Date: 4/9/2018 10:15:00 AM
Lab ID: 1804860-003
Matrix: SOIL
Received Date: 4/17/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/23/2018 5:17:28 PM	37741
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	4/19/2018 10:51:55 PM	37670
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/19/2018 10:51:55 PM	37670
Surr: DNOP	94.8	70-130		%Rec	1	4/19/2018 10:51:55 PM	37670
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/19/2018 1:51:42 PM	37656
Surr: BFB	92.0	15-316		%Rec	1	4/19/2018 1:51:42 PM	37656
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	4/19/2018 1:51:42 PM	37656
Benzene	ND	0.024		mg/Kg	1	4/19/2018 1:51:42 PM	37656
Toluene	ND	0.048		mg/Kg	1	4/19/2018 1:51:42 PM	37656
Ethylbenzene	ND	0.048		mg/Kg	1	4/19/2018 1:51:42 PM	37656
Xylenes, Total	ND	0.097		mg/Kg	1	4/19/2018 1:51:42 PM	37656
Surr: 4-Bromofluorobenzene	83.5	80-120		%Rec	1	4/19/2018 1:51:42 PM	37656

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SS4
Project: PLU 333H flowline spill
Collection Date: 4/9/2018 10:20:00 AM
Lab ID: 1804860-004
Matrix: SOIL
Received Date: 4/17/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/23/2018 3:38:53 PM	37749
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/19/2018 11:15:44 PM	37670
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/19/2018 11:15:44 PM	37670
Surr: DNOP	93.0	70-130		%Rec	1	4/19/2018 11:15:44 PM	37670
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/19/2018 5:44:54 PM	37656
Surr: BFB	85.6	15-316		%Rec	1	4/19/2018 5:44:54 PM	37656
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	4/19/2018 5:44:54 PM	37656
Benzene	ND	0.023		mg/Kg	1	4/19/2018 5:44:54 PM	37656
Toluene	ND	0.047		mg/Kg	1	4/19/2018 5:44:54 PM	37656
Ethylbenzene	ND	0.047		mg/Kg	1	4/19/2018 5:44:54 PM	37656
Xylenes, Total	ND	0.094		mg/Kg	1	4/19/2018 5:44:54 PM	37656
Surr: 4-Bromofluorobenzene	78.2	80-120	S	%Rec	1	4/19/2018 5:44:54 PM	37656

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804860**

24-Apr-18

Client: LTE

Project: PLU 333H flowline spill

Sample ID	**MB-37749**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**37749**	RunNo:	**50789**					
Prep Date:	**4/23/2018**	Analysis Date:	**4/23/2018**	SeqNo:	**1647406**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-37749**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**37749**	RunNo:	**50789**					
Prep Date:	**4/23/2018**	Analysis Date:	**4/23/2018**	SeqNo:	**1647407**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	90	110			

Sample ID	**MB-37741**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**37741**	RunNo:	**50775**					
Prep Date:	**4/23/2018**	Analysis Date:	**4/23/2018**	SeqNo:	**1647500**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-37741**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**37741**	RunNo:	**50775**					
Prep Date:	**4/23/2018**	Analysis Date:	**4/23/2018**	SeqNo:	**1647501**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.1	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804860**

24-Apr-18

Client: LTE

Project: PLU 333H flowline spill

Sample ID	**LCS-37670**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**37670**		RunNo:	**50693**				
Prep Date:	**4/18/2018**	Analysis Date:	**4/19/2018**		SeqNo:	**1644506**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.0	70	130			
Surr: DNOP	4.2		5.000		84.7	70	130			

Sample ID	**MB-37670**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**37670**		RunNo:	**50693**				
Prep Date:	**4/18/2018**	Analysis Date:	**4/19/2018**		SeqNo:	**1644507**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804860**

24-Apr-18

Client: LTE

Project: PLU 333H flowline spill

Sample ID	**MB-37656**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**37656**	RunNo:	**50648**					
Prep Date:	**4/17/2018**	Analysis Date:	**4/18/2018**	SeqNo:	**1643693**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.5	15	316			

Sample ID	**LCS-37656**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**37656**	RunNo:	**50648**					
Prep Date:	**4/17/2018**	Analysis Date:	**4/18/2018**	SeqNo:	**1643694**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	75.9	131			
Surr: BFB	1000		1000		104	15	316			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804860**

24-Apr-18

Client: LTE

Project: PLU 333H flowline spill

Sample ID **MB-37656**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **37656**	RunNo: **50648**
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**	SeqNo: **1643727** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.82		1.000		81.6	80	120			

Sample ID **LCS-37656**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **37656**	RunNo: **50648**
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**	SeqNo: **1643728** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.87	0.10	1.000	0	86.9	70.1	121			
Benzene	0.95	0.025	1.000	0	95.2	77.3	128			
Toluene	0.95	0.050	1.000	0	95.3	79.2	125			
Ethylbenzene	0.94	0.050	1.000	0	94.1	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	96.5	81.6	129			
Surr: 4-Bromofluorobenzene	0.84		1.000		84.0	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: LTE MIDLAND | Work Order Number: 1804860 | RcptNo: 1

Received By: Erin Melendrez | 4/17/2018 9:05:00 AM

Completed By: Isaiah Ortiz | 4/17/2018 11:35:45 AM

Reviewed By: DDS 4/17/18 MW 4/17/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? MW 4/17/18
Checked by: _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.5	Good	Yes			

Chain-of-Custody Record

Client: LTE / Midland
XTO Energy

Mailing Address: 3300 N A. Street Bldg 1, #103
Midland, Tx

Phone #: 432-894-5641

email or Fax#: abaker@lteenv.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☒ EDD (Type) PDF

Turn-Around Time: 5day
☒ Standard ☐ Rush _____

Project Name: PLU 333H flowline spill

Project #: 30-015-39294 (2RP-2667)

Project Manager: Adrian Baker

Sampler: Eric Carroll

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.2+0.3(CF)=4.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804860	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride				Air Bubbles (Y or N)
4/9/14	1005	S	SS1	1 4oz	Cooler	001	X		X									X				
↓	1010	S	SS2	↓	↓	002	X		X									X				
	1015	S	SS3			003	X		X									X				
↓	1020	S	SS4	↓	↓	004	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/14	0630			4/14/18	0630
4/16/18	1900		Courier 4/17/18 ENV	4/17/18	0005

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Analytical Report 588924

for

LT Environmental, Inc.

Project Manager: Adrian Baker

PLU-333H Flowline (78 Batt)

19-JUN-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), 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 (T104704400-18-15)
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)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

19-JUN-18

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

Reference: XENCO Report No(s): **588924**
PLU-333H Flowline (78 Batt)
Project Address: 2RP-2667, 012918084

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) 588924. 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. 588924 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 588924

LT Environmental, Inc., Arvada, CO

PLU-333H Flowline (78 Batt)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS05 @6"	S	06-08-18 09:30	6 In	588924-001
SS06	S	06-08-18 10:50	6 In	588924-002
SS07	S	06-08-18 10:55	6 In	588924-003
SS08	S	06-08-18 11:00	6 In	588924-004

Client Name: LT Environmental, Inc.

Project Name: PLU-333H Flowline (78 Batt)

Project ID:
Work Order Number(s): *588924*

Report Date: *19-JUN-18*
Date Received: *06/11/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3053744 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3053754 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 588924

LT Environmental, Inc., Arvada, CO

Project Name: PLU-333H Flowline (78 Batt)

Project Id:
Contact: Adrian Baker
Project Location: 2RP-2667, 012918084

Date Received in Lab: Mon Jun-11-18 10:45 am
Report Date: 19-JUN-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	588924-001		588924-002		588924-003		588924-004					
	Field Id:	SS05 @6"		SS06		SS07		SS08					
	Depth:	6- In		6- In		6- In		6- In					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jun-08-18 09:30		Jun-08-18 10:50		Jun-08-18 10:55		Jun-08-18 11:00					
BTEX by EPA 8021B	***Extracted:***	Jun-18-18 08:00		Jun-16-18 08:30		Jun-16-18 08:30		Jun-16-18 08:30					
	Analyzed:	Jun-18-18 10:38		Jun-17-18 03:16		Jun-17-18 03:34		Jun-17-18 03:52					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201				
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201				
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201				
m,p-Xylenes		<0.00397	0.00397	<0.00399	0.00399	<0.00403	0.00403	<0.00402	0.00402				
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201				
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201				
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201				
Inorganic Anions by EPA 300	***Extracted:***	Jun-13-18 08:00		Jun-13-18 08:00		Jun-13-18 15:00		Jun-13-18 15:00					
	Analyzed:	Jun-13-18 09:16		Jun-13-18 10:31		Jun-14-18 14:07		Jun-14-18 15:27					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		<4.95	4.95	<4.90	4.90	<5.00	5.00	<5.00	5.00				
TPH by SW8015 Mod	***Extracted:***	Jun-15-18 14:00		Jun-15-18 14:00		Jun-15-18 14:00		Jun-15-18 14:00					
	Analyzed:	Jun-15-18 23:30		Jun-16-18 00:30		Jun-16-18 00:50		Jun-16-18 01:10					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Jessica Kramer
Project Assistant

LT Environmental, Inc., Arvada, CO

PLU-333H Flowline (78 Batt)

Sample Id:	**SS05 @6"**	Matrix:	Soil	Date Received:	06.11.18 10.45
Lab Sample Id:	588924-001	Date Collected:	06.08.18 09.30	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.13.18 08.00	Basis:	Wet Weight
Seq Number:	3053394				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	06.13.18 09.16	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.15.18 14.00	Basis:	Wet Weight
Seq Number:	3053879				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.15.18 23.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.15.18 23.30	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.15.18 23.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.15.18 23.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	06.15.18 23.30	
o-Terphenyl	84-15-1	80	%	70-135	06.15.18 23.30	

Certificate of Analytical Results 588924

LT Environmental, Inc., Arvada, CO

PLU-333H Flowline (78 Batt)

Sample Id:	**SS05 @6"**	Matrix:	Soil	Date Received:	06.11.18 10.45
Lab Sample Id:	588924-001	Date Collected:	06.08.18 09.30	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.18.18 08.00	Basis:	Wet Weight
Seq Number:	3053754				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.18.18 10.38	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.18.18 10.38	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.18.18 10.38	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.18.18 10.38	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.18.18 10.38	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.18.18 10.38	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.18.18 10.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	06.18.18 10.38	
1,4-Difluorobenzene	540-36-3	106	%	70-130	06.18.18 10.38	

Certificate of Analytical Results 588924

LT Environmental, Inc., Arvada, CO

PLU-333H Flowline (78 Batt)

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	06.11.18 10.45
Lab Sample Id:	588924-002	Date Collected:	06.08.18 10.50	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.13.18 08.00	Basis:	Wet Weight
Seq Number:	3053394				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.90	4.90	mg/kg	06.13.18 10.31	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.15.18 14.00	Basis:	Wet Weight
Seq Number:	3053879				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.16.18 00.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.16.18 00.30	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.16.18 00.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.16.18 00.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	06.16.18 00.30	
o-Terphenyl	84-15-1	82	%	70-135	06.16.18 00.30	

Certificate of Analytical Results 588924

LT Environmental, Inc., Arvada, CO

PLU-333H Flowline (78 Batt)

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	06.11.18 10.45
Lab Sample Id:	588924-002	Date Collected:	06.08.18 10.50	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.16.18 08.30	Basis:	Wet Weight
Seq Number:	3053744				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.18 03.16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.18 03.16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.18 03.16	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.17.18 03.16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.18 03.16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.18 03.16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.18 03.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	06.17.18 03.16	
1,4-Difluorobenzene	540-36-3	96	%	70-130	06.17.18 03.16	

LT Environmental, Inc., Arvada, CO

PLU-333H Flowline (78 Batt)

Sample Id: **SS07** Matrix: Soil Date Received:06.11.18 10.45

Lab Sample Id: 588924-003 Date Collected: 06.08.18 10.55 Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: SCM % Moisture:

Analyst: SCM Date Prep: 06.13.18 15.00 Basis: Wet Weight

Seq Number: 3053525

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	06.14.18 14.07	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 06.15.18 14.00 Basis: Wet Weight

Seq Number: 3053879

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.16.18 00.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.16.18 00.50	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.16.18 00.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.16.18 00.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	06.16.18 00.50	
o-Terphenyl	84-15-1	82	%	70-135	06.16.18 00.50	

Certificate of Analytical Results 588924

LT Environmental, Inc., Arvada, CO

PLU-333H Flowline (78 Batt)

Sample Id:	**SS07**	Matrix:	Soil	Date Received:	06.11.18 10.45
Lab Sample Id:	588924-003	Date Collected:	06.08.18 10.55	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.16.18 08.30	Basis:	Wet Weight
Seq Number:	3053744				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.17.18 03.34	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.17.18 03.34	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.17.18 03.34	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.17.18 03.34	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.17.18 03.34	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.17.18 03.34	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.17.18 03.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	06.17.18 03.34	
1,4-Difluorobenzene	540-36-3	98	%	70-130	06.17.18 03.34	

LT Environmental, Inc., Arvada, CO

PLU-333H Flowline (78 Batt)

Sample Id:	**SS08**	Matrix:	Soil	Date Received:	06.11.18 10.45
Lab Sample Id:	588924-004	Date Collected:	06.08.18 11.00	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.13.18 15.00	Basis:	Wet Weight
Seq Number:	3053525				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	06.14.18 15.27	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.15.18 14.00	Basis:	Wet Weight
Seq Number:	3053879				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.16.18 01.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.16.18 01.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	06.16.18 01.10	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.16.18 01.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	06.16.18 01.10	
o-Terphenyl	84-15-1	80	%	70-135	06.16.18 01.10	

Certificate of Analytical Results 588924

LT Environmental, Inc., Arvada, CO

PLU-333H Flowline (78 Batt)

Sample Id:	**SS08**	Matrix:	Soil	Date Received:	06.11.18 10.45
Lab Sample Id:	588924-004	Date Collected:	06.08.18 11.00	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.16.18 08.30	Basis:	Wet Weight
Seq Number:	3053744				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.17.18 03.52	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.17.18 03.52	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.17.18 03.52	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.17.18 03.52	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.17.18 03.52	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.17.18 03.52	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.17.18 03.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.17.18 03.52	
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.17.18 03.52	

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 588924

LT Environmental, Inc.

PLU-333H Flowline (78 Batt)

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3053394 Matrix: Solid Date Prep: 06.13.18
MB Sample Id: 7656558-1-BLK LCS Sample Id: 7656558-1-BKS LCSD Sample Id: 7656558-1-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	248	99	249	100	90-110	0	20	mg/kg	06.13.18 09:05	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3053525 Matrix: Solid Date Prep: 06.13.18
MB Sample Id: 7656631-1-BLK LCS Sample Id: 7656631-1-BKS LCSD Sample Id: 7656631-1-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	257	103	257	103	90-110	0	20	mg/kg	06.14.18 13:56	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3053394 Matrix: Soil Date Prep: 06.13.18
Parent Sample Id: 588924-001 MS Sample Id: 588924-001 S MSD Sample Id: 588924-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.95	248	258	104	257	104	90-110	0	20	mg/kg	06.13.18 09:21	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3053394 Matrix: Soil Date Prep: 06.13.18
Parent Sample Id: 588924-002 MS Sample Id: 588924-002 S MSD Sample Id: 588924-002 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	246	100	247	101	90-110	0	20	mg/kg	06.13.18 10:37	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3053525 Matrix: Soil Date Prep: 06.13.18
Parent Sample Id: 588924-003 MS Sample Id: 588924-003 S MSD Sample Id: 588924-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	259	104	262	106	90-110	1	20	mg/kg	06.14.18 14:12	

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

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 588924

LT Environmental, Inc.

PLU-333H Flowline (78 Batt)

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3053525 Matrix: Soil Date Prep: 06.13.18
Parent Sample Id: 588924-004 MS Sample Id: 588924-004 S MSD Sample Id: 588924-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	264	106	260	104	90-110	2	20	mg/kg	06.14.18 15:32	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3053879 Matrix: Solid Date Prep: 06.15.18
MB Sample Id: 7656841-1-BLK LCS Sample Id: 7656841-1-BKS LCSD Sample Id: 7656841-1-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	810	81	832	83	70-135	3	20	mg/kg	06.15.18 22:50	
Diesel Range Organics (DRO)	<15.0	1000	853	85	841	84	70-135	1	20	mg/kg	06.15.18 22:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	82		99		97		70-135	%	06.15.18 22:50
o-Terphenyl	85		89		90		70-135	%	06.15.18 22:50

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3053879 Matrix: Soil Date Prep: 06.15.18
Parent Sample Id: 588924-001 MS Sample Id: 588924-001 S MSD Sample Id: 588924-001 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	998	794	80	790	79	70-135	1	20	mg/kg	06.15.18 23:50	
Diesel Range Organics (DRO)	<15.0	998	792	79	790	79	70-135	0	20	mg/kg	06.15.18 23:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		95		70-135	%	06.15.18 23:50
o-Terphenyl	84		84		70-135	%	06.15.18 23:50

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 588924

LT Environmental, Inc.

PLU-333H Flowline (78 Batt)

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3053744 Matrix: Solid Date Prep: 06.16.18
MB Sample Id: 7656828-1-BLK LCS Sample Id: 7656828-1-BKS LCSD Sample Id: 7656828-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0818	82	0.0948	94	70-130	15	35	mg/kg	06.16.18 23:39	
Toluene	<0.00201	0.100	0.0860	86	0.0968	96	70-130	12	35	mg/kg	06.16.18 23:39	
Ethylbenzene	<0.00201	0.100	0.0853	85	0.0974	96	70-130	13	35	mg/kg	06.16.18 23:39	
m,p-Xylenes	<0.00402	0.201	0.176	88	0.200	99	70-130	13	35	mg/kg	06.16.18 23:39	
o-Xylene	<0.00201	0.100	0.0827	83	0.0950	94	70-130	14	35	mg/kg	06.16.18 23:39	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		89		104		70-130	%	06.16.18 23:39
4-Bromofluorobenzene	96		92		103		70-130	%	06.16.18 23:39

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3053754 Matrix: Solid Date Prep: 06.18.18
MB Sample Id: 7656840-1-BLK LCS Sample Id: 7656840-1-BKS LCSD Sample Id: 7656840-1-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	0.106	106	0.0956	96	70-130	10	35	mg/kg	06.18.18 07:53	
Toluene	<0.00200	0.100	0.112	112	0.0994	100	70-130	12	35	mg/kg	06.18.18 07:53	
Ethylbenzene	<0.00200	0.100	0.112	112	0.0982	99	70-130	13	35	mg/kg	06.18.18 07:53	
m,p-Xylenes	<0.00401	0.200	0.233	117	0.206	104	70-130	12	35	mg/kg	06.18.18 07:53	
o-Xylene	<0.00200	0.100	0.110	110	0.0957	96	70-130	14	35	mg/kg	06.18.18 07:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		102		103		70-130	%	06.18.18 07:53
4-Bromofluorobenzene	86		102		96		70-130	%	06.18.18 07:53

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3053744 Matrix: Soil Date Prep: 06.16.18
Parent Sample Id: 588902-003 MS Sample Id: 588902-003 S MSD Sample Id: 588902-003 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	0.0797	81	0.0196	19	70-130	121	35	mg/kg	06.17.18 00:15	XF
Toluene	<0.00198	0.0990	0.0465	47	0.00325	3	70-130	174	35	mg/kg	06.17.18 00:15	XF
Ethylbenzene	0.0360	0.0990	0.0870	52	0.0469	11	70-130	60	35	mg/kg	06.17.18 00:15	XF
m,p-Xylenes	0.0427	0.198	0.189	74	0.0540	6	70-130	111	35	mg/kg	06.17.18 00:15	XF
o-Xylene	0.147	0.0990	0.0675	0	0.192	45	70-130	96	35	mg/kg	06.17.18 00:15	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		101		70-130	%	06.17.18 00:15
4-Bromofluorobenzene	76		128		70-130	%	06.17.18 00:15

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 588924

LT Environmental, Inc.

PLU-333H Flowline (78 Batt)

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

Seq Number: 3053754 Matrix: Soil Date Prep: 06.18.18

Parent Sample Id: 588895-001 MS Sample Id: 588895-001 S MSD Sample Id: 588895-001 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	0.0732	73	0.0744	75	70-130	2	35	mg/kg	06.18.18 08:51	
Toluene	<0.00200	0.100	0.0767	77	0.0762	76	70-130	1	35	mg/kg	06.18.18 08:51	
Ethylbenzene	<0.00200	0.100	0.0763	76	0.0731	73	70-130	4	35	mg/kg	06.18.18 08:51	
m,p-Xylenes	<0.00401	0.200	0.159	80	0.152	76	70-130	5	35	mg/kg	06.18.18 08:51	
o-Xylene	<0.00200	0.100	0.0760	76	0.0712	71	70-130	7	35	mg/kg	06.18.18 08:51	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		109		70-130	%	06.18.18 08:51
4-Bromofluorobenzene	91		120		70-130	%	06.18.18 08:51

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

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XENCO LABORATORIES

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Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
www.xenco.com
Phoenix, Arizona (480-355-0900)

Xenco Quote #

Xenco Job # 588924

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. - Permian Office
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705
Email: Abaker@LTEnv.com
Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name

Project Information

Project Name/Number: PLU-333H Flow line (78 Batt)
Project Location: NM 2RP-2667, 012918084
Invoice To: XTO Energy - Kyle Littrell
PO Number:

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	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX 8021 (only BTEX)	TPH (MRO, GRO, DRO) 8015	Chloride (300.0)	Field Comments
1	SS05 @ 6"	6"	06/8/18	9:30	S	1								X	X	X	X	30' from dog leg N
2	SS06	↓	↓	10:50	S	1								X	X	X	X	S
3	SS07	↓	↓	10:55	S	1								X	X	X	X	N
4	SS08	↓	↓	11:00	S	1								X	X	X	X	across road
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☐ Next Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 3 Day EMERGENCY
- ☒ 5 Day TAT
- ☐ 7 Day TAT
- ☐ Contract TAT

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- ☐ Level II Std QC
- ☐ Level III Std QC+ Forms
- ☐ Level 3 (CLP Forms)
- ☐ TRRP Checklist
- ☐ Level IV (Full Data Pkg /raw data)
- ☐ TRRP Level IV
- ☐ UST / RG -411

Notes:

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		06/08/18 15:05		2	06/08/18 15:30	06/12/18 10:45
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By: 06/11/18
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice ☒ Cooler Temp. 0.8 Thermo. Corr. Factor R8 0.0

Notice: 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 loses 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 pr[illegible]y negotiated under a fully executed client contract.

Final 1.000

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 06/11/2018 10:45:00 AM

Work Order #: 588924

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)?	6.8
#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: Katie Lowe Date: 06/12/2018

Checklist reviewed by: Jessica Kramer Date: 06/13/2018