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

December 31, 2018

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

RE: Deferral Request
Muy Wayno 7 State 1H
Remediation Permit Number 2RP-5023
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following letter report detailing excavation of impacted soil and confirmation soil sampling activities at the Muy Wayno 7 State 1H tank battery (Site) located in Unit C, Section 07, Township 25 South, Range 30 East, in Eddy, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impact to soil after 25 barrels (bbls) of crude oil and 35.2 bbls of produced water were released from the tank battery. The majority of the released fluids were contained within the lined tank battery containment berm. A light mist impacted the surface soil northwest of the tank battery. The release was discovered on October 3, 2018. Vacuum trucks were dispatched to the Site and used to recover the standing fluid; approximately 25 bbls of crude oil and 35 bbls of produced water were recovered from the lined containment and returned to the tanks. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on October 18, 2018 and was assigned Remediation Permit (RP) Number 2RP-5023 (Attachment 1).

BACKGROUND

The release occurred after August 14, 2018; therefore, LTE determined remediation action levels by applying Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). 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. The nearest permitted water well with depth to water data is C 02371, located approximately 3.42 miles southwest of the Site, with a depth to groundwater of 60 feet and a total depth of 200 feet. The water well is approximately 136 feet lower in elevation than the Site. The closest significant watercourse to the Site is an unnamed dry wash located approximately 1,125 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well

or spring and is not within a 100-year floodplain or overlying a subsurface mine. Based on these criteria, the following NMOCD Table 1 closure criteria apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 2,500 mg/kg total petroleum hydrocarbons (TPH); 1,000 mg/kg TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO); and 20,000 mg/kg chloride.

EXCAVATION AND SOIL SAMPLING ACTVITIES

On November 3, 2018, LTE personnel inspected the Site to evaluate the release extent. The release within the lined containment was cleaned up using vacuum trucks during initial response activities. Surface hydrocarbon staining was observed in the misted release area northwest of the tank battery. The release extent was mapped using a handheld Global Positing System (GPS) unit and is depicted on Figure 2.

On December 4, 2018, LTE personnel returned to the Site to oversee excavation of impacted soil as indicated by visual surface staining in the misted release area northwest of the tank battery. Excavation activities commenced and concluded on December 4, 2018. Impacted soil was excavated from the release area to a depth of 0.5 feet to 1.5 feet bgs. To delineate impacts to soil and direct excavation activities, LTE screened soil using a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips. Following removal of impacted soil, LTE collected 5-point composite soil samples from the floor of the excavation. Composite soil samples FS01 through FS03 were collected from the floor of the excavation from depths of 0.5 feet to 1.5 feet bgs. The 5-point composite samples were collected by depositing 5 aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thorough mixing.

Potholes were advanced at two locations (PH01 and PH02) within the surface mist release area to confirm the lateral and vertical extent of soil impact. Soil was field screened in each pothole using a PID and Hach® chloride QuanTab® test strips. The potholes were advanced to a maximum depth of 1-foot bgs based on field screening results. Soil samples PH01A and PH01B were collected from pothole PH01 from the surface and 0.5-feet bgs, respectively. Soil samples PH02A and PH02B were collected from pothole PH02 from depths of 0.5-feet bgs and 1-foot bgs, respectively. One discrete delineation soil sample (SW01) was collected at a depth of 1-foot bgs from the southern extent of the excavation adjacent to the tank battery containment berm to assess the lateral extent of soil impacts. The soil sample locations are depicted on Figure 2.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler, method of analysis, and immediately placed on ice. The soil samples were shipped at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX by United States Environmental Protection Agency (USEPA) Method 8021B, TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) by USEPA Method 8015M/D, and chloride by USEPA Method 300.0.

The excavation measured approximately 600 square feet in area with a depth ranging from 0.5 feet to 1.5 feet bgs. The horizontal extent of the excavation is illustrated on Figure 2. Approximately 28 cubic yards of impacted soil were removed from the excavation. The impacted soil will be transported and properly disposed of at the R360 Landfill Facility or Lea Land Landfill Facility, in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results for the excavation floor samples (FS01, FS02, and FS03) and pothole samples (PH01A, PH01B, PH02A, and PH02B) indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria and no further excavation was required in these areas. Laboratory analytical results for soil sample SW01 indicated that the GRO/DRO concentration exceeded the NMOCD Table 1 closure criteria of 1,000 mg/kg at a concentration of 1,380 mg/kg. Sidewall sample SW01 was collected at 1-foot bgs from the southern excavation extent. Further excavation to the south was limited by the lined tank battery containment berm. XTO safety policy restricts soil disturbing activities to a 2-foot radius of any on-site lined containments. This XTO safety policy is established to protect workers and to reduce the likelihood of compromising the foundation of the lined containment. This policy was enforced along the southern sidewall of the excavation where impacted soil was identified within two feet of the lined tank battery containment. The excavation was advanced to two feet from the lined containment by mechanical and hand digging methods to remove as much impacted soil as possible. Laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the laboratory analytical report is included as Attachment 2.

DEFERRAL REQUEST

Approximately 28 cubic yards of impacted soil were excavated from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth-moving activities within two feet of active tank batteries and lined containments. Laboratory analytical results for excavation sidewall sample SW01 indicated that soil with a GRO/DRO concentration exceeding the NMOCD Table 1 closure criteria was left in place within two feet of the lined tank battery containment. An estimated 20 cubic yards of impacted soil remain in place, assuming a maximum 2-foot depth based on excavation confirmation samples collected from 1.5 feet bgs that were compliant with the NMOCD Table 1 closure criteria. XTO requests to backfill the existing excavation and complete delineation and remediation during any future major well pad construction/alteration or final plugging and abandonment, whichever occurs first. LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The majority of the release occurred within the lined tank battery containment berm and free-standing fluids were recovered during initial response activities. No saturated soil remains in place. The release is delineated vertically to 1.5 feet bgs based on excavation confirmation samples and laterally by excavation and pothole confirmation soil samples and the mapped release extent.

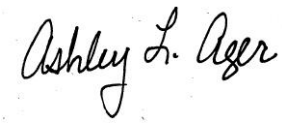
Upon approval of the deferral request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included as Attachment 1. A photographic log of the Site is included as Attachment 3.

If you have any questions or comments, please do not hesitate to contact Ms. 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
Ryan Mann, SLO

Attachments:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-5023)
Attachment 2	Laboratory Analytical Reports
Attachment 3	Photographic Log

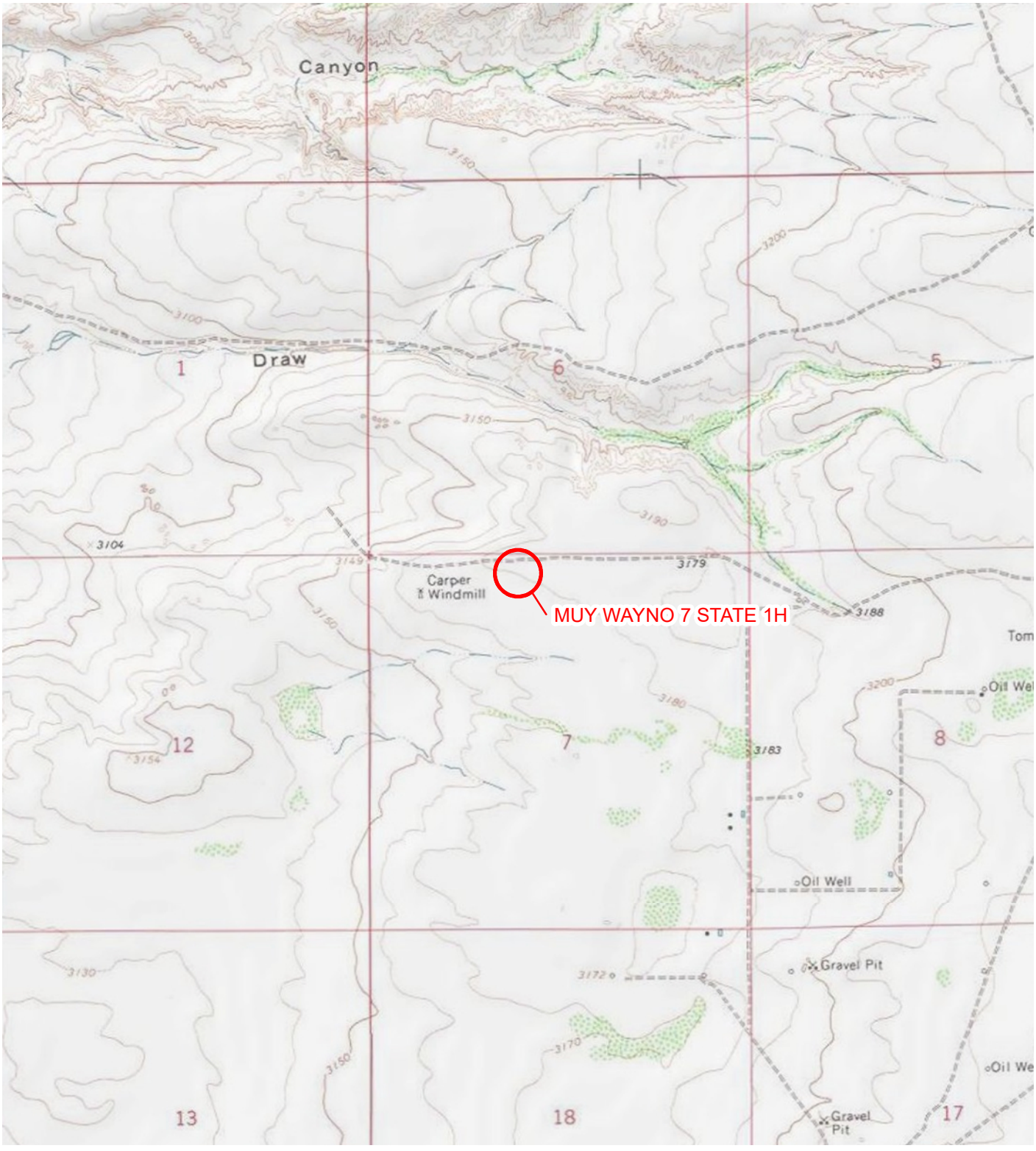


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-5023

FIGURE 1
SITE LOCATION MAP
MUY WAYNO 7 STATE 1H
UNIT C SEC 7 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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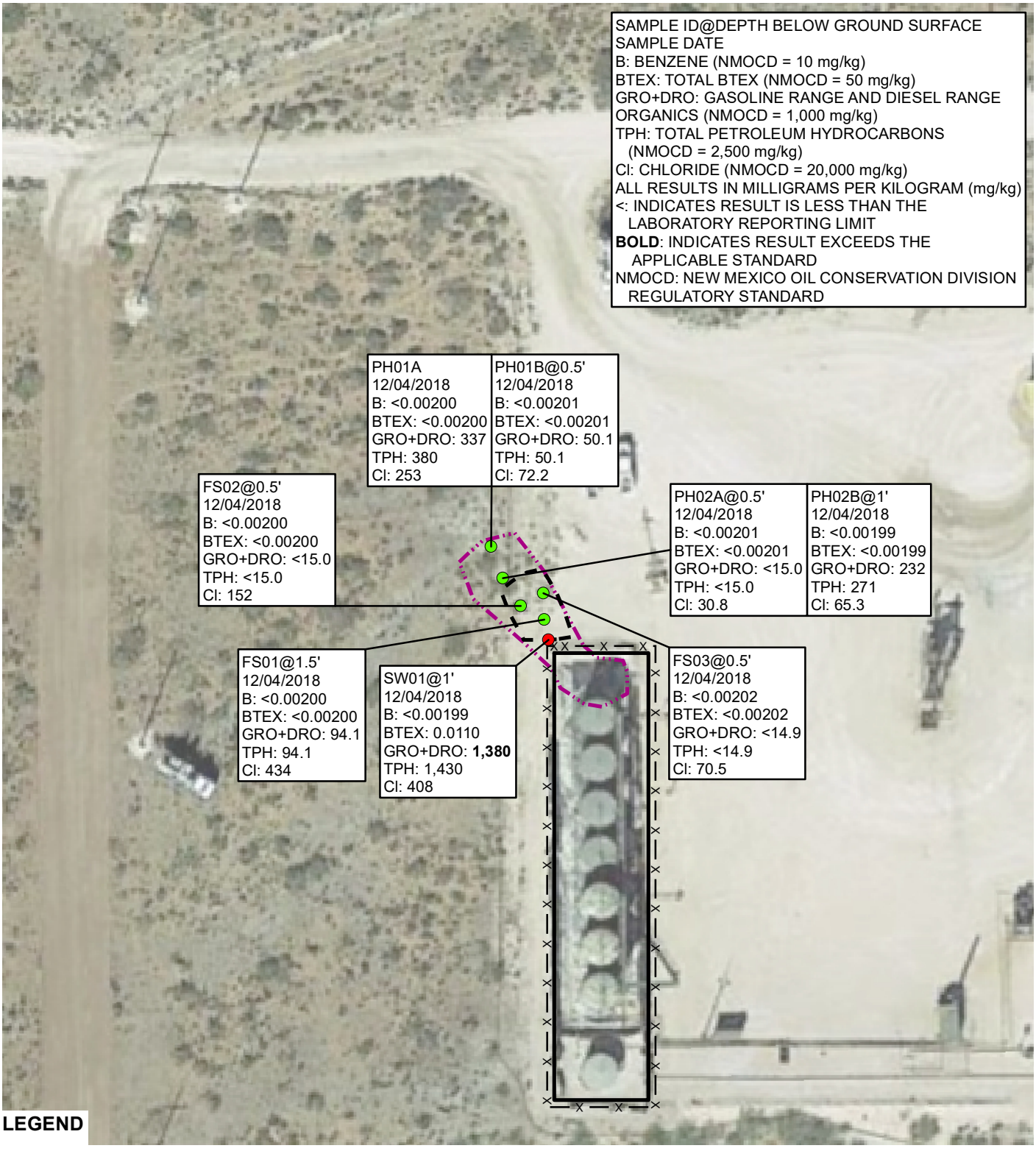

LEGEND

- PRELIMINARY SOIL SAMPLE
- FINAL CONFIRMATION SOIL SAMPLE
- EXCAVATION EXTENT
- RELEASE EXTENT
- BERM
- BARBED WIRE FENCE

NOTE: REMEDIATION PERMIT NUMBER 2RP-5023

IMAGE COURTESY OF GOOGLE EARTH 2017

0 60 120
Feet

N

FIGURE 2
SOIL SAMPLE LOCATIONS
MUY WAYNO 7 STATE 1H
UNIT C SEC 7 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918171_MUY WAYNO 7 STATE 1H\012918171_FIG02_SITE_2018_5023.mxd

TABLE 1
SOIL ANALYTICAL RESULTS

MUY WAYNO 7 STATE 1H
REMEDIATION PERMIT NUMBER 2RP-5023
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 GRO (mg/kg)	C10-C28 DRO (mg/kg)	C28-C40 ORO (mg/kg)	GRO and DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
FS01	1.5	12/04/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	94.1	<15.0	94.1	94.1	434
FS02	0.5	12/04/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	152
FS03	0.5	12/04/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	<14.9	70.5
PH01A	Surface	12/04/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	337	42.6	337	380	253
PH01B	0.5	12/04/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	50.1	<15.0	50.1	50.1	72.2
PH02A	0.5	12/04/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	30.8
PH02B	1	12/04/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	232	38.5	232	271	65.3
SW01	1	12/04/2018	<0.00199	<0.00199	<0.00199	0.0110	0.0110	44.8	1,340	46.9	**1,380**	1,430	408
NMOCD Remediation Action Levels			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000

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
DRO - diesel range organics
GRO - gasoline range organics
ORO - oil range organics
TPH - total petroleum hydrocarbons
< - indicates result is below laboratory reporting limits
Bold - indicates result exceeds the applicable regulatory standard

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NMAP1829649787
District RP	2RP-5023
Facility ID	N/A
Application ID	pMAP1829649280

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)* NMAP1829649787
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.15115 Longitude -103.92266
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Muy Wayno 7 State 1H	Site Type Tank Battery
Date Release 10/3/2018	API# 30-015-37700

Unit Letter	Section	Township	Range	County
C	7	25S	30E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (*Name: State*)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls) 25	Volume Recovered (bbls) 25
☒ Produced Water	Volume Released (bbls) 35.2	Volume Recovered (bbls) 35
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Approximately 25 BO and 35 BW was released from tank battery inside of impervious lined containment with light mist outside of containment. All contained fluid was recovered by vacuum truck and returned to tanks.

State of New Mexico
Oil Conservation Division

Incident ID	NMAP1829649787
District RP	2RP-5023
Facility ID	N/A
Application ID	pMAP1829649280

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of a volume, excluding gases, of 25 barrels or more.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Yes, by Kyle Littrell to Mike Bratcher and Maria Pruett (NMOCD) and Ryan Mann and Mark Naranjo (SLO), 10/3/2018, 3:11 PM, by email.

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 10/18/2018

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

OCD Only

Received by: Date: 10/23/18

State of New Mexico
Oil Conservation Division

Incident ID	NMAP1829649787
District RP	2RP-5023
Facility ID	N/A
Application ID	pMAP1829649280

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	≥100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	NMAP1829649787
District RP	2RP-5023
Facility ID	N/A
Application ID	pMAP1829649280

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 10/18/2018

email: Kyle_Littrell@xtoenery.com Telephone: 432-221-7331

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5023
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 12/28/2018

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

OCD Only

Received by: Date:

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Date:

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

Analytical Report 607741

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Muy Wayno

12-DEC-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

12-DEC-18

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

Reference: XENCO Report No(s): **607741**
Muy Wayno
Project Address: Eddy County

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) 607741. 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. 607741 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

Sample Cross Reference 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01 A	S	12-04-18 11:00	0 ft	607741-001
PH01 B	S	12-04-18 11:05	.5 ft	607741-002
PH02 A	S	12-04-18 11:30	.5 ft	607741-003
PH02 B	S	12-04-18 11:45	1 ft	607741-004
FS01	S	12-04-18 13:25	1.5 ft	607741-005
FS02	S	12-04-18 12:55	.5 ft	607741-006
FS03	S	12-04-18 13:00	.5 ft	607741-007
SW01	S	12-04-18 13:45	1 ft	607741-008

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3072349 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3072361 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 607741

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno

Project Id:
Contact: Adrian Baker
Project Location: Eddy County

Date Received in Lab: Thu Dec-06-18 11:15 am
Report Date: 12-DEC-18
Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	607741-001		607741-002		607741-003		607741-004		607741-005		607741-006	
	Field Id:	PH01 A		PH01 B		PH02 A		PH02 B		FS01		FS02	
	Depth:	0- ft		.5- ft		.5- ft		1- ft		1.5- ft		.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-04-18 11:00		Dec-04-18 11:05		Dec-04-18 11:30		Dec-04-18 11:45		Dec-04-18 13:25		Dec-04-18 12:55	
BTEX by EPA 8021B	*Extracted:*	Dec-10-18 09:30		Dec-10-18 09:30		Dec-10-18 09:30		Dec-10-18 09:30		Dec-10-18 09:30		Dec-10-18 16:00	
	Analyzed:	Dec-10-18 20:41		Dec-10-18 21:00		Dec-10-18 21:19		Dec-10-18 21:38		Dec-10-18 21:57		Dec-11-18 05:11	
	Units/RL:	mg/kg	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	<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	<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	<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	<0.00401	0.00401
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<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	<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	<0.00200	0.00200
Inorganic Anions by EPA 300	*Extracted:*	Dec-07-18 10:00		Dec-07-18 16:00		Dec-07-18 16:00		Dec-07-18 16:00		Dec-07-18 16:00		Dec-07-18 16:00	
	Analyzed:	Dec-08-18 03:01		Dec-07-18 18:37		Dec-07-18 18:44		Dec-07-18 18:50		Dec-07-18 19:08		Dec-07-18 19:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		253	5.01	72.2	4.96	30.8	4.98	65.3	4.99	434	4.99	152	4.97
TPH by SW8015 Mod	*Extracted:*	Dec-07-18 08:00		Dec-07-18 08:00		Dec-07-18 08:00		Dec-07-18 08:00		Dec-07-18 08:00		Dec-07-18 08:00	
	Analyzed:	Dec-07-18 16:19		Dec-07-18 16:39		Dec-07-18 16:58		Dec-07-18 17:17		Dec-07-18 17:36		Dec-07-18 17:56	
	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	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		337	15.0	50.1	15.0	<15.0	15.0	232	15.0	94.1	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		42.6	15.0	<15.0	15.0	<15.0	15.0	38.5	15.0	<15.0	15.0	<15.0	15.0
Total TPH		380	15.0	50.1	15.0	<15.0	15.0	271	15.0	94.1	15.0	<15.0	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 607741

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno

Project Id:
Contact: Adrian Baker
Project Location: Eddy County

Date Received in Lab: Thu Dec-06-18 11:15 am
Report Date: 12-DEC-18
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	607741-007		607741-008					
	Field Id:	FS03		SW01					
	Depth:	.5- ft		1- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Dec-04-18 13:00		Dec-04-18 13:45					
BTEX by EPA 8021B	***Extracted:***	Dec-10-18 16:00		Dec-10-18 16:00					
	Analyzed:	Dec-11-18 05:30		Dec-11-18 05:49					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00202	0.00202	<0.00199	0.00199				
Toluene		<0.00202	0.00202	<0.00199	0.00199				
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199				
m,p-Xylenes		<0.00403	0.00403	<0.00398	0.00398				
o-Xylene		<0.00202	0.00202	0.0110	0.00199				
Total Xylenes		<0.00202	0.00202	0.0110	0.00199				
Total BTEX		<0.00202	0.00202	0.0110	0.00199				
Inorganic Anions by EPA 300	***Extracted:***	Dec-07-18 16:00		Dec-07-18 16:00					
	Analyzed:	Dec-07-18 19:33		Dec-07-18 19:39					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		70.5	4.96	408	4.98				
TPH by SW8015 Mod	***Extracted:***	Dec-07-18 08:00		Dec-07-18 08:00					
	Analyzed:	Dec-07-18 18:15		Dec-07-18 18:35					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	44.8	15.0				
Diesel Range Organics (DRO)		<14.9	14.9	1340	15.0				
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	46.9	15.0				
Total TPH		<14.9	14.9	1430	15.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**PH01 A**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-001	Date Collected:	12.04.18 11.00	Sample Depth:	0 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.07.18 10.00	Basis:	Wet Weight
Seq Number:	3072203				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**253**	5.01	mg/kg	12.08.18 03.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.07.18 08.00	Basis:	Wet Weight
Seq Number:	3072253				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.07.18 16.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	**337**	15.0	mg/kg	12.07.18 16.19		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**42.6**	15.0	mg/kg	12.07.18 16.19		1
Total TPH	PHC635	**380**	15.0	mg/kg	12.07.18 16.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	12.07.18 16.19	
o-Terphenyl	84-15-1	86	%	70-135	12.07.18 16.19	

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**PH01 A**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-001	Date Collected:	12.04.18 11.00	Sample Depth:	0 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.10.18 09.30	Basis:	Wet Weight
Seq Number:	3072349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.18 20.41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.18 20.41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.18 20.41	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.10.18 20.41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.18 20.41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.10.18 20.41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.10.18 20.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.10.18 20.41	
4-Bromofluorobenzene	460-00-4	80	%	70-130	12.10.18 20.41	

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**PH01 B**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-002	Date Collected:	12.04.18 11.05	Sample Depth:	.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	CHE	Date Prep:	12.07.18 16.00	Basis:	Wet Weight
Seq Number:	3072209				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**72.2**	4.96	mg/kg	12.07.18 18.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.07.18 08.00	Basis:	Wet Weight
Seq Number:	3072253				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.07.18 16.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	**50.1**	15.0	mg/kg	12.07.18 16.39		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.07.18 16.39	U	1
Total TPH	PHC635	**50.1**	15.0	mg/kg	12.07.18 16.39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	12.07.18 16.39	
o-Terphenyl	84-15-1	91	%	70-135	12.07.18 16.39	

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**PH01 B**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-002	Date Collected:	12.04.18 11.05	Sample Depth:	.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.10.18 09.30	Basis:	Wet Weight
Seq Number:	3072349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.10.18 21.00	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.10.18 21.00	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.10.18 21.00	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.10.18 21.00	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.10.18 21.00	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.10.18 21.00	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.10.18 21.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	79	%	70-130	12.10.18 21.00	
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.10.18 21.00	

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**PH02 A**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-003	Date Collected:	12.04.18 11.30	Sample Depth:	.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	CHE	Date Prep:	12.07.18 16.00	Basis:	Wet Weight
Seq Number:	3072209				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**30.8**	4.98	mg/kg	12.07.18 18.44		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.07.18 08.00	Basis:	Wet Weight
Seq Number:	3072253				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.07.18 16.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.07.18 16.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.07.18 16.58	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.07.18 16.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	12.07.18 16.58	
o-Terphenyl	84-15-1	86	%	70-135	12.07.18 16.58	

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**PH02 A**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-003	Date Collected:	12.04.18 11.30	Sample Depth:	.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.10.18 09.30	Basis:	Wet Weight
Seq Number:	3072349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.10.18 21.19	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.10.18 21.19	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.10.18 21.19	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.10.18 21.19	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.10.18 21.19	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.10.18 21.19	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.10.18 21.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	79	%	70-130	12.10.18 21.19	
1,4-Difluorobenzene	540-36-3	108	%	70-130	12.10.18 21.19	

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**PH02 B**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-004	Date Collected:	12.04.18 11.45	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	CHE	Date Prep:	12.07.18 16.00	Basis:	Wet Weight
Seq Number:	3072209				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**65.3**	4.99	mg/kg	12.07.18 18.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.07.18 08.00	Basis:	Wet Weight
Seq Number:	3072253				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.07.18 17.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	**232**	15.0	mg/kg	12.07.18 17.17		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**38.5**	15.0	mg/kg	12.07.18 17.17		1
Total TPH	PHC635	**271**	15.0	mg/kg	12.07.18 17.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	12.07.18 17.17	
o-Terphenyl	84-15-1	89	%	70-135	12.07.18 17.17	

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**PH02 B**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-004	Date Collected:	12.04.18 11.45	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.10.18 09.30	Basis:	Wet Weight
Seq Number:	3072349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.10.18 21.38	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.10.18 21.38	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.10.18 21.38	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.10.18 21.38	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.10.18 21.38	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.10.18 21.38	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.10.18 21.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.10.18 21.38	
4-Bromofluorobenzene	460-00-4	80	%	70-130	12.10.18 21.38	

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-005	Date Collected:	12.04.18 13.25	Sample Depth:	1.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	CHE	Date Prep:	12.07.18 16.00	Basis:	Wet Weight
Seq Number:	3072209				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**434**	4.99	mg/kg	12.07.18 19.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.07.18 08.00	Basis:	Wet Weight
Seq Number:	3072253				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.07.18 17.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	**94.1**	15.0	mg/kg	12.07.18 17.36		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.07.18 17.36	U	1
Total TPH	PHC635	**94.1**	15.0	mg/kg	12.07.18 17.36		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	12.07.18 17.36	
o-Terphenyl	84-15-1	90	%	70-135	12.07.18 17.36	

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-005	Date Collected:	12.04.18 13.25	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.10.18 09.30	Basis:	Wet Weight
Seq Number:	3072349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.18 21.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.18 21.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.18 21.57	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.10.18 21.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.18 21.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.10.18 21.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.10.18 21.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	79	%	70-130	12.10.18 21.57	
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.10.18 21.57	

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-006	Date Collected:	12.04.18 12.55	Sample Depth:	.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	CHE	Date Prep:	12.07.18 16.00	Basis:	Wet Weight
Seq Number:	3072209				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**152**	4.97	mg/kg	12.07.18 19.14		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.07.18 08.00	Basis:	Wet Weight
Seq Number:	3072253				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.07.18 17.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.07.18 17.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.07.18 17.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.07.18 17.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	12.07.18 17.56	
o-Terphenyl	84-15-1	88	%	70-135	12.07.18 17.56	

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-006	Date Collected:	12.04.18 12.55	Sample Depth:	.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.10.18 16.00	Basis:	Wet Weight
Seq Number:	3072361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.18 05.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.18 05.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.18 05.11	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.18 05.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.18 05.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.11.18 05.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.11.18 05.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.11.18 05.11	
4-Bromofluorobenzene	460-00-4	84	%	70-130	12.11.18 05.11	

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-007	Date Collected:	12.04.18 13.00	Sample Depth:	.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	CHE	Date Prep:	12.07.18 16.00	Basis:	Wet Weight
Seq Number:	3072209				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**70.5**	4.96	mg/kg	12.07.18 19.33		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.07.18 08.00	Basis:	Wet Weight
Seq Number:	3072253				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.07.18 18.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	12.07.18 18.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	12.07.18 18.15	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	12.07.18 18.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	12.07.18 18.15	
o-Terphenyl	84-15-1	87	%	70-135	12.07.18 18.15	

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-007	Date Collected:	12.04.18 13.00	Sample Depth:	.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.10.18 16.00	Basis:	Wet Weight
Seq Number:	3072361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.18 05.30	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.18 05.30	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.18 05.30	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.18 05.30	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.18 05.30	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.11.18 05.30	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.11.18 05.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	80	%	70-130	12.11.18 05.30	
1,4-Difluorobenzene	540-36-3	110	%	70-130	12.11.18 05.30	

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-008	Date Collected:	12.04.18 13.45	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	CHE	Date Prep:	12.07.18 16.00	Basis:	Wet Weight
Seq Number:	3072209				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**408**	4.98	mg/kg	12.07.18 19.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.07.18 08.00	Basis:	Wet Weight
Seq Number:	3072253				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**44.8**	15.0	mg/kg	12.07.18 18.35		1
Diesel Range Organics (DRO)	C10C28DRO	**1340**	15.0	mg/kg	12.07.18 18.35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**46.9**	15.0	mg/kg	12.07.18 18.35		1
Total TPH	PHC635	**1430**	15.0	mg/kg	12.07.18 18.35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	12.07.18 18.35	
o-Terphenyl	84-15-1	113	%	70-135	12.07.18 18.35	

Certificate of Analytical Results 607741

LT Environmental, Inc., Arvada, CO

Muy Wayno

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	12.06.18 11.15
Lab Sample Id:	607741-008	Date Collected:	12.04.18 13.45	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.10.18 16.00	Basis:	Wet Weight
Seq Number:	3072361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.11.18 05.49	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.11.18 05.49	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.11.18 05.49	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.11.18 05.49	U	1
o-Xylene	95-47-6	**0.0110**	0.00199	mg/kg	12.11.18 05.49		1
Total Xylenes	1330-20-7	**0.0110**	0.00199	mg/kg	12.11.18 05.49		1
Total BTEX		**0.0110**	0.00199	mg/kg	12.11.18 05.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	12.11.18 05.49	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.11.18 05.49	

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 607741

LT Environmental, Inc.

Muy Wayno

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3072203 Matrix: Solid Date Prep: 12.07.18
MB Sample Id: 7667559-1-BLK LCS Sample Id: 7667559-1-BKS LCSD Sample Id: 7667559-1-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	267	107	266	106	90-110	0	20	mg/kg	12.08.18 00:01	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3072209 Matrix: Solid Date Prep: 12.07.18
MB Sample Id: 7667610-1-BLK LCS Sample Id: 7667610-1-BKS LCSD Sample Id: 7667610-1-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	255	102	254	102	90-110	0	20	mg/kg	12.07.18 16:41	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3072203 Matrix: Soil Date Prep: 12.07.18
Parent Sample Id: 607739-006 MS Sample Id: 607739-006 S MSD Sample Id: 607739-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	86.8	248	334	100	333	99	90-110	0	20	mg/kg	12.08.18 00:20	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3072203 Matrix: Soil Date Prep: 12.07.18
Parent Sample Id: 607740-004 MS Sample Id: 607740-004 S MSD Sample Id: 607740-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	407	250	625	87	637	92	90-110	2	20	mg/kg	12.08.18 01:46	X

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3072209 Matrix: Soil Date Prep: 12.07.18
Parent Sample Id: 607741-004 MS Sample Id: 607741-004 S MSD Sample Id: 607741-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	65.3	250	333	107	305	96	90-110	9	20	mg/kg	12.07.18 18:56	

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 607741

LT Environmental, Inc.

Muy Wayno

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3072209 Matrix: Soil Date Prep: 12.07.18
Parent Sample Id: 607929-001 MS Sample Id: 607929-001 S MSD Sample Id: 607929-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.86	250	257	100	256	100	90-110	0	20	mg/kg	12.07.18 16:59	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3072253 Matrix: Solid Date Prep: 12.07.18
MB Sample Id: 7667651-1-BLK LCS Sample Id: 7667651-1-BKS LCSD Sample Id: 7667651-1-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)	<8.00	1000	920	92	857	86	70-135	7	20	mg/kg	12.07.18 10:30	
Diesel Range Organics (DRO)	<8.13	1000	920	92	861	86	70-135	7	20	mg/kg	12.07.18 10:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		112		107		70-135	%	12.07.18 10:30
o-Terphenyl	95		102		95		70-135	%	12.07.18 10:30

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3072253 Matrix: Soil Date Prep: 12.07.18
Parent Sample Id: 607740-001 MS Sample Id: 607740-001 S MSD Sample Id: 607740-001 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)	<7.99	998	830	83	826	83	70-135	0	20	mg/kg	12.07.18 11:28	
Diesel Range Organics (DRO)	8.30	998	869	86	962	96	70-135	10	20	mg/kg	12.07.18 11:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		111		70-135	%	12.07.18 11:28
o-Terphenyl	88		97		70-135	%	12.07.18 11:28

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 607741

LT Environmental, Inc.

Muy Wayno

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3072349 — Matrix: Solid — Date Prep: 12.10.18
MB Sample Id: 7667763-1-BLK — LCS Sample Id: 7667763-1-BKS — LCSD Sample Id: 7667763-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0994	0.111	112	0.105	105	70-130	6	35	mg/kg	12.10.18 12:58	
Toluene	<0.000453	0.0994	0.100	101	0.0955	96	70-130	5	35	mg/kg	12.10.18 12:58	
Ethylbenzene	<0.000561	0.0994	0.108	109	0.103	103	70-130	5	35	mg/kg	12.10.18 12:58	
m,p-Xylenes	<0.00101	0.199	0.199	100	0.190	95	70-130	5	35	mg/kg	12.10.18 12:58	
o-Xylene	<0.000342	0.0994	0.0971	98	0.0931	93	70-130	4	35	mg/kg	12.10.18 12:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		102		102		70-130	%	12.10.18 12:58
4-Bromofluorobenzene	79		73		75		70-130	%	12.10.18 12:58

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3072361 — Matrix: Solid — Date Prep: 12.10.18
MB Sample Id: 7667765-1-BLK — LCS Sample Id: 7667765-1-BKS — LCSD Sample Id: 7667765-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0959	96	0.0958	96	70-130	0	35	mg/kg	12.11.18 03:19	
Toluene	<0.000456	0.100	0.0984	98	0.100	100	70-130	2	35	mg/kg	12.11.18 03:19	
Ethylbenzene	<0.000565	0.100	0.112	112	0.115	115	70-130	3	35	mg/kg	12.11.18 03:19	
m,p-Xylenes	<0.00101	0.200	0.206	103	0.213	106	70-130	3	35	mg/kg	12.11.18 03:19	
o-Xylene	<0.000344	0.100	0.101	101	0.105	105	70-130	4	35	mg/kg	12.11.18 03:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		93		93		70-130	%	12.11.18 03:19
4-Bromofluorobenzene	76		81		81		70-130	%	12.11.18 03:19

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3072349 — Matrix: Soil — Date Prep: 12.10.18
Parent Sample Id: 607687-001 — MS Sample Id: 607687-001 S — MSD Sample Id: 607687-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000770	0.200	0.132	66	0.140	70	70-130	6	35	mg/kg	12.10.18 13:36	X
Toluene	<0.000911	0.200	0.102	51	0.0983	49	70-130	4	35	mg/kg	12.10.18 13:36	X
Ethylbenzene	<0.00113	0.200	0.0939	47	0.0722	36	70-130	26	35	mg/kg	12.10.18 13:36	X
m,p-Xylenes	<0.00203	0.400	0.173	43	0.130	33	70-130	28	35	mg/kg	12.10.18 13:36	X
o-Xylene	<0.000689	0.200	0.0841	42	0.0646	32	70-130	26	35	mg/kg	12.10.18 13:36	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	12.10.18 13:36
4-Bromofluorobenzene	77		78		70-130	%	12.10.18 13:36

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 607741

LT Environmental, Inc.

Muy Wayno

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

Seq Number: 3072361 Matrix: Soil Date Prep: 12.10.18

Parent Sample Id: 607740-001 MS Sample Id: 607740-001 S MSD Sample Id: 607740-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0994	0.0626	63	0.0897	90	70-130	36	35	mg/kg	12.11.18 03:57	XF
Toluene	<0.000453	0.0994	0.0631	63	0.0772	77	70-130	20	35	mg/kg	12.11.18 03:57	X
Ethylbenzene	<0.000561	0.0994	0.0640	64	0.0763	76	70-130	18	35	mg/kg	12.11.18 03:57	X
m,p-Xylenes	<0.00101	0.199	0.102	51	0.123	62	70-130	19	35	mg/kg	12.11.18 03:57	X
o-Xylene	<0.000342	0.0994	0.0659	66	0.0743	74	70-130	12	35	mg/kg	12.11.18 03:57	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		104		70-130	%	12.11.18 03:57
4-Bromofluorobenzene	80		75		70-130	%	12.11.18 03:57

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

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Xenco Job # 607741

Client / Reporting Information

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Samplers's Name: Anna Byers

Project Information

Project Name/Number: Muy Wayno

Project Location: Eddy County

Invoice To: XTO Kyle Littrell

PO Number:

Analytical Information

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Field Comments
1	PH01 A	surface	12/4	1100	S	1								X	X	X	X	composite sample
2	PH01 B	0.5'		1105	S	1								X	X	X	X	composite sample
3	PH02 A	0.5'		1130	S	1								X	X	X	X	composite sample
4	PH02 B	1.0'		1145	S	1								X	X	X	X	
5	FS01	1.5'		1325	S	1								X	X	X	X	
6	FS02	0.5'		1255	S	1								X	X	X	X	
7	FS03	0.5'		1300	S	1								X	X	X	X	
8	SW01	1.0'		1345	S	1								X	X	X	X	
9																		
10																		

Turnaround Time (Business days)

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

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

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Anna Byers	12/4/18 1800	Timothy P. Ellison			
2					12/5 15:30	
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
						3.2 / 3.1

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: 12/06/2018 11:15:00 AM

Work Order #: 607741

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)?	3.1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 12/06/2018

Checklist reviewed by: Jessica Kramer Date: 12/06/2018

View of lined containment and release area.

Project: 012918171	XTO Energy, Inc. Muy Wayno 7 State 1H	LTE Advancing Opportunity
December 04, 2018	Photographic Log	

West facing view of the excavation area.

Project: 012918171	XTO Energy, Inc. Muy Wayno 7 State 1H	LTE Advancing Opportunity
December 04, 2018	Photographic Log	

West facing view of the fenced excavation area.

Project: 012918171	XTO Energy, Inc. Muy Wayno 7 State 1H	LTE Advancing Opportunity
December 04, 2018	Photographic Log	