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

April 12, 2018

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

RE: Closure Request
PLU 42
Remediation Permit Number 2RP-3321
Eddy County, New Mexico

Dear Mr. Bratcher;

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), is pleased to present the following letter report detailing the soil sampling activities at the PLU 42 well pad (Site) in the southwest quarter of the northwest quarter of Section 10, Township 25 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the investigation was to assess impacts to soil after failure of a gasket on the free water knockout. The gasket failure resulted in the release of approximately 7 barrels (bbls) of produced water and crude oil on October 2, 2015. The spill impacted the area inside the earthen containment near the free water knockout and the heater treater, a light mist was also observed outside of the earthen containment on the northwest corner of the well pad. Free-standing liquid in the containment was removed with a vacuum truck; approximately 2 bbls of produced water and crude oil were recovered, and Micro-Blaze® was applied to impacted vegetation northwest of the well pad. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on October 7, 2015, and was assigned Remediation Permit Number (RP) 2RP-3321 (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 confirm remediation had been conducted successfully. 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 3716, located approximately 1.79 miles northeast of the Site, with a depth to groundwater of 425 feet bgs and a total depth of 600 feet bgs. The Site is greater than 1,000 feet from a water source and greater than 200 feet from a private domestic water source. The closest surface water to the Site is an intermittent pond located approximately 1.17 miles northeast 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 a range (plus or minus 10 percent [%]) of the background concentrations.

SOIL SAMPLING

Soil sample locations were based on visual inspection of the Site and the Form C-141 information. Based on the description of the affected area, LTE determined the release occurred within the earthen containment near the free water knockout and heater treater, and outside of the earthen containment on the northwest side of the well pad. LTE collected six soil samples on March 5, 2018, as depicted on Figure 2. Surface staining was observed in the area near the heater treater and free water knockout, SS1 was collected in this area. LTE made an effort to collect representative samples around the reported release source and areas potentially affected by the release.

To eliminate the 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 motor oil range organics (MRO) by USEPA Method 8015, and chloride by method USEPA Method 300.

ANALYTICAL RESULTS

Laboratory analytical results for the six soil samples indicated BTEX concentrations were below laboratory reporting limits. Laboratory analytical results for TPH indicated no detected concentrations exceeded the NMOCD remediation action levels for the Site with values ranging from below the laboratory reporting limits (SS3, SS4, SS5, and SS6) to 22 mg/kg in soil sample SS2 and 1,190 mg/kg in SS1. Chloride concentrations ranged from below the laboratory reporting limit in soil samples SS2, SS3, and SS6 to 461 mg/kg in soil sample SS5. 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 former release footprint, as interpreted by LTE and XTO, 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 at this Site.

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

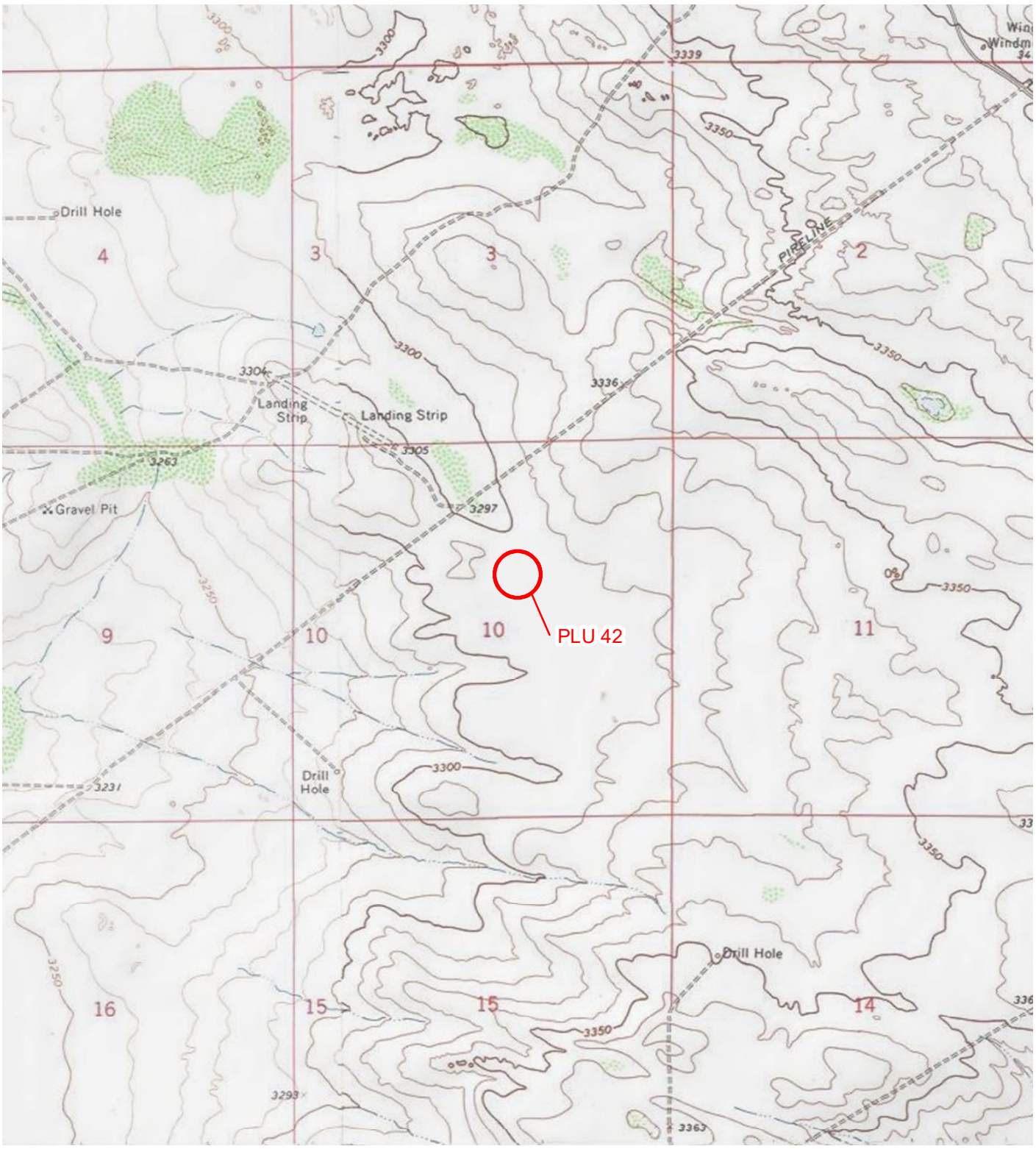
cc: Kyle Littrell, XTO
Crystal Weaver, NMOCD
Jim Amos, BLM
Shelly Tucker, BLM

Attachments:

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

FIGURES

Advancing Opportunity



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

Feet

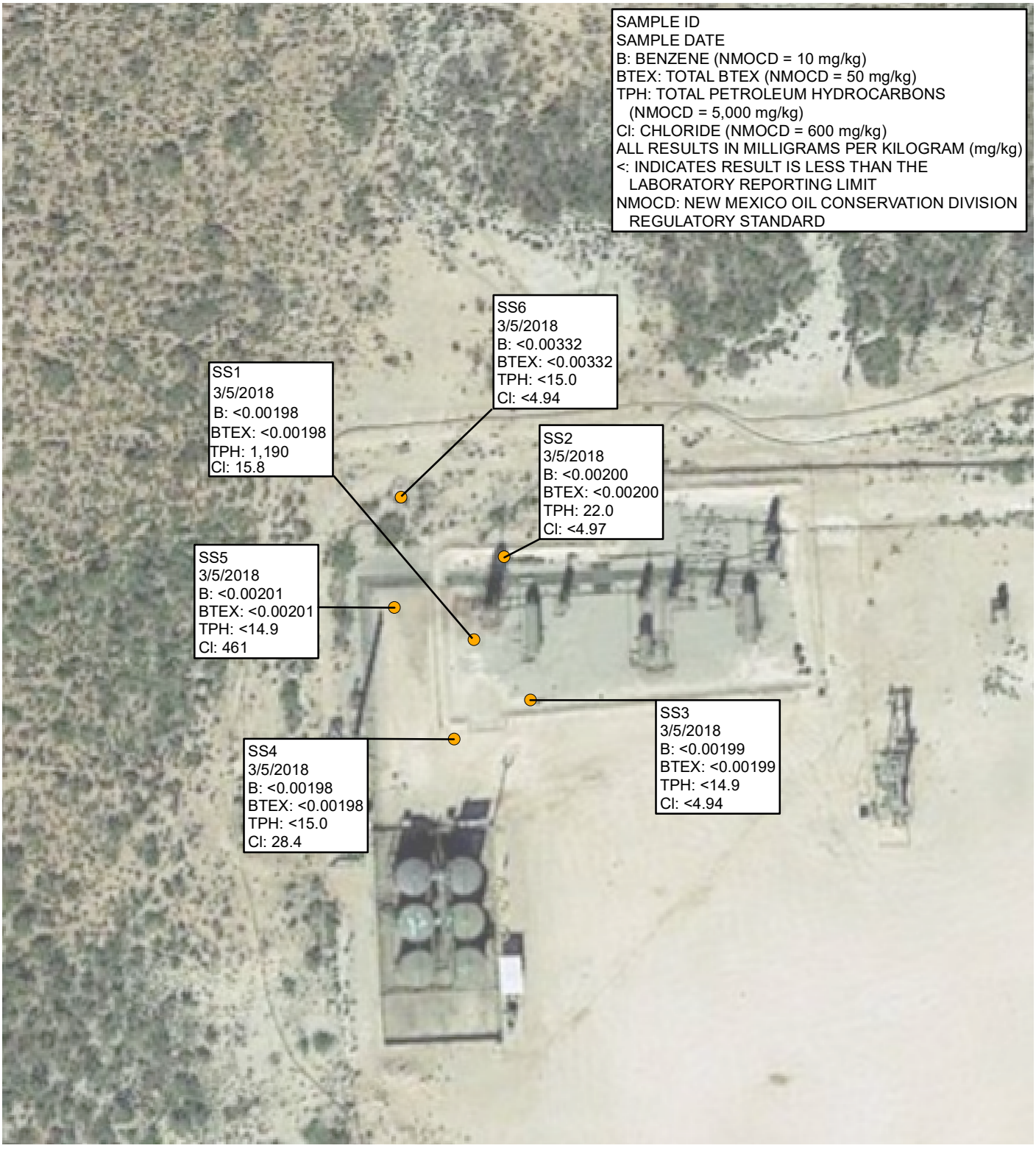
N

NEW MEXICO

NOTE: 2RP-3321

FIGURE 1
SITE LOCATION MAP
PLU 42
SWNE SEC 10 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918079_PLU 42\012918079_FIG01_SL_2018.mxd



LEGEND

SOIL SAMPLE

IMAGE COURTESY OF GOOGLE EARTH 2017

0 60 120

Feet

N

FIGURE 2
SOIL SAMPLE LOCATIONS
PLU 42
SWNE SEC 10 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

NOTE: 2RP-3321

P:\XTO Energy\GIS\MXD\012918079_PLU 42\012918079_FIG02_SITE_2018.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS
PLU 42
2RP-3321
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 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS1	0.5	3/5/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	964	227	1,190	15.8
SS2	0.5	3/5/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	22.0	<15.0	22.0	<4.97
SS3	0.5	3/5/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<4.94
SS4	0.5	3/5/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	28.4
SS5	0.5	3/5/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	461
SS6	0.5	3/5/2018	<0.00332	<0.00332	<0.00332	<0.00332	<0.00332	<15.0	<15.0	<15.0	<15.0	<4.94
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 limit

ATTACHMENT 1

INITIAL/FINAL NMOCD

FORM C-141

Advancing Opportunity

NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 07 2015
RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1528134977

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. 260737	Contact: Bradley Blevins
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: PLU 42	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner:	API No. 3001521095

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	10	25S	30E	1980		1980		Eddy

Latitude: 32.146993 **Longitude:** 103.866696

NATURE OF RELEASE

Type of Release: Produced water/ Crude oil	Volume of Release: 7 barrels	Volume Recovered: 2 barrels
Source of Release: Gasket failed on FWKO	Date and Hour of Occurrence: 10-2-15@ 3:30pm	Date and Hour of Discovery 10-2-15 @ 4:15pm
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.*
A gasket on the FWKO failed releasing a combination of produced water and crude oil to the ground surface. A light mist was sprayed outside the firewall on the NW corner of the well pad. Two barrels of standing fluid was recovered from around the FWKO and heater treater area.

Describe Area Affected and Cleanup Action Taken.*
A vacuum truck was called to the location and recovered 2 barrels of fluid. A micro blaze crew was dispatched to location and treated the vegetation.

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

Signature: Bradley Blevins

Printed Name: Bradley Blevins

Title: Assistant Remediation Foreman

E-mail Address: bblevins@basspet.com

Date: 10-7-15 Phone: 432-214-3704

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By Mike Bratcher

Approval Date: 10/8/15 Expiration Date: N/A

Conditions of Approval: Attached ☐

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 11/8/15

2RP-3321

* 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

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 PLU 42	Facility Type Exploration and Production

Surface Owner Federal	Mineral Owner Federal	API No. 30-015-21095

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	10	25S	30E	1980	North	1980	East	Eddy

Latitude N 32.146993 **Longitude** 103.866696 NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 7 bbls	Volume Recovered 2 bbls
Source of Release Gasket failed on FWKO	Date and Hour of Occurrence 10-2-15 @ 3:30 pm	Date and Hour of Discovery 10-2-2015 @ 4:15 pm
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
A gasket on the FWKO failed releasing a combination of produced water and crude oil to the ground surface. A light mist was sprayed outside the firewall on the NW corner of the well pad. Two barrels of standing fluid was recovered from around the FWKO and heater treater area.

Describe Area Affected and Cleanup Action Taken.*
A vacuum truck was called to the location and recovered 2 bbls of fluid. Micro-Blaze was applied to affected vegetation.

LTE collected six soil samples from approximately 6 inches below ground surface within the affected area on March 5, 2018. Laboratory analytical results from soil samples collected within the release footprint indicate concentrations of BTEX, TPH, and chloride do not exceed NMOCD remediation standards.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Kyle Littrell	Approved by Environmental Specialist: Brittany Hall
Title: SH&E Coordinator	Approval Date: 2/28/2023 Expiration Date: N/A
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval: none ☐ Attached
Date: 4/20/2018 Phone: 432-221-7331	

* Attach Additional Sheets If Necessary

ATTACHMENT 2

LABORATORY ANALYTICAL REPORT

Advancing Opportunity

Analytical Report 578594

for

LT Environmental, Inc.

Project Manager: Adrian Baker

PLU #42 2RP-3321

15-MAR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-18-24), 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 (T104704400-18-14)
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)

15-MAR-18

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

Reference: XENCO Report No(s): **578594**
PLU #42 2RP-3321
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) 578594. 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. 578594 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 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS1	S	03-05-18 13:10	6 In	578594-001
SS2	S	03-05-18 13:15	6 In	578594-002
SS3	S	03-05-18 13:20	6 In	578594-003
SS4	S	03-05-18 13:25	6 In	578594-004
SS5	S	03-05-18 13:30	6 In	578594-005
SS6	S	03-05-18 13:35	6 In	578594-006

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU #42 2RP-3321

Project ID:
Work Order Number(s): *578594*

Report Date: *15-MAR-18*
Date Received: *03/07/2018*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3043357 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3043503 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3043536 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 578594

LT Environmental, Inc., Arvada, CO

Project Name: PLU #42 2RP-3321

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Wed Mar-07-18 03:10 pm
Report Date: 15-MAR-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	578594-001		578594-002		578594-003		578594-004		578594-005		578594-006	
	Field Id:	SS1		SS2		SS3		SS4		SS5		SS6	
	Depth:	6- In		6- In		6- In		6- In		6- In		6- In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-05-18 13:10		Mar-05-18 13:15		Mar-05-18 13:20		Mar-05-18 13:25		Mar-05-18 13:30		Mar-05-18 13:35	
BTEX by EPA 8021B	***Extracted:***	Mar-10-18 12:15		Mar-10-18 12:15		Mar-12-18 08:00		Mar-10-18 12:15		Mar-12-18 08:00		Mar-13-18 08:00	
	Analyzed:	Mar-11-18 02:15		Mar-11-18 02:34		Mar-12-18 11:22		Mar-11-18 08:07		Mar-12-18 11:41		Mar-13-18 14:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00332	0.00332
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00332	0.00332
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00332	0.00332
m,p-Xylenes		<0.00396	0.00396	<0.00401	0.00401	<0.00398	0.00398	<0.00397	0.00397	<0.00402	0.00402	<0.00664	0.00664
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00332	0.00332
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00332	0.00332
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00332	0.00332
Inorganic Anions by EPA 300	***Extracted:***	Mar-12-18 15:00		Mar-12-18 15:00		Mar-12-18 15:00		Mar-12-18 15:00		Mar-12-18 15:00		Mar-12-18 16:00	
	Analyzed:	Mar-13-18 19:42		Mar-13-18 19:48		Mar-13-18 19:53		Mar-13-18 19:58		Mar-13-18 20:03		Mar-13-18 17:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		15.8	5.00	<4.97	4.97	<4.94	4.94	28.4	24.7	461	4.96	<4.94	4.94
TPH by SW8015 Mod	***Extracted:***	Mar-11-18 10:00		Mar-11-18 10:00		Mar-11-18 10:00		Mar-11-18 10:00		Mar-11-18 10:00		Mar-11-18 10:00	
	Analyzed:	Mar-12-18 14:02		Mar-12-18 14:22		Mar-12-18 14:41		Mar-12-18 15:01		Mar-12-18 15:20		Mar-12-18 16:21	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		964	15.0	22.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)		227	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		1190	15.0	22.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS1**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-001	Date Collected:	03.05.18 13.10	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.12.18 15.00	Basis:	Wet Weight
Seq Number:	3043628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.8**	5.00	mg/kg	03.13.18 19.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.11.18 10.00	Basis:	Wet Weight
Seq Number:	3043520				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.12.18 14.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	**964**	15.0	mg/kg	03.12.18 14.02		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**227**	15.0	mg/kg	03.12.18 14.02		1
Total TPH	PHC635	**1190**	15.0	mg/kg	03.12.18 14.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	03.12.18 14.02	
o-Terphenyl	84-15-1	93	%	70-135	03.12.18 14.02	

Certificate of Analytical Results 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS1**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-001	Date Collected:	03.05.18 13.10	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.10.18 12.15	Basis:	Wet Weight
Seq Number:	3043357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.11.18 02.15	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.11.18 02.15	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.11.18 02.15	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	03.11.18 02.15	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.11.18 02.15	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.11.18 02.15	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.11.18 02.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	03.11.18 02.15	
4-Bromofluorobenzene	460-00-4	107	%	70-130	03.11.18 02.15	

Certificate of Analytical Results 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS2**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-002	Date Collected:	03.05.18 13.15	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.12.18 15.00	Basis:	Wet Weight
Seq Number:	3043628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	03.13.18 19.48	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.11.18 10.00	Basis:	Wet Weight
Seq Number:	3043520				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.12.18 14.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	**22.0**	15.0	mg/kg	03.12.18 14.22		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.12.18 14.22	U	1
Total TPH	PHC635	**22.0**	15.0	mg/kg	03.12.18 14.22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.12.18 14.22	
o-Terphenyl	84-15-1	86	%	70-135	03.12.18 14.22	

Certificate of Analytical Results 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS2**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-002	Date Collected:	03.05.18 13.15	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.10.18 12.15	Basis:	Wet Weight
Seq Number:	3043357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.11.18 02.34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.11.18 02.34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.11.18 02.34	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.11.18 02.34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.11.18 02.34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.11.18 02.34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.11.18 02.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	85	%	70-130	03.11.18 02.34	
4-Bromofluorobenzene	460-00-4	102	%	70-130	03.11.18 02.34	

Certificate of Analytical Results 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS3**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-003	Date Collected:	03.05.18 13.20	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.12.18 15.00	Basis:	Wet Weight
Seq Number:	3043628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.94	4.94	mg/kg	03.13.18 19.53	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.11.18 10.00	Basis:	Wet Weight
Seq Number:	3043520				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.12.18 14.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.12.18 14.41	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	03.12.18 14.41	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.12.18 14.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.12.18 14.41	
o-Terphenyl	84-15-1	87	%	70-135	03.12.18 14.41	

Certificate of Analytical Results 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS3**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-003	Date Collected:	03.05.18 13.20	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.12.18 08.00	Basis:	Wet Weight
Seq Number:	3043503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.12.18 11.22	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.12.18 11.22	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.12.18 11.22	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.12.18 11.22	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.12.18 11.22	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.12.18 11.22	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.12.18 11.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	03.12.18 11.22	
1,4-Difluorobenzene	540-36-3	74	%	70-130	03.12.18 11.22	

Certificate of Analytical Results 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS4**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-004	Date Collected:	03.05.18 13.25	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.12.18 15.00	Basis:	Wet Weight
Seq Number:	3043628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**28.4**	24.7	mg/kg	03.13.18 19.58		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.11.18 10.00	Basis:	Wet Weight
Seq Number:	3043520				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.12.18 15.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.12.18 15.01	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.12.18 15.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.12.18 15.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.12.18 15.01	
o-Terphenyl	84-15-1	87	%	70-135	03.12.18 15.01	

Certificate of Analytical Results 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS4**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-004	Date Collected:	03.05.18 13.25	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.10.18 12.15	Basis:	Wet Weight
Seq Number:	3043357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.11.18 08.07	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.11.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.11.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	03.11.18 08.07	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.11.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.11.18 08.07	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.11.18 08.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	03.11.18 08.07	
1,4-Difluorobenzene	540-36-3	84	%	70-130	03.11.18 08.07	

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LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS5**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-005	Date Collected:	03.05.18 13.30	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.12.18 15.00	Basis:	Wet Weight
Seq Number:	3043628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**461**	4.96	mg/kg	03.13.18 20.03		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.11.18 10.00	Basis:	Wet Weight
Seq Number:	3043520				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.12.18 15.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.12.18 15.20	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	03.12.18 15.20	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.12.18 15.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	03.12.18 15.20	
o-Terphenyl	84-15-1	98	%	70-135	03.12.18 15.20	

Certificate of Analytical Results 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS5**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-005	Date Collected:	03.05.18 13.30	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.12.18 08.00	Basis:	Wet Weight
Seq Number:	3043503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.12.18 11.41	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.12.18 11.41	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.12.18 11.41	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.12.18 11.41	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.12.18 11.41	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.12.18 11.41	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.12.18 11.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	03.12.18 11.41	
1,4-Difluorobenzene	540-36-3	76	%	70-130	03.12.18 11.41	

Certificate of Analytical Results 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS6**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-006	Date Collected:	03.05.18 13.35	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.12.18 16.00	Basis:	Wet Weight
Seq Number:	3043580				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.94	4.94	mg/kg	03.13.18 17.14	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.11.18 10.00	Basis:	Wet Weight
Seq Number:	3043520				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.12.18 16.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.12.18 16.21	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.12.18 16.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.12.18 16.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	03.12.18 16.21	
o-Terphenyl	84-15-1	93	%	70-135	03.12.18 16.21	

Certificate of Analytical Results 578594

LT Environmental, Inc., Arvada, CO

PLU #42 2RP-3321

Sample Id:	**SS6**	Matrix:	Soil	Date Received:	03.07.18 15.10
Lab Sample Id:	578594-006	Date Collected:	03.05.18 13.35	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.13.18 08.00	Basis:	Wet Weight
Seq Number:	3043536				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00332	0.00332	mg/kg	03.13.18 14.40	U	1
Toluene	108-88-3	<0.00332	0.00332	mg/kg	03.13.18 14.40	U	1
Ethylbenzene	100-41-4	<0.00332	0.00332	mg/kg	03.13.18 14.40	U	1
m,p-Xylenes	179601-23-1	<0.00664	0.00664	mg/kg	03.13.18 14.40	U	1
o-Xylene	95-47-6	<0.00332	0.00332	mg/kg	03.13.18 14.40	U	1
Total Xylenes	1330-20-7	<0.00332	0.00332	mg/kg	03.13.18 14.40	U	1
Total BTEX		<0.00332	0.00332	mg/kg	03.13.18 14.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	70-130	03.13.18 14.40	
4-Bromofluorobenzene	460-00-4	111	%	70-130	03.13.18 14.40	

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 578594

LT Environmental, Inc.

PLU #42 2RP-3321

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3043628 — Matrix: Solid — Date Prep: 03.12.18
MB Sample Id: 7640640-1-BLK — LCS Sample Id: 7640640-1-BKS — LCSD Sample Id: 7640640-1-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	240	96	254	102	90-110	6	20	mg/kg	03.13.18 07:33	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3043580 — Matrix: Solid — Date Prep: 03.12.18
MB Sample Id: 7640646-1-BLK — LCS Sample Id: 7640646-1-BKS — LCSD Sample Id: 7640646-1-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	271	108	244	98	90-110	10	20	mg/kg	03.13.18 15:11	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3043628 — Matrix: Soil — Date Prep: 03.12.18
Parent Sample Id: 578591-004 — MS Sample Id: 578591-004 S — MSD Sample Id: 578591-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	270	247	533	106	529	105	90-110	1	20	mg/kg	03.13.18 08:00	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3043628 — Matrix: Soil — Date Prep: 03.12.18
Parent Sample Id: 578593-001 — MS Sample Id: 578593-001 S — MSD Sample Id: 578593-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.99	250	263	105	261	104	90-110	1	20	mg/kg	03.13.18 19:00	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3043580 — Matrix: Soil — Date Prep: 03.12.18
Parent Sample Id: 578595-002 — MS Sample Id: 578595-002 S — MSD Sample Id: 578595-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	92.9	249	381	116	383	117	90-110	1	20	mg/kg	03.13.18 17:56	X

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

Final 1.000

QC Summary 578594

LT Environmental, Inc.

PLU #42 2RP-3321

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3043580 Matrix: Soil Date Prep: 03.12.18
Parent Sample Id: 578928-001 MS Sample Id: 578928-001 S MSD Sample Id: 578928-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	174	247	444	109	442	109	90-110	0	20	mg/kg	03.13.18 15:34	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3043520 Matrix: Solid Date Prep: 03.11.18
MB Sample Id: 7640556-1-BLK LCS Sample Id: 7640556-1-BKS LCSD Sample Id: 7640556-1-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	985	99	981	98	70-135	0	35	mg/kg	03.12.18 11:05	
Diesel Range Organics (DRO)	<15.0	1000	894	89	866	87	70-135	3	35	mg/kg	03.12.18 11:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	87		106		105		70-135	%	03.12.18 11:05
o-Terphenyl	93		97		88		70-135	%	03.12.18 11:05

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3043520 Matrix: Soil Date Prep: 03.11.18
Parent Sample Id: 578593-001 MS Sample Id: 578593-001 S MSD Sample Id: 578593-001 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	879	88	997	100	70-135	13	35	mg/kg	03.12.18 12:06	
Diesel Range Organics (DRO)	<15.0	998	788	79	965	97	70-135	20	35	mg/kg	03.12.18 12:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		96		70-135	%	03.12.18 12:06
o-Terphenyl	89		98		70-135	%	03.12.18 12:06

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 578594

LT Environmental, Inc.

PLU #42 2RP-3321

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3043357 — Matrix: Solid — Date Prep: 03.10.18
MB Sample Id: 7640559-1-BLK — LCS Sample Id: 7640559-1-BKS — LCSD Sample Id: 7640559-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0790	78	0.0735	74	70-130	7	35	mg/kg	03.10.18 22:25	
Toluene	<0.00202	0.101	0.0845	84	0.0783	78	70-130	8	35	mg/kg	03.10.18 22:25	
Ethylbenzene	<0.00202	0.101	0.0942	93	0.0897	90	70-130	5	35	mg/kg	03.10.18 22:25	
m,p-Xylenes	<0.00403	0.202	0.185	92	0.178	89	70-130	4	35	mg/kg	03.10.18 22:25	
o-Xylene	<0.00202	0.101	0.0937	93	0.0910	91	70-130	3	35	mg/kg	03.10.18 22:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	85		88		90		70-130	%	03.10.18 22:25
4-Bromofluorobenzene	98		114		111		70-130	%	03.10.18 22:25

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3043503 — Matrix: Solid — Date Prep: 03.12.18
MB Sample Id: 7640672-1-BLK — LCS Sample Id: 7640672-1-BKS — LCSD Sample Id: 7640672-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0909	90	0.0883	88	70-130	3	35	mg/kg	03.12.18 06:55	
Toluene	<0.00202	0.101	0.0972	96	0.0942	94	70-130	3	35	mg/kg	03.12.18 06:55	
Ethylbenzene	<0.00202	0.101	0.111	110	0.109	109	70-130	2	35	mg/kg	03.12.18 06:55	
m,p-Xylenes	<0.00403	0.202	0.219	108	0.214	107	70-130	2	35	mg/kg	03.12.18 06:55	
o-Xylene	<0.00202	0.101	0.106	105	0.105	105	70-130	1	35	mg/kg	03.12.18 06:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		86		84		70-130	%	03.12.18 06:55
4-Bromofluorobenzene	110		119		118		70-130	%	03.12.18 06:55

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3043536 — Matrix: Solid — Date Prep: 03.13.18
MB Sample Id: 7640690-1-BLK — LCS Sample Id: 7640690-1-BKS — LCSD Sample Id: 7640690-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0768	77	0.0766	77	70-130	0	35	mg/kg	03.13.18 06:58	
Toluene	<0.00199	0.0994	0.0824	83	0.0825	83	70-130	0	35	mg/kg	03.13.18 06:58	
Ethylbenzene	<0.00199	0.0994	0.0953	96	0.0962	96	70-130	1	35	mg/kg	03.13.18 06:58	
m,p-Xylenes	<0.00398	0.199	0.189	95	0.190	95	70-130	1	35	mg/kg	03.13.18 06:58	
o-Xylene	<0.00199	0.0994	0.0951	96	0.0959	96	70-130	1	35	mg/kg	03.13.18 06:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		92		90		70-130	%	03.13.18 06:58
4-Bromofluorobenzene	108		110		115		70-130	%	03.13.18 06:58

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 578594

LT Environmental, Inc.

PLU #42 2RP-3321

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3043357 — Matrix: Soil — Date Prep: 03.10.18
Parent Sample Id: 578592-004 — MS Sample Id: 578592-004 S — MSD Sample Id: 578592-004 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	0.0663	66	0.0629	63	70-130	5	35	mg/kg	03.10.18 23:03	X
Toluene	<0.00200	0.100	0.0526	53	0.0525	53	70-130	0	35	mg/kg	03.10.18 23:03	X
Ethylbenzene	<0.00200	0.100	0.0272	27	0.0384	38	70-130	34	35	mg/kg	03.10.18 23:03	X
m,p-Xylenes	<0.00401	0.200	0.0530	27	0.0707	35	70-130	29	35	mg/kg	03.10.18 23:03	X
o-Xylene	<0.00200	0.100	0.0283	28	0.0372	37	70-130	27	35	mg/kg	03.10.18 23:03	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		92		70-130	%	03.10.18 23:03
4-Bromofluorobenzene	103		106		70-130	%	03.10.18 23:03

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3043503 — Matrix: Soil — Date Prep: 03.12.18
Parent Sample Id: 578649-001 — MS Sample Id: 578649-001 S — MSD Sample Id: 578649-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0584	59	0.0656	66	70-130	12	35	mg/kg	03.12.18 07:34	X
Toluene	<0.00199	0.0996	0.0607	61	0.0664	66	70-130	9	35	mg/kg	03.12.18 07:34	X
Ethylbenzene	<0.00199	0.0996	0.0666	67	0.0704	70	70-130	6	35	mg/kg	03.12.18 07:34	X
m,p-Xylenes	<0.00398	0.199	0.131	66	0.138	69	70-130	5	35	mg/kg	03.12.18 07:34	X
o-Xylene	<0.00199	0.0996	0.0651	65	0.0709	71	70-130	9	35	mg/kg	03.12.18 07:34	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		87		70-130	%	03.12.18 07:34
4-Bromofluorobenzene	120		129		70-130	%	03.12.18 07:34

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3043536 — Matrix: Soil — Date Prep: 03.13.18
Parent Sample Id: 578597-001 — MS Sample Id: 578597-001 S — MSD Sample Id: 578597-001 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	0.0674	67	0.0563	56	70-130	18	35	mg/kg	03.13.18 07:37	X
Toluene	<0.00200	0.100	0.0640	64	0.0594	59	70-130	7	35	mg/kg	03.13.18 07:37	X
Ethylbenzene	<0.00200	0.100	0.0617	62	0.0613	61	70-130	1	35	mg/kg	03.13.18 07:37	X
m,p-Xylenes	<0.00401	0.200	0.113	57	0.113	56	70-130	0	35	mg/kg	03.13.18 07:37	X
o-Xylene	<0.00200	0.100	0.0602	60	0.0585	58	70-130	3	35	mg/kg	03.13.18 07:37	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		85		70-130	%	03.13.18 07:37
4-Bromofluorobenzene	114		127		70-130	%	03.13.18 07:37

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

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CHAIN OF CUSTODY

Page 1 Of 1

Xenco Quote #

Xenco Job # 578594

Client / Reporting Information

Company Name / Branch: LTE / Permian

Company Address: 3300 N. A Street Bldg 1 Suite 103 Midland TX 79705

Email: Abaker@ltenv.com

Phone No: 432-704-5178

Project Contact: Adrian Baker

Samplers's Name: Aaron Williamson

Project Information

Project Name/Number: PLU #42 2RP-3321

Project Location: NM

Invoice To: XTO Energy - Kyle Littrell

PO Number: ~~2RP-3321~~ 30-015-21095

Analytical Information

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 EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1	Field Comments
1	SS1	6"	3/5/18	1310	S	1									X	X	X	
2	SS2			1315											X	X	X	
3	SS3			1320											X	X	X	
4	SS4			1325											X	X	X	
5	SS5			1330											X	X	X	
6	SS6			1335											X	X	X	
7																		
8																		
9																		
10																		

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

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY
- [x] 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
- [ ] TRRP Checklist

Temp: 2.6 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 2.4

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	Eric Carroll	3/6/18 1530				
2					3/6 1930	
3		3/7 14:50				
4					3-7-18 15:10	
5				Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor

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 previously negotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/07/2018 03:10:00 PM

Work Order #: 578594

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)?	2.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**No**	TPH received in bulk jars
#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: 03/08/2018

Connie Hernandez

Checklist reviewed by: Jessica Kramer Date: 03/08/2018

Jessica Kramer

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

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

CONDITIONS

Action 191463

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 191463
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	Closed under previous rules based on dates in report and file date.	2/28/2023