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	NAB1913355937
District RP	2RP-5410
Facility ID	
Application ID	pAB1913355645

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)* NAB1913355937
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.128946° Longitude -103.925300°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Muy Wayno 18 Federal #103H	Site Type Production Well Facility
Date Release Discovered 4/18/2019	API# *(if applicable)* 30-015-44846

Unit Letter	Section	Township	Range	County
L	18	25S	30E	Eddy

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

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)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 5	Volume Recovered (bbls) 4.5
	Is the concentration of total dissolved solids (TDS) 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

A vacuum truck operator left a valve open on the trailer after shutting off the pump and caused a release of fluid from the hose into temporary lined containment and to the well pad. The vacuum truck recovered free fluid. Additional third party resources have been retained to assist with remediation.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1913355937
District RP	2RP-5410
Facility ID	
Application ID	pAB1913355645

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? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

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:
N/A

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 Supervisor
Signature:
Date: 4/29/2019
email: Kyle_Littrell@xtoenergy.com
Telephone: 432-221-7331

OCD Only

Received by: Amalia Bustamante
Date: 5/13/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5410
Facility ID	
Application ID	

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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5410
Facility ID	
Application ID	

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 Supervisor

Signature: Date: 01/03/2020

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5410
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 01/03/2019

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

OCD Only

Received by: Date:

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Date:

Printed Name: Title:

LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

January 3, 2020

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

RE: Closure Request
Muy Wayno 18 Federal #103H
Remediation Permit Number 2RP-5410
Incident Number NAB1913355937
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, excavation, and soil sampling activities at the Muy Wayno 18 Federal #103H (Site) located in Unit L, Section 18, Township 25 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil following a release of produced water at the Site. Based on excavation activities and results of the soil sampling events, XTO is submitting this Closure Request and respectfully requesting no further action (NFA) for Remediation Permit (RP) Number 2RP-5410.

RELEASE BACKGROUND

On April 18, 2019, a valve on a vacuum truck was left open, resulting in the release of approximately 5 barrels (bbls) of produced water into the temporary lined containment and onto the caliche well pad. A vacuum truck was dispatched to the Site to recover free-standing fluid; approximately 4.5 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on April 29, 2019 and was subsequently assigned RP Number 2RP-5410.

SITE CHARACTERIZATION

LTE characterized the Site according to 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 groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 320857103553301, located approximately 1.40 miles north of the Site. The groundwater well has

a depth to groundwater of approximately 264 feet bgs and a total depth of approximately 385 feet bgs. Ground surface elevation at the groundwater well location is 3,170 feet above mean sea level (amsl), which is approximately one foot higher in elevation than the Site. The closest continuously-flowing water or significant watercourse to the Site is a second order tributary to the Pecos River located approximately 4,123 feet to the south. 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. The Site is located in a low potential karst area. The Site location and receptors are identified on Figure 1.

CLOSURE CRITERIA

Based on the results of the site characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

SITE ASSESSMENT AND EXCAVATION ACTIVITIES

On September 23, 2019, LTE evaluated the release extent based on information provided on the Form C-141. The release extent and point of release location were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Due to on-site operational activities and presence of active drilling equipment, soil sampling activities were not able to be conducted at this time.

On November 6, 2019, following the completion of operational activities and removal of active drilling equipment, LTE personnel conducted reconnaissance at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected five preliminary soil samples. Soil sample SS01 was collected within the release footprint and soil samples SS02 through SS05 were collected around the release to confirm visual observations. Soil from the preliminary soil samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The preliminary soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 2. Photographic documentation was conducted during excavation activities. Photographs are included in Attachment 1.

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

Laboratory analytical results for preliminary soil sample SS01 indicated that TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria. Based on the laboratory analytical results for the preliminary soil sample, excavation activities appeared to be warranted. Laboratory analytical results for the preliminary soil samples are presented on Figure 2 and summarized in Table 1.

On November 7, 2019, LTE personnel oversaw excavation of impacted soil in the area of preliminary soil sample SS01 via track-mounted backhoe. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. The extent of the excavation is presented on Figure 3. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. Three sidewall samples (SW01 through SW03) and one floor sample (FS01) were collected. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The excavation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico. The excavation extent and soil sample locations are depicted on Figure 3.

The final excavation extent measured approximately 315 square feet in area. A total of approximately 41 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the R360 landfill facility located in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in preliminary soil samples SS02 through SS05 and the release was confined to the visually stained area. Laboratory analytical results for preliminary soil sample SS01 indicated that TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria, with concentrations of 19,500 mg/kg for TPH-GRO/TPH-DRO and 21,100 mg/kg for TPH.

Following removal of impacted soil, LTE collected confirmation soil samples within the excavation extent. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and

chloride concentrations were compliant with the Closure Criteria in excavation soil samples SW01 through SW03 and FS01. Laboratory analytical results are summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

CONCLUSIONS

Preliminary soil sample SS01 was collected from within the release extent at a depth of 0.5 feet bgs to assess the presence or absence of impacted soil. Laboratory analytical results indicated that TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria.

Soil in the area of preliminary soil sample SS01 was removed to a depth of approximately 3.5 feet bgs. Following removal of impacted soil, LTE collected confirmation soil samples within the excavation extent at depths ranging from the ground surface to approximately 3.5 feet bgs. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in excavation soil samples SW01 through SW03 and FS01.

Initial response effort and excavation activities have mitigated impacts at this Site. XTO requests NFA for RP Number 2RP-5410.

If you have any questions or comments, please do not hesitate to contact Ms. Ashley Ager at (970) 385-1096.

Sincerely,

LT ENVIRONMENTAL, INC.

Carol Ann Whaley
Staff Geologist

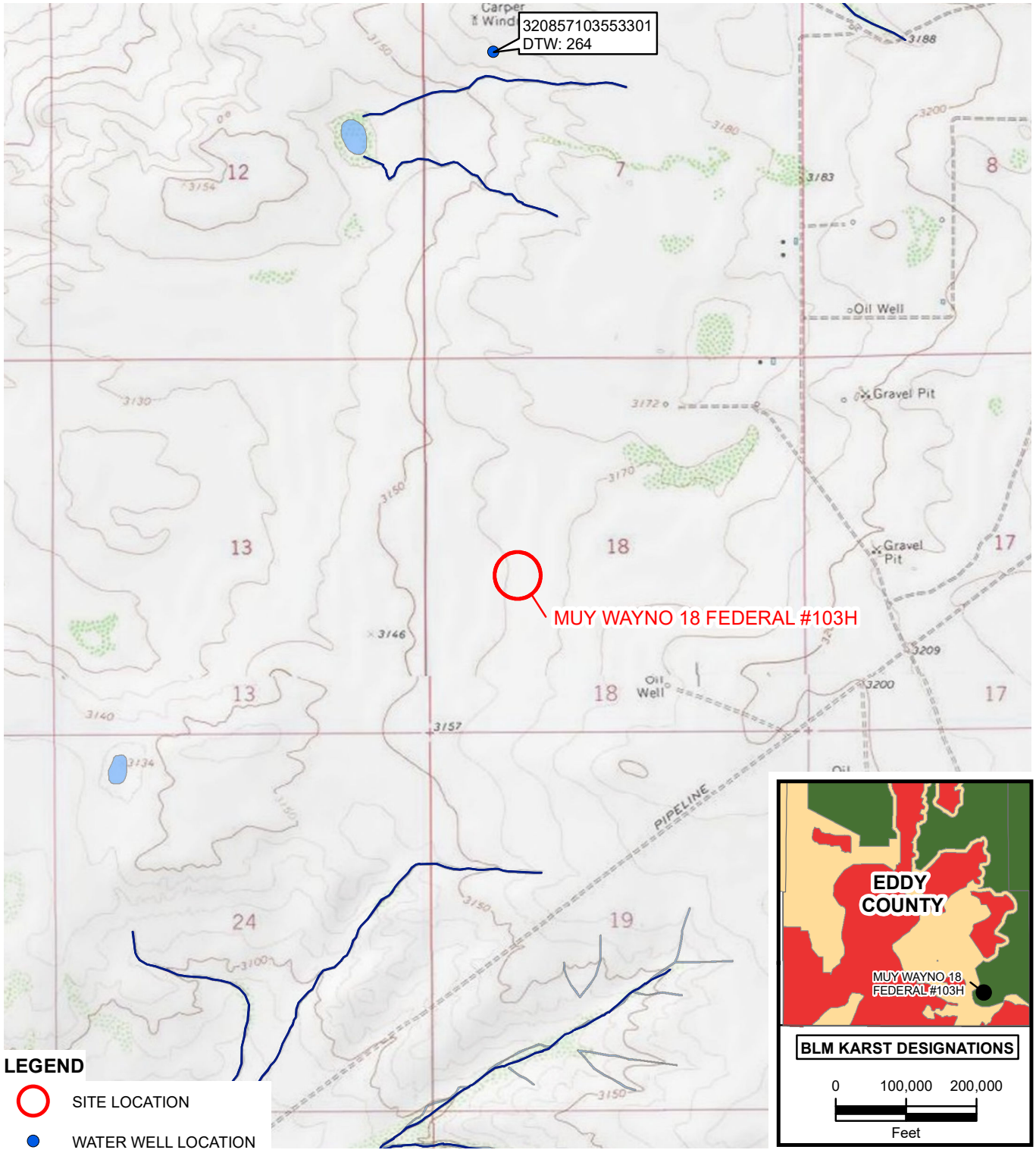
Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
United States Bureau of Land Management – New Mexico
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Appendices:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Photographic Log
Attachment 2	Laboratory Analytical Reports

FIGURES



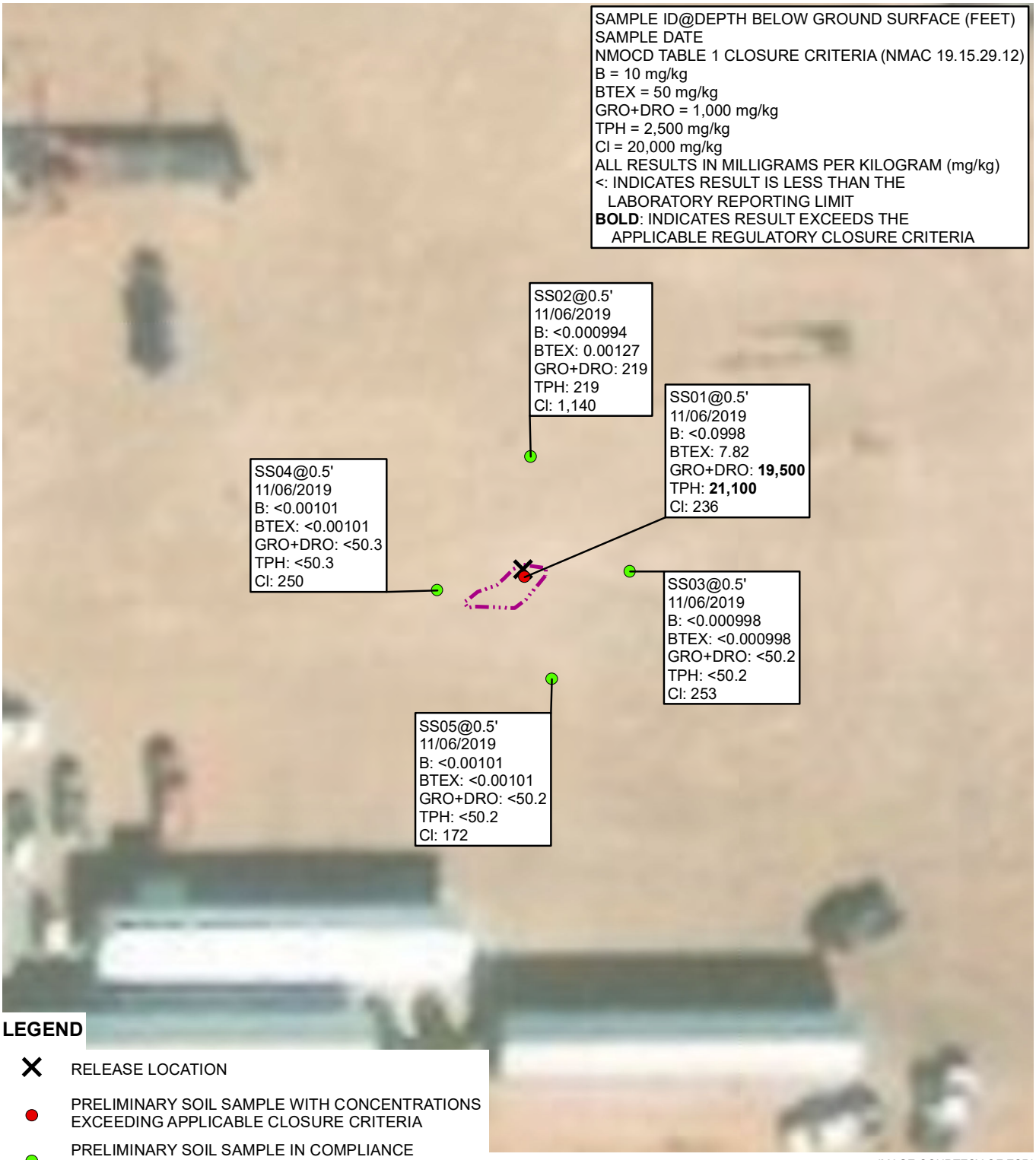
LEGEND

- SITE LOCATION
- WATER WELL LOCATION
- NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE
- NATIONAL WETLANDS INVENTORY SURFACE WATER FEATURE
- LOW KARST
- MEDIUM KARST
- HIGH KARST

NOTE: REMEDIATION PERMIT NUMBER 2RP-5410
DTW: DEPTH TO WATER IN FEET

FIGURE 2
SITE LOCATION MAP
POKER LAKE UNIT BIG SINKS 14-25-30 BATTERY
UNIT N SEC 14 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

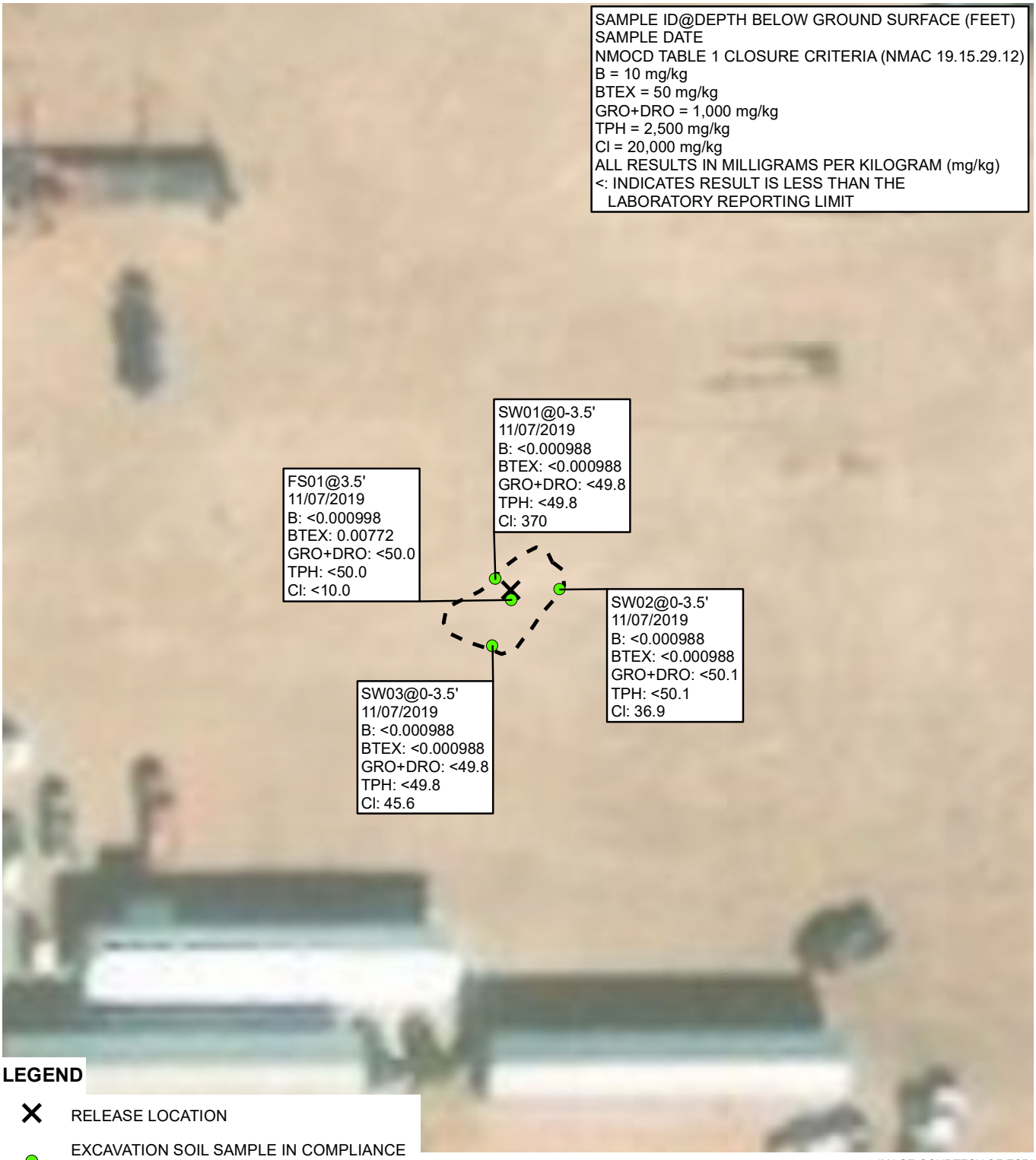
P:\XTO Energy\GIS\MXD\012919081_MUY WAYNO 18 FED #103H\012919081_FIG01_SL_5410.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5410

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
MUY WAYNO 18 FEDERAL #103H
UNIT L SEC 18 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919081_MUY WAYNO 18 FED #103H\012919081_FIG02_PRELIMINARY_5410.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5410

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
MUY WAYNO 18 FEDERAL #103H
UNIT L SEC 18 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919081_MUY WAYNO 18 FED #103H\012919081_FIG03_EXCAVATION_5410.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS

MUY WAYNO 18 FEDERAL #103H
REMEDIATION PERMIT NUMBER 2RP-5410
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
SS01	0.5	11/06/2019	<0.0998	0.765	1.29	5.76	7.82	1,050	18,400	1,620	**19,500**	**21,100**	236
SS02	0.5	11/06/2019	<0.000994	<0.000994	0.00127	<0.000994	0.00127	<49.8	219	<49.8	219	219	1,140
SS03	0.5	11/06/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<50.2	<50.2	<50.2	<50.2	<50.2	253
SS04	0.5	11/06/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.3	<50.3	<50.3	<50.3	<50.3	250
SS05	0.5	11/06/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	172
FS01	3.5	11/07/2019	<0.000998	<0.000998	0.00345	0.00427	0.00772	<50.0	<50.0	<50.0	<50.0	<50.0	<10.0
SW01	0 - 3.5	11/07/2019	<0.000988	<0.000988	<0.000988	<0.000988	<0.000988	<49.8	<49.8	<49.8	<49.8	<49.8	370
SW02	0 - 3.5	11/07/2019	<0.000988	<0.000988	<0.000988	<0.000988	<0.000988	<50.1	<50.1	<50.1	<50.1	<50.1	36.9
SW03	0 - 3.5	11/07/2019	<0.000988	<0.000988	<0.000988	<0.000988	<0.000988	<49.8	<49.8	<49.8	<49.8	<49.8	45.6

Notes:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilogram
MRO - motor oil range organics
NMAC - New Mexico Administrative Code
NMOCD - New Mexico Oil Conservation Division
NE - not established
TPH - total petroleum hydrocarbons
Bold - indicates result exceeds the applicable regulatory standard
< - indicates result is below laboratory reporting limits
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018

ATTACHMENT 1: PHOTOGRAPHIC LOG

Southern view of release area and caliche well pad during site assessment activities.

Project: 012919081	XTO Energy, Inc. Muy Wayno 18 Federal #103H	LTE Advancing Opportunity
November 6, 2019	Photographic Log	

Northwestern view of final excavation extent during confirmation soil sampling activities.

Project: 012919081	XTO Energy, Inc. Muy Wayno 18 Federal #103H	LTE Advancing Opportunity
November 7, 2019	Photographic Log	

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

Analytical Report 642396

for

LT Environmental, Inc.

Project Manager: Dan Moir

Muy Wayno 18 Fed 103

08-NOV-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

08-NOV-19

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

Reference: XENCO Report No(s): **642396**
Muy Wayno 18 Fed 103
Project Address:

Dan Moir:

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) 642396. 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. 642396 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
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Sample Cross Reference 642396

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	11-06-19 12:40	0.5 ft	642396-001
SS02	S	11-06-19 13:35	0.5 ft	642396-002
SS03	S	11-06-19 13:50	0.5 ft	642396-003
SS04	S	11-06-19 14:00	0.5 ft	642396-004
SS05	S	11-06-19 14:20	0.5 ft	642396-005
PH01	S	11-06-19 12:45	1 ft	642396-006
PH01A	S	11-06-19 13:30	3 ft	642396-007
PH02	S	11-06-19 13:40	1 ft	642396-008
PH02A	S	11-06-19 13:45	2 ft	642396-009
PH03	S	11-06-19 13:55	1 ft	642396-010
PH03A	S	11-06-19 14:00	2 ft	642396-011
PH04	S	11-06-19 14:05	1 ft	642396-012
PH04A	S	11-06-19 14:10	2 ft	642396-013
PH05	S	11-06-19 14:25	1 ft	642396-014
PH05A	S	11-06-19 14:30	2 ft	642396-015

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: Muy Wayno 18 Fed 103

Project ID:
Work Order Number(s): *642396*

Report Date: *08-NOV-19*
Date Received: *11/07/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3106808 Chloride by EPA 300
Lab Sample ID 642396-009 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: 642396-009, -010, -011, -012, -013, -014, -015.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3106825 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3106830 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3106866 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 642396-001.
Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7689850-1-BKS,642401-001 SD,642396-001.

Certificate of Analysis Summary 642396

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno 18 Fed 103

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Nov-07-19 08:20 am

Report Date: 08-NOV-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	642396-001		642396-002		642396-003		642396-004		642396-005		642396-006	
	Field Id:	SS01		SS02		SS03		SS04		SS05		PH01	
	Depth:	0.5- ft		0.5- ft		0.5- ft		0.5- ft		0.5- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-06-19 12:40		Nov-06-19 13:35		Nov-06-19 13:50		Nov-06-19 14:00		Nov-06-19 14:20		Nov-06-19 12:45	
BTEX by EPA 8021B	***Extracted:***	Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23	
	Analyzed:	Nov-08-19 11:37		Nov-08-19 11:16		Nov-07-19 18:11		Nov-07-19 18:30		Nov-07-19 18:49		Nov-07-19 19:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0998	0.0998	<0.000994	0.000994	<0.000998	0.000998	<0.00101	0.00101	<0.00101	0.00101	<0.00100	0.00100
Toluene		0.765	0.0998	<0.000994	0.000994	<0.000998	0.000998	<0.00101	0.00101	<0.00101	0.00101	<0.00100	0.00100
Ethylbenzene		1.29	0.0998	0.00127	0.000994	<0.000998	0.000998	<0.00101	0.00101	<0.00101	0.00101	<0.00100	0.00100
m,p-Xylenes		2.39	0.200	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
o-Xylene		3.37	0.0998	<0.000994	0.000994	<0.000998	0.000998	<0.00101	0.00101	<0.00101	0.00101	<0.00100	0.00100
Total Xylenes		5.76	0.0998	<0.000994	0.000994	<0.000998	0.000998	<0.00101	0.00101	<0.00101	0.00101	<0.00100	0.00100
Total BTEX		7.82	0.0998	0.00127	0.000994	<0.000998	0.000998	<0.00101	0.00101	<0.00101	0.00101	<0.00100	0.00100
Chloride by EPA 300	***Extracted:***	Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11	
	Analyzed:	Nov-07-19 13:46		Nov-07-19 14:04		Nov-07-19 14:10		Nov-07-19 14:16		Nov-07-19 14:22		Nov-07-19 14:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		236	9.98	1140	100	253	50.2	250	50.4	172	101	26.5	9.94
TPH by SW8015 Mod	***Extracted:***	Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00	
	Analyzed:	Nov-08-19 09:42		Nov-08-19 09:03		Nov-07-19 20:57		Nov-07-19 21:17		Nov-07-19 21:36		Nov-07-19 21:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		1050	250	<49.8	49.8	<50.2	50.2	<50.3	50.3	<50.2	50.2	<49.7	49.7
Diesel Range Organics (DRO)		18400	250	219	49.8	<50.2	50.2	<50.3	50.3	<50.2	50.2	50.5	49.7
Motor Oil Range Hydrocarbons (MRO)		1620	250	<49.8	49.8	<50.2	50.2	<50.3	50.3	<50.2	50.2	<49.7	49.7
Total GRO-DRO		19500	250	219	49.8	<50.2	50.2	<50.3	50.3	<50.2	50.2	50.5	49.7
Total TPH		21100	250	219	49.8	<50.2	50.2	<50.3	50.3	<50.2	50.2	50.5	49.7

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 642396

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno 18 Fed 103

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Nov-07-19 08:20 am

Report Date: 08-NOV-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	642396-007		642396-008		642396-009		642396-010		642396-011		642396-012	
	Field Id:	PH01A		PH02		PH02A		PH03		PH03A		PH04	
	Depth:	3- ft		1- ft		2- ft		1- ft		2- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-06-19 13:30		Nov-06-19 13:40		Nov-06-19 13:45		Nov-06-19 13:55		Nov-06-19 14:00		Nov-06-19 14:05	
BTEX by EPA 8021B	***Extracted:***	Nov-07-19 09:23		Nov-07-19 09:11		Nov-07-19 09:11		Nov-07-19 09:11		Nov-07-19 09:11		Nov-07-19 09:11	
	Analyzed:	Nov-07-19 19:27		Nov-07-19 12:56		Nov-07-19 13:16		Nov-07-19 13:37		Nov-07-19 13:57		Nov-07-19 14:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00101	0.00101	<0.00100	0.00100	<0.000990	0.000990	<0.00100	0.00100	<0.000996	0.000996	<0.000998	0.000998
Toluene		<0.00101	0.00101	<0.00100	0.00100	<0.000990	0.000990	<0.00100	0.00100	<0.000996	0.000996	<0.000998	0.000998
Ethylbenzene		<0.00101	0.00101	<0.00100	0.00100	<0.000990	0.000990	<0.00100	0.00100	<0.000996	0.000996	<0.000998	0.000998
m,p-Xylenes		<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
o-Xylene		<0.00101	0.00101	<0.00100	0.00100	<0.000990	0.000990	<0.00100	0.00100	<0.000996	0.000996	<0.000998	0.000998
Total Xylenes		<0.00101	0.00101	<0.00100	0.00100	<0.000990	0.000990	<0.00100	0.00100	<0.000996	0.000996	<0.000998	0.000998
Total BTEX		<0.00101	0.00101	<0.00100	0.00100	<0.000990	0.000990	<0.00100	0.00100	<0.000996	0.000996	<0.000998	0.000998
Chloride by EPA 300	***Extracted:***	Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11	
	Analyzed:	Nov-07-19 14:34		Nov-07-19 14:40		Nov-07-19 15:16		Nov-07-19 15:34		Nov-07-19 15:40		Nov-07-19 15:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<9.98	9.98	81.0	9.94	31.9	10.1	53.3	9.94	47.5	9.98	41.7	9.96
TPH by SW8015 Mod	***Extracted:***	Nov-07-19 13:00		Nov-07-19 14:00		Nov-07-19 13:00		Nov-07-19 14:00		Nov-07-19 14:00		Nov-07-19 14:00	
	Analyzed:	Nov-07-19 22:15		Nov-07-19 15:24		Nov-07-19 22:35		Nov-07-19 16:23		Nov-07-19 16:42		Nov-07-19 17:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.1	50.1	<50.0	50.0
Diesel Range Organics (DRO)		<50.1	50.1	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.1	50.1	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.1	50.1	<50.0	50.0
Total GRO-DRO		<50.1	50.1	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.1	50.1	<50.0	50.0
Total TPH		<50.1	50.1	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.1	50.1	<50.0	50.0

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Jessica Kramer
Project Assistant

Certificate of Analysis Summary 642396

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno 18 Fed 103

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Nov-07-19 08:20 am

Report Date: 08-NOV-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	642396-013		642396-014		642396-015							
	Field Id:	PH04A		PH05		PH05A							
	Depth:	2- ft		1- ft		2- ft							
	Matrix:	SOIL		SOIL		SOIL							
	Sampled:	Nov-06-19 14:10		Nov-06-19 14:25		Nov-06-19 14:30							
BTEX by EPA 8021B	***Extracted:***	Nov-07-19 09:11		Nov-07-19 09:11		Nov-07-19 09:11							
	Analyzed:	Nov-07-19 14:38		Nov-07-19 14:58		Nov-07-19 15:19							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101						
Toluene		<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101						
Ethylbenzene		<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101						
m,p-Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202						
o-Xylene		<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101						
Total Xylenes		<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101						
Total BTEX		<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101						
Chloride by EPA 300	***Extracted:***	Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11							
	Analyzed:	Nov-07-19 15:52		Nov-07-19 16:09		Nov-07-19 16:15							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		26.2	9.92	51.9	9.96	11.4	9.92						
TPH by SW8015 Mod	***Extracted:***	Nov-07-19 14:00		Nov-07-19 14:00		Nov-07-19 14:00							
	Analyzed:	Nov-07-19 17:22		Nov-07-19 17:41		Nov-07-19 18:01							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<50.3	50.3	<50.1	50.1						
Diesel Range Organics (DRO)		<50.2	50.2	<50.3	50.3	<50.1	50.1						
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<50.3	50.3	<50.1	50.1						
Total GRO-DRO		<50.2	50.2	<50.3	50.3	<50.1	50.1						
Total TPH		<50.2	50.2	<50.3	50.3	<50.1	50.1						

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 642396

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-001	Date Collected:	11.06.19 12.40	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**236**	9.98	mg/kg	11.07.19 13.46		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1050**	250	mg/kg	11.08.19 09.42		5
Diesel Range Organics (DRO)	C10C28DRO	**18400**	250	mg/kg	11.08.19 09.42		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1620**	250	mg/kg	11.08.19 09.42		5
Total GRO-DRO	PHC628	**19500**	250	mg/kg	11.08.19 09.42		5
Total TPH	PHC635	**21100**	250	mg/kg	11.08.19 09.42		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	180	%	70-135	11.08.19 09.42	**
o-Terphenyl	84-15-1	331	%	70-135	11.08.19 09.42	**

Certificate of Analytical Results 642396

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-001	Date Collected:	11.06.19 12.40	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0998	0.0998	mg/kg	11.08.19 11.37	U	100
Toluene	108-88-3	**0.765**	0.0998	mg/kg	11.08.19 11.37		100
Ethylbenzene	100-41-4	**1.29**	0.0998	mg/kg	11.08.19 11.37		100
m,p-Xylenes	179601-23-1	**2.39**	0.200	mg/kg	11.08.19 11.37		100
o-Xylene	95-47-6	**3.37**	0.0998	mg/kg	11.08.19 11.37		100
Total Xylenes	1330-20-7	**5.76**	0.0998	mg/kg	11.08.19 11.37		100
Total BTEX		**7.82**	0.0998	mg/kg	11.08.19 11.37		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.08.19 11.37	
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.08.19 11.37	

Certificate of Analytical Results 642396

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-002	Date Collected:	11.06.19 13.35	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1140**	100	mg/kg	11.07.19 14.04		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.08.19 09.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	**219**	49.8	mg/kg	11.08.19 09.03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.08.19 09.03	U	1
Total GRO-DRO	PHC628	**219**	49.8	mg/kg	11.08.19 09.03		1
Total TPH	PHC635	**219**	49.8	mg/kg	11.08.19 09.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	11.08.19 09.03	
o-Terphenyl	84-15-1	129	%	70-135	11.08.19 09.03	

Certificate of Analytical Results 642396

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-002	Date Collected:	11.06.19 13.35	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	11.08.19 11.16	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	11.08.19 11.16	U	1
Ethylbenzene	100-41-4	**0.00127**	0.000994	mg/kg	11.08.19 11.16		1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	11.08.19 11.16	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	11.08.19 11.16	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	11.08.19 11.16	U	1
Total BTEX		**0.00127**	0.000994	mg/kg	11.08.19 11.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.08.19 11.16	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.08.19 11.16	

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Sample Id:	**SS03**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-003	Date Collected:	11.06.19 13.50	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**253**	50.2	mg/kg	11.07.19 14.10		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 20.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 20.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 20.57	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 20.57	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 20.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	11.07.19 20.57	
o-Terphenyl	84-15-1	105	%	70-135	11.07.19 20.57	

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Sample Id:	**SS03**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-003	Date Collected:	11.06.19 13.50	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	11.07.19 18.11	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	11.07.19 18.11	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	11.07.19 18.11	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.07.19 18.11	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	11.07.19 18.11	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	11.07.19 18.11	U	1
Total BTEX		<0.000998	0.000998	mg/kg	11.07.19 18.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.07.19 18.11	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 18.11	

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Sample Id:	**SS04**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-004	Date Collected:	11.06.19 14.00	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**250**	50.4	mg/kg	11.07.19 14.16		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.07.19 21.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.07.19 21.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.07.19 21.17	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.07.19 21.17	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.07.19 21.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	11.07.19 21.17	
o-Terphenyl	84-15-1	109	%	70-135	11.07.19 21.17	

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Sample Id:	**SS04**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-004	Date Collected:	11.06.19 14.00	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.07.19 18.30	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.07.19 18.30	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.07.19 18.30	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.07.19 18.30	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.07.19 18.30	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.07.19 18.30	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.07.19 18.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	11.07.19 18.30	
1,4-Difluorobenzene	540-36-3	107	%	70-130	11.07.19 18.30	

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Sample Id:	**SS05**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-005	Date Collected:	11.06.19 14.20	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**172**	101	mg/kg	11.07.19 14.22		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 21.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 21.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 21.36	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 21.36	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 21.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	11.07.19 21.36	
o-Terphenyl	84-15-1	111	%	70-135	11.07.19 21.36	

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Sample Id:	**SS05**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-005	Date Collected:	11.06.19 14.20	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.07.19 18.49	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.07.19 18.49	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.07.19 18.49	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.07.19 18.49	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.07.19 18.49	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.07.19 18.49	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.07.19 18.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.07.19 18.49	
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.07.19 18.49	

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Sample Id:	**PH01**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-006	Date Collected:	11.06.19 12.45	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.5**	9.94	mg/kg	11.07.19 14.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.7	49.7	mg/kg	11.07.19 21.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	**50.5**	49.7	mg/kg	11.07.19 21.56		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.7	49.7	mg/kg	11.07.19 21.56	U	1
Total GRO-DRO	PHC628	**50.5**	49.7	mg/kg	11.07.19 21.56		1
Total TPH	PHC635	**50.5**	49.7	mg/kg	11.07.19 21.56		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	11.07.19 21.56	
o-Terphenyl	84-15-1	114	%	70-135	11.07.19 21.56	

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Sample Id:	**PH01**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-006	Date Collected:	11.06.19 12.45	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 19.08	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 19.08	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 19.08	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.07.19 19.08	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 19.08	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 19.08	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 19.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 19.08	
4-Bromofluorobenzene	460-00-4	121	%	70-130	11.07.19 19.08	

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Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-007	Date Collected:	11.06.19 13.30	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	11.07.19 14.34	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.07.19 22.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.07.19 22.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.07.19 22.15	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.07.19 22.15	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.07.19 22.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	11.07.19 22.15	
o-Terphenyl	84-15-1	111	%	70-135	11.07.19 22.15	

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Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-007	Date Collected:	11.06.19 13.30	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.07.19 19.27	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.07.19 19.27	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.07.19 19.27	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.07.19 19.27	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.07.19 19.27	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.07.19 19.27	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.07.19 19.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.07.19 19.27	
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.07.19 19.27	

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Sample Id:	**PH02**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-008	Date Collected:	11.06.19 13.40	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**81.0**	9.94	mg/kg	11.07.19 14.40		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 14.00	Basis:	Wet Weight
Seq Number:	3106833				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 15.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	11.07.19 15.24	
o-Terphenyl	84-15-1	94	%	70-135	11.07.19 15.24	

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Sample Id:	**PH02**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-008	Date Collected:	11.06.19 13.40	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.11	Basis:	Wet Weight
Seq Number:	3106825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 12.56	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 12.56	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 12.56	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.07.19 12.56	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 12.56	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 12.56	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 12.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.07.19 12.56	
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.07.19 12.56	

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Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-009	Date Collected:	11.06.19 13.45	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106808				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**31.9**	10.1	mg/kg	11.07.19 15.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.07.19 22.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.07.19 22.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.07.19 22.35	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.07.19 22.35	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.07.19 22.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	11.07.19 22.35	
o-Terphenyl	84-15-1	87	%	70-135	11.07.19 22.35	

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Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-009	Date Collected:	11.06.19 13.45	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.11	Basis:	Wet Weight
Seq Number:	3106825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	11.07.19 13.16	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	11.07.19 13.16	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	11.07.19 13.16	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	11.07.19 13.16	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	11.07.19 13.16	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	11.07.19 13.16	U	1
Total BTEX		<0.000990	0.000990	mg/kg	11.07.19 13.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.07.19 13.16	
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.07.19 13.16	

Certificate of Analytical Results 642396

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-010	Date Collected:	11.06.19 13.55	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106808				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**53.3**	9.94	mg/kg	11.07.19 15.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 14.00	Basis:	Wet Weight
Seq Number:	3106833				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 16.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	11.07.19 16.23	
o-Terphenyl	84-15-1	101	%	70-135	11.07.19 16.23	

Certificate of Analytical Results 642396

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-010	Date Collected:	11.06.19 13.55	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.11	Basis:	Wet Weight
Seq Number:	3106825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 13.37	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 13.37	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 13.37	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.07.19 13.37	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 13.37	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 13.37	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 13.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.07.19 13.37	
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.07.19 13.37	

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LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-011	Date Collected:	11.06.19 14.00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106808				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**47.5**	9.98	mg/kg	11.07.19 15.40		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 14.00	Basis:	Wet Weight
Seq Number:	3106833				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.07.19 16.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.07.19 16.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.07.19 16.42	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.07.19 16.42	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.07.19 16.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	11.07.19 16.42	
o-Terphenyl	84-15-1	123	%	70-135	11.07.19 16.42	

Certificate of Analytical Results 642396

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-011	Date Collected:	11.06.19 14.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.11	Basis:	Wet Weight
Seq Number:	3106825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	11.07.19 13.57	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	11.07.19 13.57	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	11.07.19 13.57	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	11.07.19 13.57	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	11.07.19 13.57	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	11.07.19 13.57	U	1
Total BTEX		<0.000996	0.000996	mg/kg	11.07.19 13.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.07.19 13.57	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 13.57	

Certificate of Analytical Results 642396

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-012	Date Collected:	11.06.19 14.05	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106808				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**41.7**	9.96	mg/kg	11.07.19 15.46		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 14.00	Basis:	Wet Weight
Seq Number:	3106833				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.07.19 17.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.07.19 17.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.07.19 17.02	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.07.19 17.02	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.07.19 17.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	11.07.19 17.02	
o-Terphenyl	84-15-1	122	%	70-135	11.07.19 17.02	

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LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-012	Date Collected:	11.06.19 14.05	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.11	Basis:	Wet Weight
Seq Number:	3106825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	11.07.19 14.18	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	11.07.19 14.18	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	11.07.19 14.18	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.07.19 14.18	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	11.07.19 14.18	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	11.07.19 14.18	U	1
Total BTEX		<0.000998	0.000998	mg/kg	11.07.19 14.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.07.19 14.18	
4-Bromofluorobenzene	460-00-4	108	%	70-130	11.07.19 14.18	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-013	Date Collected:	11.06.19 14.10	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106808				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.2**	9.92	mg/kg	11.07.19 15.52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 14.00	Basis:	Wet Weight
Seq Number:	3106833				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 17.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	11.07.19 17.22	
o-Terphenyl	84-15-1	104	%	70-135	11.07.19 17.22	

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LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-013	Date Collected:	11.06.19 14.10	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.11	Basis:	Wet Weight
Seq Number:	3106825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 14.38	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 14.38	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 14.38	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.07.19 14.38	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 14.38	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 14.38	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 14.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.07.19 14.38	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 14.38	

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LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-014	Date Collected:	11.06.19 14.25	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106808				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**51.9**	9.96	mg/kg	11.07.19 16.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 14.00	Basis:	Wet Weight
Seq Number:	3106833				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.07.19 17.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.07.19 17.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.07.19 17.41	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.07.19 17.41	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.07.19 17.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	11.07.19 17.41	
o-Terphenyl	84-15-1	103	%	70-135	11.07.19 17.41	

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LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-014	Date Collected:	11.06.19 14.25	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.11	Basis:	Wet Weight
Seq Number:	3106825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 14.58	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 14.58	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 14.58	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.07.19 14.58	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 14.58	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 14.58	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 14.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.07.19 14.58	
4-Bromofluorobenzene	460-00-4	106	%	70-130	11.07.19 14.58	

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LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-015	Date Collected:	11.06.19 14.30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106808				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.4**	9.92	mg/kg	11.07.19 16.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 14.00	Basis:	Wet Weight
Seq Number:	3106833				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.07.19 18.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.07.19 18.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.07.19 18.01	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.07.19 18.01	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.07.19 18.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	11.07.19 18.01	
o-Terphenyl	84-15-1	104	%	70-135	11.07.19 18.01	

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LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642396-015	Date Collected:	11.06.19 14.30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.11	Basis:	Wet Weight
Seq Number:	3106825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.07.19 15.19	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.07.19 15.19	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.07.19 15.19	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.07.19 15.19	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.07.19 15.19	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.07.19 15.19	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.07.19 15.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.07.19 15.19	
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.07.19 15.19	

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 642396

LT Environmental, Inc.

Muy Wayno 18 Fed 103

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3106794 Matrix: Solid Date Prep: 11.07.19
MB Sample Id: 7689788-1-BLK LCS Sample Id: 7689788-1-BKS LCSD Sample Id: 7689788-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	270	108	268	107	90-110	1	20	mg/kg	11.07.19 11:05	

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3106808 Matrix: Solid Date Prep: 11.07.19
MB Sample Id: 7689791-1-BLK LCS Sample Id: 7689791-1-BKS LCSD Sample Id: 7689791-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	255	102	90-110	0	20	mg/kg	11.07.19 15:04	

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3106794 Matrix: Soil Date Prep: 11.07.19
Parent Sample Id: 642401-001 MS Sample Id: 642401-001 S MSD Sample Id: 642401-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	50.4	202	278	113	273	111	90-110	2	20	mg/kg	11.07.19 12:05	X

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3106794 Matrix: Soil Date Prep: 11.07.19
Parent Sample Id: 642404-005 MS Sample Id: 642404-005 S MSD Sample Id: 642404-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13300	10200	26500	129	25800	127	90-110	3	20	mg/kg	11.07.19 13:28	X

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3106808 Matrix: Soil Date Prep: 11.07.19
Parent Sample Id: 642396-009 MS Sample Id: 642396-009 S MSD Sample Id: 642396-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	31.9	201	257	112	257	111	90-110	0	20	mg/kg	11.07.19 15:22	X

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 642396

LT Environmental, Inc.

Muy Wayno 18 Fed 103

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3106866 | Matrix: Solid | Date Prep: 11.07.19
MB Sample Id: 7689850-1-BLK | LCS Sample Id: 7689850-1-BKS | LCSD Sample Id: 7689850-1-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)	<50.0	1000	925	93	912	91	70-135	1	35	mg/kg	11.07.19 14:44	
Diesel Range Organics (DRO)	<50.0	1000	1010	101	990	99	70-135	2	35	mg/kg	11.07.19 14:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		137	**	133		70-135	%	11.07.19 14:44
o-Terphenyl	116		120		119		70-135	%	11.07.19 14:44

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3106833 | Matrix: Solid | Date Prep: 11.07.19
MB Sample Id: 7689882-1-BLK | LCS Sample Id: 7689882-1-BKS | LCSD Sample Id: 7689882-1-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)	<50.0	1000	817	82	817	82	70-135	0	35	mg/kg	11.07.19 14:44	
Diesel Range Organics (DRO)	<50.0	1000	920	92	900	90	70-135	2	35	mg/kg	11.07.19 14:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		107		118		70-135	%	11.07.19 14:44
o-Terphenyl	121		109		109		70-135	%	11.07.19 14:44

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3106866 | Matrix: Solid | Date Prep: 11.07.19
MB Sample Id: 7689850-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.07.19 14:25	

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3106833 | Matrix: Solid | Date Prep: 11.07.19
MB Sample Id: 7689882-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.07.19 14:25	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

QC Summary 642396

LT Environmental, Inc.

Muy Wayno 18 Fed 103

Analytical Method: TPH by SW8015 Mod
Prep Method: SW8015P
Seq Number: 3106866
Matrix: Soil
Date Prep: 11.07.19
Parent Sample Id: 642401-001
MS Sample Id: 642401-001 S
MSD Sample Id: 642401-001 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)	<50.0	1000	963	96	975	98	70-135	1	35	mg/kg	11.07.19 15:44	
Diesel Range Organics (DRO)	<50.0	1000	1060	106	1050	105	70-135	1	35	mg/kg	11.07.19 15:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		143	**	70-135	%	11.07.19 15:44
o-Terphenyl	128		126		70-135	%	11.07.19 15:44

Analytical Method: TPH by SW8015 Mod
Prep Method: SW8015P
Seq Number: 3106833
Matrix: Soil
Date Prep: 11.07.19
Parent Sample Id: 642396-008
MS Sample Id: 642396-008 S
MSD Sample Id: 642396-008 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)	<50.2	1000	894	89	862	86	70-135	4	35	mg/kg	11.07.19 15:44	
Diesel Range Organics (DRO)	<50.2	1000	963	96	950	95	70-135	1	35	mg/kg	11.07.19 15:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		114		70-135	%	11.07.19 15:44
o-Terphenyl	119		119		70-135	%	11.07.19 15:44

Analytical Method: BTEX by EPA 8021B
Prep Method: SW5030B
Seq Number: 3106825
Matrix: Solid
Date Prep: 11.07.19
MB Sample Id: 7689858-1-BLK
LCS Sample Id: 7689858-1-BKS
LCSD Sample Id: 7689858-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.107	107	0.105	105	70-130	2	35	mg/kg	11.07.19 11:00	
Toluene	<0.00100	0.100	0.124	124	0.119	119	70-130	4	35	mg/kg	11.07.19 11:00	
Ethylbenzene	<0.00100	0.100	0.111	111	0.108	108	71-129	3	35	mg/kg	11.07.19 11:00	
m,p-Xylenes	<0.00200	0.200	0.225	113	0.220	110	70-135	2	35	mg/kg	11.07.19 11:00	
o-Xylene	<0.00100	0.100	0.112	112	0.110	110	71-133	2	35	mg/kg	11.07.19 11:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		102		102		70-130	%	11.07.19 11:00
4-Bromofluorobenzene	105		104		106		70-130	%	11.07.19 11:00

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

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

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

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

QC Summary 642396

LT Environmental, Inc.

Muy Wayno 18 Fed 103

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106830 — Matrix: Solid — Date Prep: 11.07.19
MB Sample Id: 7689857-1-BLK — LCS Sample Id: 7689857-1-BKS — LCSD Sample Id: 7689857-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0935	94	0.0893	89	70-130	5	35	mg/kg	11.07.19 10:46	
Toluene	<0.00100	0.100	0.0932	93	0.0908	91	70-130	3	35	mg/kg	11.07.19 10:46	
Ethylbenzene	<0.00100	0.100	0.0928	93	0.0896	90	71-129	4	35	mg/kg	11.07.19 10:46	
m,p-Xylenes	<0.00200	0.200	0.198	99	0.192	96	70-135	3	35	mg/kg	11.07.19 10:46	
o-Xylene	<0.00100	0.100	0.0993	99	0.0965	97	71-133	3	35	mg/kg	11.07.19 10:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		102		70-130	%	11.07.19 10:46
4-Bromofluorobenzene	93		112		115		70-130	%	11.07.19 10:46

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106825 — Matrix: Soil — Date Prep: 11.07.19
Parent Sample Id: 642396-008 — MS Sample Id: 642396-008 S — MSD Sample Id: 642396-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.113	112	0.0880	87	70-130	25	35	mg/kg	11.07.19 11:41	
Toluene	<0.00101	0.101	0.121	120	0.0934	92	70-130	26	35	mg/kg	11.07.19 11:41	
Ethylbenzene	<0.00101	0.101	0.119	118	0.0870	86	71-129	31	35	mg/kg	11.07.19 11:41	
m,p-Xylenes	<0.00201	0.201	0.241	120	0.176	87	70-135	31	35	mg/kg	11.07.19 11:41	
o-Xylene	<0.00101	0.101	0.120	119	0.0878	87	71-133	31	35	mg/kg	11.07.19 11:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		104		70-130	%	11.07.19 11:41
4-Bromofluorobenzene	112		113		70-130	%	11.07.19 11:41

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106830 — Matrix: Soil — Date Prep: 11.07.19
Parent Sample Id: 642401-001 — MS Sample Id: 642401-001 S — MSD Sample Id: 642401-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000998	0.0998	0.0835	84	0.0954	95	70-130	13	35	mg/kg	11.07.19 20:25	
Toluene	<0.000998	0.0998	0.0863	86	0.101	101	70-130	16	35	mg/kg	11.07.19 20:25	
Ethylbenzene	<0.000998	0.0998	0.0826	83	0.0943	94	71-129	13	35	mg/kg	11.07.19 20:25	
m,p-Xylenes	<0.00200	0.200	0.174	87	0.201	101	70-135	14	35	mg/kg	11.07.19 20:25	
o-Xylene	<0.000998	0.0998	0.0867	87	0.101	101	71-133	15	35	mg/kg	11.07.19 20:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		105		70-130	%	11.07.19 20:25
4-Bromofluorobenzene	111		115		70-130	%	11.07.19 20:25

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

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: 442396

www.xenco.com Page 1 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, Tx 79705
Phone:	432.704.5178	Email:	ggreen@ltenv.com ; dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Muy Wayno 18 Fed 103	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP-5410	Rush: 24 Hr	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	2.5	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	15

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01	S	11/06/19	1240	.5'	1	X	X	X
SS02			1335		1			
SS03			1350		1			
SS04			1400		1			
SS05			1420	↓	1			
PH01			1245	1'	1			
PH01A			1330	3'	1			
PH02			1340	1'	1			
PH02A			1345	2'	1			
PH03	↓	↓	1355	1'	1	↓	↓	↓

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		11/7/19 08:20	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: 642396

www.xenco.com Page 2 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, Tx 79705
Phone:	432.704.5178	Email:	ggreen@ltenv.com ; dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:		Turn Around	
Project Number:		Routine ☐	
P.O. Number:		Rush: 24 h	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT				
Temperature (°C):		Temp Blank:	Yes No	Wet Ice: Yes No
Received Intact:	Yes No	Thermometer ID		
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Total Containers:		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH03A	S	11/06/19	1400	2'	1	X	X	X
PH04			1405	1'	1			
PH04A			1410	2'	1			
PH05			1425	1'	1			
PH05A			1430	2'	1			

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		11/7/19 08:20	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/07/2019 08:20:00 AM

Work Order #: 642396

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#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: Elizabeth McClellan Date: 11/07/2019

Checklist reviewed by: Jessica Kramer Date: 11/08/2019

Jessica Kramer

Analytical Report 642600

for

LT Environmental, Inc.

Project Manager: Dan Moir

Muy Wayno 18 Fed 103H

12-NOV-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

12-NOV-19

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

Reference: XENCO Report No(s): **642600**
Muy Wayno 18 Fed 103H
Project Address:

Dan Moir:

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) 642600. 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. 642600 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
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Sample Cross Reference 642600

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	11-07-19 12:30	3.5 ft	642600-001
SW01	S	11-07-19 12:35	0 - 3.5 ft	642600-002
SW02	S	11-07-19 12:45	0 - 3.5 ft	642600-003
SW03	S	11-07-19 12:50	0 - 3.5 ft	642600-004

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: Muy Wayno 18 Fed 103H

Project ID:
Work Order Number(s): *642600*

Report Date: *12-NOV-19*
Date Received: *11/08/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3106914 TPH by SW8015 Mod
Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 642594-001 S.

Batch: LBA-3106973 BTEX by EPA 8021B
Lab Sample ID 642600-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 642600-001, -002, -003, -004.
The Laboratory Control Sample for Benzene, Ethylbenzene 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.

Certificate of Analysis Summary 642600

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno 18 Fed 103H

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Nov-08-19 08:51 am

Report Date: 12-NOV-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	642600-001		642600-002		642600-003		642600-004					
	Field Id:	FS01		SW01		SW02		SW03					
	Depth:	3.5- ft		0-3.5 ft		0-3.5 ft		0-3.5 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Nov-07-19 12:30		Nov-07-19 12:35		Nov-07-19 12:45		Nov-07-19 12:50					
BTEX by EPA 8021B	***Extracted:***	Nov-08-19 09:11		Nov-08-19 09:11		Nov-08-19 09:11		Nov-08-19 09:11					
	Analyzed:	Nov-08-19 13:12		Nov-08-19 13:33		Nov-08-19 13:53		Nov-08-19 14:13					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.000998	0.000998	<0.000988	0.000988	<0.000988	0.000988	<0.000988	0.000988				
Toluene		<0.000998	0.000998	<0.000988	0.000988	<0.000988	0.000988	<0.000988	0.000988				
Ethylbenzene		0.00345	0.000998	<0.000988	0.000988	<0.000988	0.000988	<0.000988	0.000988				
m,p-Xylenes		0.00295	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198				
o-Xylene		0.00132	0.000998	<0.000988	0.000988	<0.000988	0.000988	<0.000988	0.000988				
Total Xylenes		0.00427	0.000998	<0.000988	0.000988	<0.000988	0.000988	<0.000988	0.000988				
Total BTEX		0.00772	0.000998	<0.000988	0.000988	<0.000988	0.000988	<0.000988	0.000988				
Chloride by EPA 300	***Extracted:***	Nov-08-19 10:11		Nov-08-19 10:11		Nov-08-19 10:11		Nov-08-19 10:11					
	Analyzed:	Nov-08-19 12:43		Nov-08-19 12:49		Nov-08-19 12:55		Nov-08-19 13:37					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		<10.0	10.0	370	100	36.9	10.0	45.6	10.0				
TPH by SW8015 Mod	***Extracted:***	Nov-08-19 12:00		Nov-08-19 12:00		Nov-08-19 12:00		Nov-08-19 12:00					
	Analyzed:	Nov-08-19 14:19		Nov-08-19 14:39		Nov-08-19 15:03		Nov-08-19 15:23					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.8	49.8	<50.1	50.1	<49.8	49.8				
Diesel Range Organics (DRO)		<50.0	50.0	<49.8	49.8	<50.1	50.1	<49.8	49.8				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	<50.1	50.1	<49.8	49.8				
Total GRO-DRO		<50.0	50.0	<49.8	49.8	<50.1	50.1	<49.8	49.8				
Total TPH		<50.0	50.0	<49.8	49.8	<50.1	50.1	<49.8	49.8				

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Jessica Kramer
Project Assistant

Certificate of Analytical Results 642600

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642600-001	Date Collected:	11.07.19 12.30	Sample Depth:	3.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 10.11	Basis:	Wet Weight
Seq Number:	3106922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	11.08.19 12.43	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.08.19 12.00	Basis:	Wet Weight
Seq Number:	3106914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.08.19 14.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.08.19 14.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.08.19 14.19	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.08.19 14.19	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.08.19 14.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	11.08.19 14.19	
o-Terphenyl	84-15-1	108	%	70-135	11.08.19 14.19	

Certificate of Analytical Results 642600

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642600-001	Date Collected:	11.07.19 12.30	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 09.11	Basis:	Wet Weight
Seq Number:	3106973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	11.08.19 13.12	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	11.08.19 13.12	U	1
Ethylbenzene	100-41-4	**0.00345**	0.000998	mg/kg	11.08.19 13.12		1
m,p-Xylenes	179601-23-1	**0.00295**	0.00200	mg/kg	11.08.19 13.12		1
o-Xylene	95-47-6	**0.00132**	0.000998	mg/kg	11.08.19 13.12		1
Total Xylenes	1330-20-7	**0.00427**	0.000998	mg/kg	11.08.19 13.12		1
Total BTEX		**0.00772**	0.000998	mg/kg	11.08.19 13.12		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.08.19 13.12	
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.08.19 13.12	

Certificate of Analytical Results 642600

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642600-002	Date Collected:	11.07.19 12.35	Sample Depth:	0 - 3.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 10.11	Basis:	Wet Weight
Seq Number:	3106922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**370**	100	mg/kg	11.08.19 12.49		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.08.19 12.00	Basis:	Wet Weight
Seq Number:	3106914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.08.19 14.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.08.19 14.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.08.19 14.39	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.08.19 14.39	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.08.19 14.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	11.08.19 14.39	
o-Terphenyl	84-15-1	108	%	70-135	11.08.19 14.39	

Certificate of Analytical Results 642600

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642600-002	Date Collected:	11.07.19 12.35	Sample Depth:	0 - 3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 09.11	Basis:	Wet Weight
Seq Number:	3106973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000988	0.000988	mg/kg	11.08.19 13.33	U	1
Toluene	108-88-3	<0.000988	0.000988	mg/kg	11.08.19 13.33	U	1
Ethylbenzene	100-41-4	<0.000988	0.000988	mg/kg	11.08.19 13.33	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	11.08.19 13.33	U	1
o-Xylene	95-47-6	<0.000988	0.000988	mg/kg	11.08.19 13.33	U	1
Total Xylenes	1330-20-7	<0.000988	0.000988	mg/kg	11.08.19 13.33	U	1
Total BTEX		<0.000988	0.000988	mg/kg	11.08.19 13.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	11.08.19 13.33	
4-Bromofluorobenzene	460-00-4	97	%	70-130	11.08.19 13.33	

Certificate of Analytical Results 642600

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642600-003	Date Collected:	11.07.19 12.45	Sample Depth:	0 - 3.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 10.11	Basis:	Wet Weight
Seq Number:	3106922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**36.9**	10.0	mg/kg	11.08.19 12.55		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.08.19 12.00	Basis:	Wet Weight
Seq Number:	3106914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.08.19 15.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.08.19 15.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.08.19 15.03	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.08.19 15.03	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.08.19 15.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	11.08.19 15.03	
o-Terphenyl	84-15-1	112	%	70-135	11.08.19 15.03	

Certificate of Analytical Results 642600

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642600-003	Date Collected:	11.07.19 12.45	Sample Depth:	0 - 3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 09.11	Basis:	Wet Weight
Seq Number:	3106973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000988	0.000988	mg/kg	11.08.19 13.53	U	1
Toluene	108-88-3	<0.000988	0.000988	mg/kg	11.08.19 13.53	U	1
Ethylbenzene	100-41-4	<0.000988	0.000988	mg/kg	11.08.19 13.53	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	11.08.19 13.53	U	1
o-Xylene	95-47-6	<0.000988	0.000988	mg/kg	11.08.19 13.53	U	1
Total Xylenes	1330-20-7	<0.000988	0.000988	mg/kg	11.08.19 13.53	U	1
Total BTEX		<0.000988	0.000988	mg/kg	11.08.19 13.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	11.08.19 13.53	
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.08.19 13.53	

Certificate of Analytical Results 642600

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642600-004	Date Collected:	11.07.19 12.50	Sample Depth:	0 - 3.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 10.11	Basis:	Wet Weight
Seq Number:	3106922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**45.6**	10.0	mg/kg	11.08.19 13.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.08.19 12.00	Basis:	Wet Weight
Seq Number:	3106914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.08.19 15.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.08.19 15.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.08.19 15.23	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.08.19 15.23	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.08.19 15.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	11.08.19 15.23	
o-Terphenyl	84-15-1	110	%	70-135	11.08.19 15.23	

Certificate of Analytical Results 642600

LT Environmental, Inc., Arvada, CO

Muy Wayno 18 Fed 103H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642600-004	Date Collected:	11.07.19 12.50	Sample Depth:	0 - 3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 09.11	Basis:	Wet Weight
Seq Number:	3106973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000988	0.000988	mg/kg	11.08.19 14.13	U	1
Toluene	108-88-3	<0.000988	0.000988	mg/kg	11.08.19 14.13	U	1
Ethylbenzene	100-41-4	<0.000988	0.000988	mg/kg	11.08.19 14.13	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	11.08.19 14.13	U	1
o-Xylene	95-47-6	<0.000988	0.000988	mg/kg	11.08.19 14.13	U	1
Total Xylenes	1330-20-7	<0.000988	0.000988	mg/kg	11.08.19 14.13	U	1
Total BTEX		<0.000988	0.000988	mg/kg	11.08.19 14.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.08.19 14.13	
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.08.19 14.13	

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 642600

LT Environmental, Inc.

Muy Wayno 18 Fed 103H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106922 — Matrix: Solid — Date Prep: 11.08.19
MB Sample Id: 7689889-1-BLK — LCS Sample Id: 7689889-1-BKS — LCSD Sample Id: 7689889-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	249	100	250	100	90-110	0	20	mg/kg	11.08.19 12:07	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106922 — Matrix: Soil — Date Prep: 11.08.19
Parent Sample Id: 642594-001 — MS Sample Id: 642594-001 S — MSD Sample Id: 642594-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	272	200	456	92	458	93	90-110	0	20	mg/kg	11.08.19 12:25	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106922 — Matrix: Soil — Date Prep: 11.08.19
Parent Sample Id: 642596-002 — MS Sample Id: 642596-002 S — MSD Sample Id: 642596-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2740	200	2950	105	2940	100	90-110	0	20	mg/kg	11.08.19 13:54	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106914 — Matrix: Solid — Date Prep: 11.08.19
MB Sample Id: 7689947-1-BLK — LCS Sample Id: 7689947-1-BKS — LCSD Sample Id: 7689947-1-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)	<50.0	1000	905	91	921	92	70-135	2	35	mg/kg	11.08.19 12:21	
Diesel Range Organics (DRO)	<50.0	1000	1010	101	1030	103	70-135	2	35	mg/kg	11.08.19 12:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		120		121		70-135	%	11.08.19 12:21
o-Terphenyl	113		121		121		70-135	%	11.08.19 12:21

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106914 — Matrix: Solid — Date Prep: 11.08.19
MB Sample Id: 7689947-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.08.19 12:01	

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 642600

LT Environmental, Inc.

Muy Wayno 18 Fed 103H

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106914 — Matrix: Soil — Date Prep: 11.08.19
Parent Sample Id: 642594-001 — MS Sample Id: 642594-001 S — MSD Sample Id: 642594-001 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)	<50.1	1000	1100	110	892	89	70-135	21	35	mg/kg	11.08.19 13:20	
Diesel Range Organics (DRO)	<50.1	1000	1220	122	991	99	70-135	21	35	mg/kg	11.08.19 13:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	141	**	117		70-135	%	11.08.19 13:20
o-Terphenyl	139	**	118		70-135	%	11.08.19 13:20

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106973 — Matrix: Solid — Date Prep: 11.08.19
MB Sample Id: 7689952-1-BLK — LCS Sample Id: 7689952-1-BKS — LCSD Sample Id: 7689952-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.101	101	0.114	114	70-130	12	35	mg/kg	11.08.19 10:35	
Toluene	<0.00100	0.100	0.114	114	0.126	126	70-130	10	35	mg/kg	11.08.19 10:35	
Ethylbenzene	<0.00100	0.100	0.103	103	0.115	115	71-129	11	35	mg/kg	11.08.19 10:35	
m,p-Xylenes	<0.00200	0.200	0.209	105	0.232	116	70-135	10	35	mg/kg	11.08.19 10:35	
o-Xylene	<0.00100	0.100	0.105	105	0.118	118	71-133	12	35	mg/kg	11.08.19 10:35	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		106		70-130	%	11.08.19 10:35
4-Bromofluorobenzene	105		104		110		70-130	%	11.08.19 10:35

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106973 — Matrix: Soil — Date Prep: 11.08.19
Parent Sample Id: 642600-001 — MS Sample Id: 642600-001 S — MSD Sample Id: 642600-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000994	0.0994	0.0702	71	0.0689	69	70-130	2	35	mg/kg	11.08.19 11:57	X
Toluene	<0.000994	0.0994	0.0726	73	0.0695	70	70-130	4	35	mg/kg	11.08.19 11:57	
Ethylbenzene	0.00345	0.0994	0.0738	71	0.0714	68	71-129	3	35	mg/kg	11.08.19 11:57	X
m,p-Xylenes	0.00295	0.199	0.154	76	0.146	72	70-135	5	35	mg/kg	11.08.19 11:57	
o-Xylene	0.00132	0.0994	0.0760	75	0.0727	72	71-133	4	35	mg/kg	11.08.19 11:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	11.08.19 11:57
4-Bromofluorobenzene	114		111		70-130	%	11.08.19 11:57

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

Chain of Custody

Work Order No: 642600

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000) www.xenco.com

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, Tx 79705
Phone:	432.704.5178	Email:	ggreen@ltenv.com ; dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Muy Wayno 18 Fed 103H	Turn Around	
Project Number:		Routine	☒
P.O. Number:	2RP-5410	Rush:	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	2.5	Thermometer ID		
Received Intact:	Yes No	T-NM-007		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:	4	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
FS01	S	11/07/19	1230	3.5	1	X	X	X
SW01			1235	0-3.5'	1			
SW02			1245	0'-3.5'	1			
SW03			1250	0'-3.5'	1			

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			11/8/19 851	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/08/2019 08:51:00 AM

Work Order #: 642600

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#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: Elizabeth McClellan Date: 11/08/2019

Checklist reviewed by: Jessica Kramer Date: 11/08/2019