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

April 5, 2018

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

RE: Closure Request
Remuda Basin 31 State COM #001 Well Pad
2RP-2988
Eddy County, New Mexico

Dear Ms. Weaver:

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 Remuda Basin 31 State COM #001 well pad (Site) in Section 31, Township 23 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the investigation was to assess impacts to soil after an acid and swap job caused the well to start flowing water, which overfilled the produced water tank. This caused a release of approximately 13 barrels (bbls) of produced water on April 29, 2015. The spill impacted approximately 650 square feet of the earthen containment around the oil and water production tanks. Free-standing liquid was removed with a vacuum truck; approximately 3 bbls of produced water was recovered. The release was reported to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on May 1, 2015, and was assigned Remediation Permit Number (RP) 2RP-2988 (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 investigate potential residual impact to soil. 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 02095, located approximately 3.27 miles southeast of the Site, with a depth to groundwater of 440 feet bgs and a total depth of 554 feet bgs. The closest surface water to the Site is a lake located approximately 3.45 miles northwest 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 latitude and longitude provided for the flowline release location, description of the affected area, and photographs made immediately following the release, LTE determined the release occurred inside the earthen berm. LTE collected one soil sample from five locations on February 26, 2018, as depicted on Figure 2.

To eliminate effects from weathering and natural degradation of contaminants at the ground surface, subsurface samples were collected from each location at roughly 0.5 feet bgs by hand auger. The soil samples were collected directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis and immediately placed on ice. The samples were submitted to Xenco Laboratories in Midland, Texas, for analysis of BTEX by United States Environmental Protection Agency (USEPA) 8021B, TPH-gasoline range organics (GRO), diesel range organics (DRO), and motor range organics (MRO) by USEPA Method 8015M, and chloride by 300.0.

ANALYTICAL RESULTS

Laboratory analytical results for the five 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 (SS02, SS03, SS04, and SS05) to 611 mg/kg in soil sample SS01. Chloride concentrations ranged from below the laboratory reporting limit in soil samples SS2, SS4, and SS5 to 154 mg/kg in soil sample SS03. 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 of soil samples collected within the former release footprint indicate impact to soil, as defined by concentrations of BTEX, TPH, and chloride, do not exceed NMOCD site-specific standards. Initial response efforts and natural degradation have remediated this release 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, P.G.
Senior Geologist

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

cc: Kyle Littrell, XTO
Mike Bratcher, NMOCD
Ryan Mann, State Land Office
Tammy Honea, State Land Office
Mark Naranjo, State Land Office

FIGURES

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: 2RP-2988

FIGURE 1
SITE LOCATION MAP
REMUDA BASIN 31 STATE COM #001 WELL PAD
LOT 4 SEC 31 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY INC.

P:\XTO Energy\GIS\MXD\012918057_REMUDA BASIN 31 STATE COM #001\012918057_FIG01_SL_2018.mxd

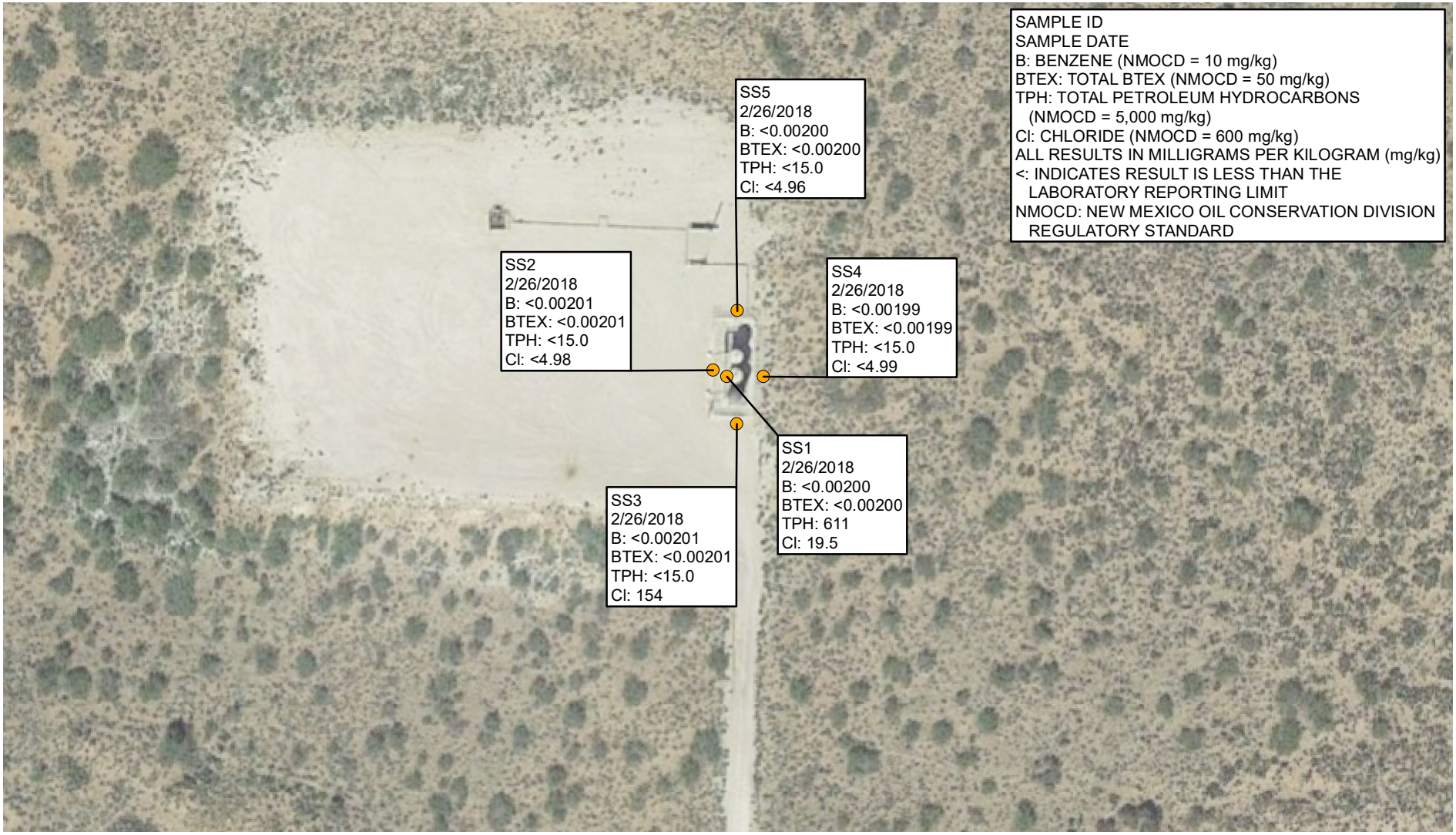

IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

SOIL SAMPLE

0 100 200

Feet

N

FIGURE 2
SOIL SAMPLE LOCATIONS
REMUDA BASIN 31 STATE COM #001 WELL PAD
LOT 4 SEC 31 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY INC.

NOTE: 2RP-2988

P:\XTO Energy\GIS\MXD\012918057_REMUDA BASIN 31 STATE COM #001\012918057_FIG02_SITE_2018.mxd

TABLE

Advancing Opportunity

TABLE 1
SOIL ANALYTICAL RESULTS
REMUDA BASIN 31 STATE COM #001 WELL PAD
2RP-2988
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	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	2/26/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	611	<14.9	611	19.5
SS2	0.5	2/26/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<4.98
SS3	0.5	2/26/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	154
SS4	0.5	2/26/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<4.99
SS5	0.5	2/26/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<4.96
NMOCD Regulatory Standard		NE	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
NMOCD - New Mexico Oil Conservation Division
NE - Not established
TPH - total petroleum hydrocarbons

ATTACHMENT 1

INITIAL/FINAL NMOCD

FORM C-141

Advancing Opportunity

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

State of New Mexico
Energy Minerals and Natural Resources

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

NM OIL CONSERVATION
ARTESIA DISTRICT
MAY 01 2015
RECEIVED

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

Release Notification and Corrective Action

nAB1512558249

OPERATOR

☒ Initial Report ☐ Final Repor

Name of Company: BOPCO, L.P. 260737	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Remuda Basin 31 State COM #001	Facility Type: Exploration and Production

Surface Owner: State of NM	Mineral Owner: State of NM	API No. 30-015-31774

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	31	23S	30E	660	South	660	West	Eddy

Latitude N 32.255437° **Longitude** W 103.926920°

NATURE OF RELEASE

Type of Release: Produced water	Volume of Release: 13 bbls.	Volume Recovered: 3 bbls.
Source of Release: PW tank	Date and Hour of Occurrence: 4/29/15 time unknown	Date and Hour of Discovery: 4/29/15 at approximately 1:00 p.m.
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The well had a recent acid and swab job. The well started flowing water and ran the PW tank over. A transport was called out to empty the water tank and standby until the well quit flowing water.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 650 sq.ft. of the earthen containment around the oil and water production tanks. All of the free standing fluid was recovered with a vacuum truck. EPI responded to the spill area on 4/30/15 with a hydro-vac and removed approximately 14 cubic yards of saturated soil, removal operations continued on 5/1/15.
The spill area will be cleaned up in accordance to the NMOCD 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	OIL CONSERVATION DIVISION
Printed Name: Tony Savoie	Approved by Environmental Specialist:
Title: Waste Management and Remediation Specialist	Approval Date: 5/5/15 Expiration Date: N/A
E-mail Address: tasavoie@basspet.com	Conditions of Approval: Attached ☐
Date: 5/1/15 Phone: 432-556-8730	Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 6/5/15

* Attach Additional Sheets If Necessary

2RP-2988

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, NM 88220	Telephone No. 432-221-7331
Facility Name Remuda Basin 31 State COM #001	Facility Type Exploration and Production

Surface Owner State of NM	Mineral Owner State of NM	API No. 30-015-31774

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	31	23S	30E	660	South	660	West	Eddy

Latitude N 32.255437° **Longitude** W 103.926920°

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 13 bbls	Volume 3 bbls
Source of Release a 2/8" flow line	Date and Hour of Occurrence 4/29/15 time unknown	Date and Hour of Discovery : 4/29/15 at approximately I:00 a.m.
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The well had a recent acid and swab job. The well started flowing water and ran the PW tank over. A transport was called out to empty the water tank and standby until the well quit flowing water.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 650 sq.ft. of the earthen containment around the oil and water production tanks. All of the free-standing fluid was recovered with a vacuum truck. EPI responded to the spill area on 4/30/15 and 5/1/15 with a hydro-vac and removed at least 14 cubic yards of saturated soil.

XTO collected five soil samples within the release footprint on February 26, 2018. Laboratory analytical results from soil samples 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 "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: 3/17/2023 Expiration Date: N/A
E-mail Address:Kyle_Littrell@xtoenergy.com	Conditions of Approval: N/A Attached ☐
Date: 4/3/2018 Phone: 432-221-7331	

* Attach Additional Sheets If Necessary

ATTACHMENT 2

LABORATORY ANALYTICAL REPORT

Advancing Opportunity

Analytical Report 577905

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda Basin State Com #001

30-015-31774

08-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)

08-MAR-18

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

Reference: XENCO Report No(s): **577905**
Remuda Basin State Com #001
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) 577905. 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. 577905 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 577905

LT Environmental, Inc., Arvada, CO

Remuda Basin State Com #001

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS1	S	02-26-18 14:10	6 In	577905-001
SS2	S	02-26-18 14:13	6 In	577905-002
SS3	S	02-26-18 14:16	6 In	577905-003
SS4	S	02-26-18 14:18	6 In	577905-004
SS5	S	02-26-18 14:21	6 In	577905-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Remuda Basin State Com #001

Project ID: *30-015-31774*
Work Order Number(s): *577905*

Report Date: *08-MAR-18*
Date Received: *03/01/2018*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3042731 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3043092 Inorganic Anions by EPA 300
Lab Sample ID 577905-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.
Samples in the analytical batch are: 577905-001, -002, -003, -004, -005.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 577905

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin State Com #001

Project Id: 30-015-31774
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Thu Mar-01-18 01:10 pm
Report Date: 08-MAR-18
Project Manager: Jessica Kramer

Analysis Requested																	
	Lab Id:	577905-001		577905-002		577905-003		577905-004		577905-005							
	Field Id:	SS1		SS2		SS3		SS4		SS5							
	Depth:	6- In		6- In		6- In		6- In		6- In							
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL							
	Sampled:	Feb-26-18 14:10		Feb-26-18 14:13		Feb-26-18 14:16		Feb-26-18 14:18		Feb-26-18 14:21							
BTEX by EPA 8021B	***Extracted:***	Mar-04-18 10:00		Mar-04-18 10:00		Mar-04-18 10:00		Mar-04-18 10:00		Mar-04-18 10:00							
	Analyzed:	Mar-05-18 10:44		Mar-05-18 10:44		Mar-05-18 10:44		Mar-05-18 10:44		Mar-05-18 10:44							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200						
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200						
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200						
m,p-Xylenes		<0.00399	0.00399	<0.00402	0.00402	<0.00402	0.00402	<0.00398	0.00398	<0.00399	0.00399						
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200						
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200						
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200						
Inorganic Anions by EPA 300	***Extracted:***	Mar-07-18 10:13		Mar-07-18 10:13		Mar-07-18 10:13		Mar-07-18 10:13		Mar-07-18 10:13							
	Analyzed:	Mar-07-18 12:04		Mar-07-18 12:09		Mar-07-18 12:14		Mar-07-18 12:30		Mar-07-18 12:35							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		19.5	4.96	<4.98	4.98	154	4.95	<4.99	4.99	<4.96	4.96						
TPH by SW8015 Mod	***Extracted:***	Mar-05-18 07:00		Mar-05-18 07:00		Mar-05-18 07:00		Mar-05-18 07:00		Mar-05-18 07:00							
	Analyzed:	Mar-05-18 17:40		Mar-05-18 18:05		Mar-05-18 18:31		Mar-05-18 18:57		Mar-05-18 19:22							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0						
Diesel Range Organics (DRO)		611	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0						
Oil Range Hydrocarbons (ORO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0						
Total TPH		611	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0						

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.

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

Jessica Kramer
Project Assistant

Certificate of Analytical Results 577905

LT Environmental, Inc., Arvada, CO

Remuda Basin State Com #001

Sample Id:	**SS1**	Matrix:	Soil	Date Received:	03.01.18 13.10
Lab Sample Id:	577905-001	Date Collected:	02.26.18 14.10	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.07.18 10.13	Basis:	Wet Weight
Seq Number:	3043092				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.5**	4.96	mg/kg	03.07.18 12.04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.05.18 07.00	Basis:	Wet Weight
Seq Number:	3042902				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.05.18 17.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	**611**	14.9	mg/kg	03.05.18 17.40		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	03.05.18 17.40	U	1
Total TPH	PHC635	**611**	14.9	mg/kg	03.05.18 17.40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	03.05.18 17.40	
o-Terphenyl	84-15-1	107	%	70-135	03.05.18 17.40	

Certificate of Analytical Results 577905

LT Environmental, Inc., Arvada, CO

Remuda Basin State Com #001

Sample Id:	**SS1**	Matrix:	Soil	Date Received:	03.01.18 13.10
Lab Sample Id:	577905-001	Date Collected:	02.26.18 14.10	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.04.18 10.00	Basis:	Wet Weight
Seq Number:	3042731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.05.18 10.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	03.05.18 10.44	
1,4-Difluorobenzene	540-36-3	82	%	70-130	03.05.18 10.44	

Certificate of Analytical Results 577905

LT Environmental, Inc., Arvada, CO

Remuda Basin State Com #001

Sample Id:	**SS2**	Matrix:	Soil	Date Received:	03.01.18 13.10
Lab Sample Id:	577905-002	Date Collected:	02.26.18 14.13	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.07.18 10.13	Basis:	Wet Weight
Seq Number:	3043092				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	03.07.18 12.09	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.05.18 07.00	Basis:	Wet Weight
Seq Number:	3042902				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.05.18 18.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.05.18 18.05	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.05.18 18.05	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.05.18 18.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	03.05.18 18.05	
o-Terphenyl	84-15-1	106	%	70-135	03.05.18 18.05	

Certificate of Analytical Results 577905

LT Environmental, Inc., Arvada, CO

Remuda Basin State Com #001

Sample Id:	**SS2**	Matrix:	Soil	Date Received:	03.01.18 13.10
Lab Sample Id:	577905-002	Date Collected:	02.26.18 14.13	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.04.18 10.00	Basis:	Wet Weight
Seq Number:	3042731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.05.18 10.44	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	03.05.18 10.44	
1,4-Difluorobenzene	540-36-3	73	%	70-130	03.05.18 10.44	

Certificate of Analytical Results 577905

LT Environmental, Inc., Arvada, CO

Remuda Basin State Com #001

Sample Id:	**SS3**	Matrix:	Soil	Date Received:	03.01.18 13.10
Lab Sample Id:	577905-003	Date Collected:	02.26.18 14.16	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.07.18 10.13	Basis:	Wet Weight
Seq Number:	3043092				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**154**	4.95	mg/kg	03.07.18 12.14		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.05.18 07.00	Basis:	Wet Weight
Seq Number:	3042902				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.05.18 18.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.05.18 18.31	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.05.18 18.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.05.18 18.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	03.05.18 18.31	
o-Terphenyl	84-15-1	109	%	70-135	03.05.18 18.31	

Certificate of Analytical Results 577905

LT Environmental, Inc., Arvada, CO

Remuda Basin State Com #001

Sample Id:	**SS3**	Matrix:	Soil	Date Received:	03.01.18 13.10
Lab Sample Id:	577905-003	Date Collected:	02.26.18 14.16	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.04.18 10.00	Basis:	Wet Weight
Seq Number:	3042731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.05.18 10.44	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.05.18 10.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	03.05.18 10.44	
1,4-Difluorobenzene	540-36-3	91	%	70-130	03.05.18 10.44	

Certificate of Analytical Results 577905

LT Environmental, Inc., Arvada, CO

Remuda Basin State Com #001

Sample Id:	**SS4**	Matrix:	Soil	Date Received:	03.01.18 13.10
Lab Sample Id:	577905-004	Date Collected:	02.26.18 14.18	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.07.18 10.13	Basis:	Wet Weight
Seq Number:	3043092				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	03.07.18 12.30	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.05.18 07.00	Basis:	Wet Weight
Seq Number:	3042902				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.05.18 18.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.05.18 18.57	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.05.18 18.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.05.18 18.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	03.05.18 18.57	
o-Terphenyl	84-15-1	94	%	70-135	03.05.18 18.57	

Certificate of Analytical Results 577905

LT Environmental, Inc., Arvada, CO

Remuda Basin State Com #001

Sample Id:	**SS4**	Matrix:	Soil	Date Received:	03.01.18 13.10
Lab Sample Id:	577905-004	Date Collected:	02.26.18 14.18	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.04.18 10.00	Basis:	Wet Weight
Seq Number:	3042731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.05.18 10.44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.05.18 10.44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.05.18 10.44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.05.18 10.44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.05.18 10.44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.05.18 10.44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.05.18 10.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	80	%	70-130	03.05.18 10.44	
4-Bromofluorobenzene	460-00-4	116	%	70-130	03.05.18 10.44	

Certificate of Analytical Results 577905

LT Environmental, Inc., Arvada, CO

Remuda Basin State Com #001

Sample Id:	**SS5**	Matrix:	Soil	Date Received:	03.01.18 13.10
Lab Sample Id:	577905-005	Date Collected:	02.26.18 14.21	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.07.18 10.13	Basis:	Wet Weight
Seq Number:	3043092				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	03.07.18 12.35	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.05.18 07.00	Basis:	Wet Weight
Seq Number:	3042902				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.05.18 19.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.05.18 19.22	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.05.18 19.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.05.18 19.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	03.05.18 19.22	
o-Terphenyl	84-15-1	106	%	70-135	03.05.18 19.22	

Certificate of Analytical Results 577905

LT Environmental, Inc., Arvada, CO

Remuda Basin State Com #001

Sample Id:	**SS5**	Matrix:	Soil	Date Received:	03.01.18 13.10
Lab Sample Id:	577905-005	Date Collected:	02.26.18 14.21	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.04.18 10.00	Basis:	Wet Weight
Seq Number:	3042731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.05.18 10.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.05.18 10.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	03.05.18 10.44	
1,4-Difluorobenzene	540-36-3	77	%	70-130	03.05.18 10.44	

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 577905

LT Environmental, Inc.

Remuda Basin State Com #001

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3043092 — Matrix: Solid — Date Prep: 03.07.18
MB Sample Id: 7640346-1-BLK — LCS Sample Id: 7640346-1-BKS — LCSD Sample Id: 7640346-1-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	240	96	90-110	3	20	mg/kg	03.07.18 10:25	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3043092 — Matrix: Soil — Date Prep: 03.07.18
Parent Sample Id: 577880-004 — MS Sample Id: 577880-004 S — MSD Sample Id: 577880-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	97.7	247	381	115	365	108	90-110	4	20	mg/kg	03.07.18 11:05	X

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3043092 — Matrix: Soil — Date Prep: 03.07.18
Parent Sample Id: 577905-003 — MS Sample Id: 577905-003 S — MSD Sample Id: 577905-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	154	248	449	119	402	100	90-110	11	20	mg/kg	03.07.18 12:20	X

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3042902 — Matrix: Solid — Date Prep: 03.05.18
MB Sample Id: 7640248-1-BLK — LCS Sample Id: 7640248-1-BKS — LCSD Sample Id: 7640248-1-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	1030	103	1030	103	70-135	0	35	mg/kg	03.05.18 09:05	
Diesel Range Organics (DRO)	<15.0	1000	1060	106	1050	105	70-135	1	35	mg/kg	03.05.18 09:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		121		115		70-135	%	03.05.18 09:05
o-Terphenyl	100		122		113		70-135	%	03.05.18 09:05

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 577905

LT Environmental, Inc.

Remuda Basin State Com #001

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3042902 — Matrix: Soil — Date Prep: 03.05.18
Parent Sample Id: 577773-011 — MS Sample Id: 577773-011 S — MSD Sample Id: 577773-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	1010	101	1040	104	70-135	3	35	mg/kg	03.05.18 10:22	
Diesel Range Organics (DRO)	<15.0	999	1060	106	1100	110	70-135	4	35	mg/kg	03.05.18 10:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		118		70-135	%	03.05.18 10:22
o-Terphenyl	107		111		70-135	%	03.05.18 10:22

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3042731 — Matrix: Solid — Date Prep: 03.04.18
MB Sample Id: 7640121-1-BLK — LCS Sample Id: 7640121-1-BKS — LCSD Sample Id: 7640121-1-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	0.0815	82	0.0764	77	70-130	6	35	mg/kg	03.05.18 10:44	
Toluene	<0.00199	0.0994	0.0784	79	0.0780	78	70-130	1	35	mg/kg	03.05.18 10:44	
Ethylbenzene	<0.00199	0.0994	0.0818	82	0.0814	82	70-130	0	35	mg/kg	03.05.18 10:44	
m,p-Xylenes	<0.00398	0.199	0.159	80	0.159	80	70-130	0	35	mg/kg	03.05.18 10:44	
o-Xylene	<0.00199	0.0994	0.0821	83	0.0821	82	70-130	0	35	mg/kg	03.05.18 10:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		72		91		70-130	%	03.05.18 10:44
4-Bromofluorobenzene	113		121		122		70-130	%	03.05.18 10:44

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3042731 — Matrix: Soil — Date Prep: 03.04.18
Parent Sample Id: 577904-001 — MS Sample Id: 577904-001 S — MSD Sample Id: 577904-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0520	52	0.0505	51	70-130	3	35	mg/kg	03.05.18 10:44	X
Toluene	<0.00199	0.0994	0.0380	38	0.0352	35	70-130	8	35	mg/kg	03.05.18 10:44	X
Ethylbenzene	<0.00199	0.0994	0.0299	30	0.0283	28	70-130	5	35	mg/kg	03.05.18 10:44	X
m,p-Xylenes	<0.00398	0.199	0.0554	28	0.0519	26	70-130	7	35	mg/kg	03.05.18 10:44	X
o-Xylene	<0.00199	0.0994	0.0291	29	0.0271	27	70-130	7	35	mg/kg	03.05.18 10:44	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		91		70-130	%	03.05.18 10:44
4-Bromofluorobenzene	120		120		70-130	%	03.05.18 10:44

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

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Revision 2016.1

2RP-2988

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Client / Reporting Information

Company Name / Branch: LTE / Permian
Company Address: 3300 N. A Street Bldg 1 #103
Email: Abaker@LTEnv.com Phone No: 432-704-5178
Project Contact: Adrian Baker
Samplers's Name: Aaron Williams

Project Information

Project Name/Number: Remuda Basin State Com #001 30-015-31774
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30015 31774

Analytical Information

Btex 8021
TPH 8015
Chloride 300.1

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	SS1	6"	3/24	14:10	S	1									
2	SS2			14:13											
3	SS3			14:16											
4	SS4			14:18											
5	SS5			14:21											
6															
7															
8															
9															
10	NFGAC														

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

Data Deliverable Information

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

Temp: 3.4 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.2

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		2/28 7:50		2	3/1 13:10	
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor

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

Final 1.000
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Released to Imaging: 3/17/2023 8:03:53 AM

Received by OCD: 3/17/2023 8:00:04 AM

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/01/2018 01:10:00 PM

Work Order #: 577905

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

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.2	
#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: 03/01/2018

Checklist reviewed by: Jessica Kramer Date: 03/01/2018

Jessica Kramer

Released to Imaging: 3/17/2023 8:03:53 AM

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 198169

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 198169
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	Closure approved under the old rules based on dates in the report and final C-141.	3/17/2023