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

April 4, 2018

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

RE: Closure Request
James Ranch Unit #120H Flow Line Release
2RP-2629
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 soil sampling activities at the James Ranch Unit #120H well pad (Site) in Section 8, Township 23 South, Range 31 East, in Eddy County, New Mexico (Figure 1). The purpose of the investigation was to assess impacts to soil after external corrosion to a flow line caused a release of crude oil and produced water on November 21, 2014. The spill impacted approximately 1,475 square feet of the caliche well pad. Free-standing liquids were removed with a vacuum truck. The well was shut in, the fluid in the faulty flow line was removed with a vacuum truck, and the section of the flow line was replaced with an externally coated flow line. The release was reported to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on November 26, 2014, and was assigned Remediation Permit Number (RP) 2RP-2629 (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 02492, located approximately 6,260 feet northwest of the Site, with a total depth of 400 feet. Depth to groundwater is listed for C 02492 as 125 feet. The groundwater potentiometric map used by NMOCD for Eddy County indicates groundwater is greater than 100 feet deep at the Site. The closest surface water to the Site is an intermittent stream located approximately 1.44 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 for 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 flow line release location, description of the affected area, and photographs made immediately following the release, LTE determined the release occurred along the access road north of the well pad. LTE collected six soil sample on February 5, 2018, as depicted on Figure 2. No visual or olfactory evidence of the release was observed. LTE made an effort to collect representative samples around the reported release source and at any potential downgradient surface areas as identified by topographic slope and/or evidence of surface flow features (channels, depressions, or other erosional features).

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 and TPH-gasoline range organics (GRO) by United States Environmental Protection Agency (USEPA) Method 8021, TPH-diesel range organics (DRO) and motor oil range organics (MRO) by USEPA Method 8015, and chloride by method USEPA Method 300.0.

ANALYTICAL RESULTS

Laboratory analytical results for the six soil samples indicated BTEX concentrations were below laboratory reporting limits. The detected laboratory analytical results for TPH and chloride concentrations were compliant with the NMOCD regulatory standards. The laboratory analytical results are presented on Figure 2 and in Table 1, and the complete laboratory analytical report is included as Attachment 2.

CONCLUSIONS

Laboratory analytical results for soil samples collected within the former release footprint as best 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, 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
Crystal Weaver, NMOCD
Jim Amos, BLM
Shelly Tucker, BLM

FIGURES

Advancing Opportunity

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NOTE:
2RP-2629
JRU - James Ranch Unit

FIGURE 1
SITE LOCATION MAP
JRU #120H
UNIT O SEC 8 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY INC.

P:\XTO Energy\GIS\MXD\012918025_JRU #120H_FL\012918025_FIG01_SL_2018.mxd

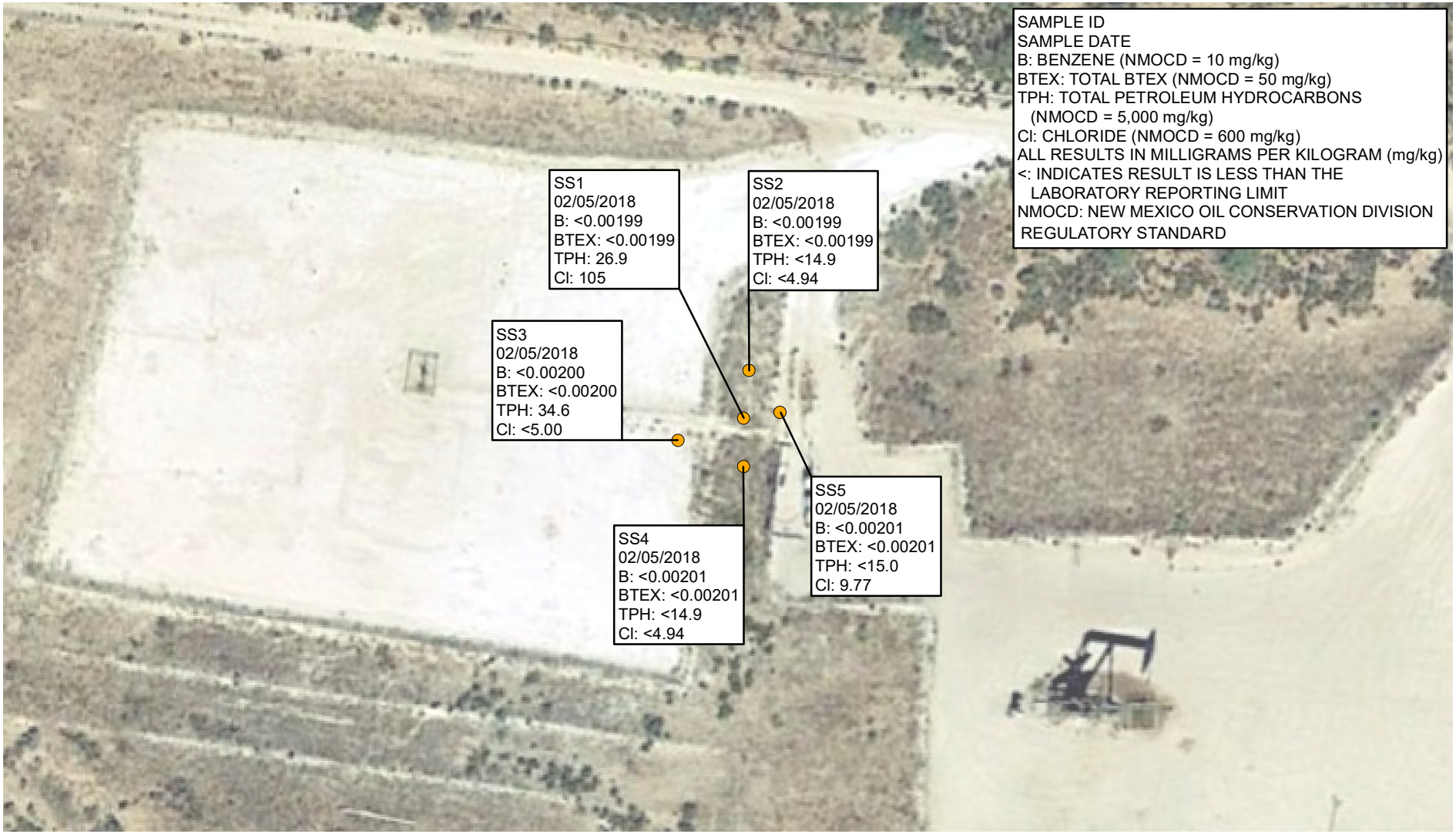

IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

- SOIL SAMPLE

0 60 120

Feet

N

FIGURE 2
SOIL SAMPLE LOCATIONS
JRU #120H
UNIT O SEC 8 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY INC.

NOTE:
2RP-2629
JRU - James Ranch Unit

P:\XTO Energy\GIS\MXD\012918025_JRU #120H_FL\012918025_FIG02_SITE_2018.mxd

TABLE

Advancing Opportunity

TABLE 1
SOIL ANALYTICAL RESULTS
JRU #120H
2RP-2629
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	02/05/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	26.9	<15.0	26.9	105
SS2	0.5	02/05/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<4.94
SS3	0.5	02/05/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	34.6	<15.0	34.6	<5.00
SS4	0.5	02/05/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<4.94
SS5	0.5	02/05/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	9.77
NMOCD Regulatory Standard			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

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
NOV 26 2014
RECEIVED

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1433049483

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. 2100737	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: James Ranch Unit #120H	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-38116

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	8	23S	31E	290	South	1990	East	Eddy

Latitude N 32.312489 **Longitude** W 103.797380

NATURE OF RELEASE

Type of Release: Crude oil and produced water	Volume of Release: 3 bbls crude oil and 7 bbls produced water	Volume Recovered: None
Source of Release: a 2 7/8" flow line	Date and Hour of Occurrence: 11/21/14 time unknown	Date and Hour of Discovery: 11/21/14 at approximately 9:30 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 flow line developed a leak due to external corrosion. The well was shut in, the fluid in the line was removed with a vacuum truck and the section of line was replaced with externally coated flow line.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 1475 sq.ft. of caliche well pad. The oil and water had soaked into the ground. The saturated soil was scraped up with a backhoe and stockpiled on-site pending removal during the final site remediation.
The impacted area will be cleaned up in accordance to the NMOCD and BLM remediation guidelines.

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

Signature: Tony Savoie	OIL CONSERVATION DIVISION Signed By Mike Bratcher
Printed Name: Tony Savoie	Approved by Environmental Specialist:
Title: Waste Management and Remediation Specialist	Approval Date: 11/26/14 Expiration Date: N/A
E-mail Address: tasavoie@basspet.com	Conditions of Approval: Attached ☐
Date: 11/25/14 Phone: 432-556-8730	Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 12/26/14

* Attach Additional Sheets If Necessary

2RP-2029

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 James Ranch Unit #120H	Facility Type Exploration and Production

Surface Owner Federal	Mineral Owner Federal	API No. 30-015-38116

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	8	23S	31E	290	South	1990	East	Eddy

Latitude N 32.312489 **Longitude** 103.797380 NAD83

NATURE OF RELEASE

Type of Release Crude oil and produced water	Volume of Release 3 bbls Oil and 7 bbls produced water	Volume Recovered None
Source of Release a 2/8" flow line	Date and Hour of Occurrence 11/21/14	Date and Hour of Discovery 11/21/14 at Approximately 9:30 am
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The flow line developed a leak due to external corrosion. The well was shut in, the fluid in the line was removed with a vacuum truck and the section of line was replaced with externally coated flow line.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 1475 sq. ft. of caliche well pad. The oil and water had soaked into the ground. The saturated soil was scraped with a backhoe and stockpiled on-site pending removal during the final site remediation.

XTO collected six soil samples from the release footprint on February 5, 2018. No stockpiled soil was identified on site. 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: Bradford Billings	
Title: SH&E Coordinator	Approval Date: 03/18/2020	Expiration Date:
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval:	Attached ☐
Date: 4/3/2018 Phone: 432-221-7331		

* Attach Additional Sheets If Necessary

ATTACHMENT 2

LABORATORY ANALYTICAL REPORTS

Advancing Opportunity

Analytical Report 575581

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU 120H Flowline/ 30-015-38116

15-FEB-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

15-FEB-18

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

Reference: XENCO Report No(s): **575581**
JRU 120H Flowline/ 30-015-38116
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) 575581. 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. 575581 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Odessa Laboratory Director

Sample Cross Reference 575581

LT Environmental, Inc., Arvada, CO

JRU 120H Flowline/ 30-015-38116

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS1	S	02-05-18 11:43	6"	575581-001
SS2	S	02-05-18 11:45	6"	575581-002
SS3	S	02-05-18 11:47	6"	575581-003
SS4	S	02-05-18 11:49	6"	575581-004
SS5	S	02-05-18 11:51	6"	575581-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 120H Flowline/ 30-015-38116

Project ID:
Work Order Number(s): *575581*

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

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3040661 BTEX by EPA 8021B
Lab Sample ID 575581-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 575581-001, -002, -003, -004, -005.
The Laboratory Control Sample for Benzene is within laboratory Control Limits, therefore the data was accepted.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3041039 Inorganic Anions by EPA 300
Lab Sample ID 575581-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 575581-001, -002, -003, -004, -005.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 575581

LT Environmental, Inc., Arvada, CO

Project Name: JRU 120H Flowline/ 30-015-38116

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Wed Feb-07-18 08:00 am
Report Date: 15-FEB-18
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	575581-001		575581-002		575581-003		575581-004		575581-005	
	Field Id:	SS1		SS2		SS3		SS4		SS5	
	Depth:	6"-		6"-		6"-		6"-		6"-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-05-18 11:43		Feb-05-18 11:45		Feb-05-18 11:47		Feb-05-18 11:49		Feb-05-18 11:51	
BTEX by EPA 8021B	***Extracted:***	Feb-09-18 08:00		Feb-09-18 08:00		Feb-09-18 08:00		Feb-09-18 08:00		Feb-09-18 08:00	
	Analyzed:	Feb-09-18 14:05		Feb-09-18 11:13		Feb-09-18 15:03		Feb-09-18 15:34		Feb-09-18 16:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
Toluene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
Ethylbenzene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
m,p-Xylenes		<0.00398	0.00398	<0.00398	0.00398	<0.00401	0.00401	<0.00402	0.00402	<0.00402	0.00402
o-Xylene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
Total Xylenes		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
Total BTEX		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
Inorganic Anions by EPA 300	***Extracted:***	Feb-14-18 10:00		Feb-14-18 10:00		Feb-14-18 10:00		Feb-14-18 10:00		Feb-14-18 10:00	
	Analyzed:	Feb-14-18 16:44		Feb-14-18 16:50		Feb-14-18 16:56		Feb-14-18 17:02		Feb-14-18 17:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		105	4.99	<4.94	4.94	<5.00	5.00	<4.94	4.94	9.77	4.97
TPH by SW8015 Mod	***Extracted:***	Feb-10-18 14:00		Feb-10-18 14:00		Feb-10-18 14:00		Feb-10-18 14:00		Feb-10-18 14:00	
	Analyzed:	Feb-11-18 08:16		Feb-11-18 09:17		Feb-11-18 09:37		Feb-11-18 09:57		Feb-11-18 10:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		26.9	15.0	<14.9	14.9	34.6	15.0	<14.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		26.9	15.0	<14.9	14.9	34.6	15.0	<14.9	14.9	<15.0	15.0

Jessica Kramer
Odessa Laboratory Director

Certificate of Analytical Results 575581

LT Environmental, Inc., Arvada, CO

JRU 120H Flowline/ 30-015-38116

Sample Id:	**SS1**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575581-001	Date Collected:	02.05.18 11.43	Sample Depth:	6"

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.14.18 10.00	Basis:	Wet Weight
Seq Number:	3041039				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**105**	4.99	mg/kg	02.14.18 16.44		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.10.18 14.00	Basis:	Wet Weight
Seq Number:	3040797				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.11.18 08.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	**26.9**	15.0	mg/kg	02.11.18 08.16		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.11.18 08.16	U	1
Total TPH	PHC635	**26.9**	15.0	mg/kg	02.11.18 08.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.11.18 08.16	
o-Terphenyl	84-15-1	97	%	70-135	02.11.18 08.16	

Certificate of Analytical Results 575581

LT Environmental, Inc., Arvada, CO

JRU 120H Flowline/ 30-015-38116

Sample Id:	**SS1**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575581-001	Date Collected:	02.05.18 11.43	Sample Depth:	6"
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.09.18 08.00	Basis:	Wet Weight
Seq Number:	3040661				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.09.18 14.05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.09.18 14.05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.09.18 14.05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.09.18 14.05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.09.18 14.05	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.09.18 14.05	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.09.18 14.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	80-120	02.09.18 14.05	
1,4-Difluorobenzene	540-36-3	89	%	80-120	02.09.18 14.05	

Certificate of Analytical Results 575581

LT Environmental, Inc., Arvada, CO

JRU 120H Flowline/ 30-015-38116

Sample Id:	**SS2**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575581-002	Date Collected:	02.05.18 11.45	Sample Depth:	6"

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.14.18 10.00	Basis:	Wet Weight
Seq Number:	3041039				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.94	4.94	mg/kg	02.14.18 16.50	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.10.18 14.00	Basis:	Wet Weight
Seq Number:	3040797				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.11.18 09.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.11.18 09.17	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.11.18 09.17	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.11.18 09.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.11.18 09.17	
o-Terphenyl	84-15-1	92	%	70-135	02.11.18 09.17	

Certificate of Analytical Results 575581

LT Environmental, Inc., Arvada, CO

JRU 120H Flowline/ 30-015-38116

Sample Id:	**SS2**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575581-002	Date Collected:	02.05.18 11.45	Sample Depth:	6"
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.09.18 08.00	Basis:	Wet Weight
Seq Number:	3040661				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.09.18 11.13	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.09.18 11.13	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.09.18 11.13	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.09.18 11.13	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.09.18 11.13	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.09.18 11.13	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.09.18 11.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	80-120	02.09.18 11.13	
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.09.18 11.13	

Certificate of Analytical Results 575581

LT Environmental, Inc., Arvada, CO

JRU 120H Flowline/ 30-015-38116

Sample Id:	**SS3**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575581-003	Date Collected:	02.05.18 11.47	Sample Depth:	6"

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.14.18 10.00	Basis:	Wet Weight
Seq Number:	3041039				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	02.14.18 16.56	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.10.18 14.00	Basis:	Wet Weight
Seq Number:	3040797				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.11.18 09.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	**34.6**	15.0	mg/kg	02.11.18 09.37		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.11.18 09.37	U	1
Total TPH	PHC635	**34.6**	15.0	mg/kg	02.11.18 09.37		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.11.18 09.37	
o-Terphenyl	84-15-1	97	%	70-135	02.11.18 09.37	

Certificate of Analytical Results 575581

LT Environmental, Inc., Arvada, CO

JRU 120H Flowline/ 30-015-38116

Sample Id:	**SS3**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575581-003	Date Collected:	02.05.18 11.47	Sample Depth:	6"
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.09.18 08.00	Basis:	Wet Weight
Seq Number:	3040661				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.09.18 15.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.09.18 15.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.09.18 15.03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.09.18 15.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.09.18 15.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.09.18 15.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.09.18 15.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.09.18 15.03	
4-Bromofluorobenzene	460-00-4	105	%	80-120	02.09.18 15.03	

Certificate of Analytical Results 575581

LT Environmental, Inc., Arvada, CO

JRU 120H Flowline/ 30-015-38116

Sample Id:	**SS4**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575581-004	Date Collected:	02.05.18 11.49	Sample Depth:	6"

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.14.18 10.00	Basis:	Wet Weight
Seq Number:	3041039				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.94	4.94	mg/kg	02.14.18 17.02	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.10.18 14.00	Basis:	Wet Weight
Seq Number:	3040797				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.11.18 09.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.11.18 09.57	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.11.18 09.57	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.11.18 09.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	02.11.18 09.57	
o-Terphenyl	84-15-1	91	%	70-135	02.11.18 09.57	

Certificate of Analytical Results 575581

LT Environmental, Inc., Arvada, CO

JRU 120H Flowline/ 30-015-38116

Sample Id:	**SS4**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575581-004	Date Collected:	02.05.18 11.49	Sample Depth:	6"
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.09.18 08.00	Basis:	Wet Weight
Seq Number:	3040661				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.09.18 15.34	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.09.18 15.34	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.09.18 15.34	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.09.18 15.34	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.09.18 15.34	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.09.18 15.34	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.09.18 15.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	80-120	02.09.18 15.34	
1,4-Difluorobenzene	540-36-3	90	%	80-120	02.09.18 15.34	

Certificate of Analytical Results 575581

LT Environmental, Inc., Arvada, CO

JRU 120H Flowline/ 30-015-38116

Sample Id:	**SS5**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575581-005	Date Collected:	02.05.18 11.51	Sample Depth:	6"

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.14.18 10.00	Basis:	Wet Weight
Seq Number:	3041039				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.77**	4.97	mg/kg	02.14.18 17.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.10.18 14.00	Basis:	Wet Weight
Seq Number:	3040797				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.11.18 10.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.11.18 10.17	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.11.18 10.17	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.11.18 10.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.11.18 10.17	
o-Terphenyl	84-15-1	92	%	70-135	02.11.18 10.17	

Certificate of Analytical Results 575581

LT Environmental, Inc., Arvada, CO

JRU 120H Flowline/ 30-015-38116

Sample Id:	**SS5**	Matrix:	Soil	Date Received:	02.07.18 08.00
Lab Sample Id:	575581-005	Date Collected:	02.05.18 11.51	Sample Depth:	6"
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.09.18 08.00	Basis:	Wet Weight
Seq Number:	3040661				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.09.18 16.12	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.09.18 16.12	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.09.18 16.12	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.09.18 16.12	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.09.18 16.12	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.09.18 16.12	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.09.18 16.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	80-120	02.09.18 16.12	
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.09.18 16.12	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

QC Summary 575581

LT Environmental, Inc.

JRU 120H Flowline/ 30-015-38116

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041039 Matrix: Solid Date Prep: 02.14.18
MB Sample Id: 7639084-1-BLK LCS Sample Id: 7639084-1-BKS LCSD Sample Id: 7639084-1-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	274	110	273	109	90-110	0	20	mg/kg	02.14.18 11:32	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041039 Matrix: Soil Date Prep: 02.14.18
Parent Sample Id: 575580-001 MS Sample Id: 575580-001 S MSD Sample Id: 575580-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	51.9	248	334	114	336	115	90-110	1	20	mg/kg	02.14.18 11:50	X

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041039 Matrix: Soil Date Prep: 02.14.18
Parent Sample Id: 575581-005 MS Sample Id: 575581-005 S MSD Sample Id: 575581-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.77	249	303	118	314	122	90-110	4	20	mg/kg	02.14.18 17:14	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3040797 Matrix: Solid Date Prep: 02.10.18
MB Sample Id: 7638963-1-BLK LCS Sample Id: 7638963-1-BKS LCSD Sample Id: 7638963-1-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	934	93	904	90	70-135	3	35	mg/kg	02.11.18 07:36	
Diesel Range Organics (DRO)	<15.0	1000	1060	106	1010	101	70-135	5	35	mg/kg	02.11.18 07:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		107		100		70-135	%	02.11.18 07:36
o-Terphenyl	95		110		101		70-135	%	02.11.18 07:36

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 575581

LT Environmental, Inc.

JRU 120H Flowline/ 30-015-38116

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3040797 Matrix: Soil Date Prep: 02.10.18
Parent Sample Id: 575581-001 MS Sample Id: 575581-001 S MSD Sample Id: 575581-001 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	968	97	898	90	70-135	8	35	mg/kg	02.11.18 08:37	
Diesel Range Organics (DRO)	26.9	998	1090	107	1000	98	70-135	9	35	mg/kg	02.11.18 08:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		98		70-135	%	02.11.18 08:37
o-Terphenyl	105		95		70-135	%	02.11.18 08:37

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3040661 Matrix: Solid Date Prep: 02.09.18
MB Sample Id: 7638881-1-BLK LCS Sample Id: 7638881-1-BKS LCSD Sample Id: 7638881-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0819	82	0.0878	88	70-130	7	35	mg/kg	02.09.18 09:03	
Toluene	<0.00199	0.0996	0.0873	88	0.0937	94	70-130	7	35	mg/kg	02.09.18 09:03	
Ethylbenzene	<0.00199	0.0996	0.0980	98	0.107	107	71-129	9	35	mg/kg	02.09.18 09:03	
m,p-Xylenes	<0.00398	0.199	0.192	96	0.208	104	70-135	8	35	mg/kg	02.09.18 09:03	
o-Xylene	<0.00199	0.0996	0.0956	96	0.103	103	71-133	7	35	mg/kg	02.09.18 09:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	85		90		95		80-120	%	02.09.18 09:03
4-Bromofluorobenzene	106		109		119		80-120	%	02.09.18 09:03

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3040661 Matrix: Soil Date Prep: 02.09.18
Parent Sample Id: 575581-002 MS Sample Id: 575581-002 S MSD Sample Id: 575581-002 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	0.0671	67	0.0704	70	70-130	5	35	mg/kg	02.09.18 09:39	X
Toluene	<0.00200	0.100	0.0711	71	0.0740	73	70-130	4	35	mg/kg	02.09.18 09:39	
Ethylbenzene	<0.00200	0.100	0.0793	79	0.0821	81	71-129	3	35	mg/kg	02.09.18 09:39	
m,p-Xylenes	<0.00401	0.200	0.155	78	0.161	80	70-135	4	35	mg/kg	02.09.18 09:39	
o-Xylene	<0.00200	0.100	0.0783	78	0.0806	80	71-133	3	35	mg/kg	02.09.18 09:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		81		80-120	%	02.09.18 09:39
4-Bromofluorobenzene	109		113		80-120	%	02.09.18 09:39

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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Revision 2016.1

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Xenco Quote #

Xenco Job # 575581

Client / Reporting Information

Company Name / Branch: LTE / Permian

Company Address: 3300 N. A Street Bldg 1 suite 103

Email: Abaker@LTenv.com Phone No: 432-704-5178

Project Contact: Adrian Baker / Kyle Littrell

Samplers's Name: Aaron Williamson

Project Information

Project Name/Number: JRU 120H Flowline / 30-015-38116

Project Location: NM

Invoice To: XTO Energy - Kyle Littrell

PO Number: 3001538116

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 Method 8015	Chloride Meth. 300.1
1	SS1	6"	2/5/18	11:43	S	1									X	X	X
2	SS2	6"	2/5/18	11:45	S	1									X	X	X
3	SS3	6"	2/5/18	11:47	S	1									X	X	X
4	SS4	6"	2/5/18	11:49	S	1									X	X	X
5	SS5	6"	2/5/18	11:51	S	1									X	X	X
6																	
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

Field Comments

NEE ARV

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY — Standard tat

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

Data Deliverable Information

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

Notes:

Temp: 4 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 3.8

FED-EX / UPS: Tracking #

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

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