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	NAB1917556863
District RP	1RP-5567
Facility ID	
Application ID	pAB1917556389

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)* NAB1917556863
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.502443° Longitude -103.293912°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name EMSU #254	Site Type Production Well Facility
Date Release Discovered 5/22/2019	API# *(if applicable)* 30-025-04500

Unit Letter	Section	Township	Range	County
U	5	21S	36E	Lea

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

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) 0.78	Volume Recovered (bbls) 0.24
☒ Produced Water	Volume Released (bbls) 38.37	Volume Recovered (bbls) 11.76
	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 2 inch nipple separated from 90 degree connection on the steel flow line at the wellhead due to failed threads. Fluids were released from the flowline to the well pad, the lease road, and some pasture soils. The lease operator isolated the well and a vacuum truck recovered free standing fluids. 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	NAB1917556863
District RP	1RP-5567
Facility ID	
Application ID	pAB1917556389

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

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Notice provided by Bryan Foust to EMNRD OCD District 1 spills, Jim Griswold (NMOCD), and Ryan Mann (SLO) on 5/22/2019 by email

Initial Response

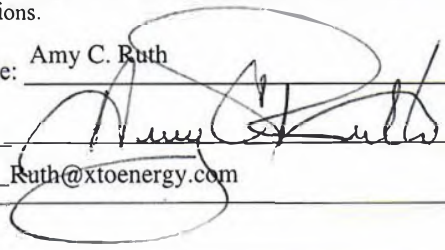
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

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

If all the actions described above have not been undertaken, explain why:
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: Amy C. Ruth
Title: SH&E Coordinator
Signature: 
Date: 6/5/2019
email: Amy_Ruth@xtoenergy.com
Telephone: 575-689-3380

OCD Only

Received by: Amalia Bustamante
Date: 6/24/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5567
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	1RP-5567
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: ____01/13/2019_____

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	1RP-5567
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: 01/13/2019

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 13, 2019

District 1
New Mexico Oil Conservation Division
1625 North French Drive
Hobbs, New Mexico 88240

RE: Closure Request
EMSU #254
Remediation Permit Number 1RP-5567
Lea County, New Mexico

To Whom It May Concern:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, soil sampling, and excavation activities at the Eunice Monument South Unit (EMSU) #254 (Site) in Unit U, Section 5, Township 21 South, Range 36 East, in Lea County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil following the release of produced water and crude oil at the Site. Based on the excavation activities and results of the soil sampling events, XTO is submitting this Closure Request, describing remediation that has occurred and respectfully requesting no further action (NFA) for Remediation Permit (RP) Number 1RP-5567.

RELEASE BACKGROUND

On May 22, 2019, a nipple separated from a connection on the steel flow line at the wellhead due to failed threads, which resulted in the release of 38.37 barrels (bbls) of produced water and 0.78 bbls of crude oil onto the caliche well pad, lease road, and pasture area. The lease operator isolated the well and a vacuum truck was dispatched to the Site to recover freestanding fluid; approximately 11.76 bbls of produced water and 0.24 bbls of crude oil 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 June 5, 2019 and was assigned RP Number 1RP-5567.

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 wells with depth to groundwater data are New Mexico Office of State Engineers (NMOSE) wells CP 00693 and CP 00670, located approximately 1,784 feet southeast of the Site and 3,590 feet

east of the Site. These groundwater wells have a depth to groundwater of approximately 1,000 feet bgs and 1,128 feet bgs, respectively; however, these wells were drilled for oil and gas production purposes and likely omitted observations of shallow groundwater. Monitoring wells associated with permit number CP 01143 do not document depth to water. A United States Geological Survey (USGS) well (322931103180301) is located approximately 3,357 feet southwest of the Site. The groundwater well has a depth to groundwater of approximately 157 feet bgs. The total depth of the well is undetermined. Ground surface elevation at the groundwater well location is 3,591 feet above mean sea level (amsl), which is approximately six feet higher in elevation than the Site. The closest continuously-flowing water or significant watercourse to the Site is a freshwater pond located approximately 2.43 miles southwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. 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

Additionally, a Closure Criteria of 600 mg/kg chloride was applied to the undeveloped pasture that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top four feet for areas to be reclaimed following remediation.

SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On June 6, 2019, LTE personnel visited the Site to evaluate the release extent. Surficial staining was observed on the caliche well pad, on the lease road to the south, and in the pasture area to the east and southeast of the well pad. LTE personnel collected three preliminary soil samples (SS01 through SS03) within the release extent in areas of visible soil staining. The soil samples were collected from a depth of approximately 0.5 feet bgs. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positing System (GPS) unit and are depicted on Figure 2.

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, TPH-oil range organics (ORO) following EPA Method 8015M/D, and chloride following EPA Method 300.0.

SOIL REMOVAL ACTIVITIES

Based on laboratory analytical results for the preliminary soil samples and visual observations, excavation of impacted soil appeared to be warranted. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 1.

From October 10 to October 18, 2019, LTE personnel oversaw soil excavation within the release extent. Excavation was restricted by the presence of active pipelines and the lease road, but three areas of excavation were identified: southern, northeastern, and western excavations were completed in the area of preliminary soil samples SS03, SS02, and SS01, respectively. The southern excavation was advanced in the pasture, which will be reclaimed upon completion of remediation. The northeastern and western excavations occurred on active operational areas. These areas were excavated utilizing a backhoe, unless the excavation came within two feet of an underground line or production equipment. For excavation near underground lines and production equipment, a hydro-vacuum was utilized. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. 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.

Composite soil samples FS01 through FS03 and SW01 through SW02 were collected from the floor and sidewalls of the southern excavation from depths ranging from ground surface to approximately five feet bgs. The southern excavation extent totaled approximately 1,350 square feet and an estimated 250 cubic yards were excavated.

Composite soil samples FS04 through FS08 and SW03 through SW06 were collected from the floor and sidewalls of the northeastern excavation from depths ranging from ground surface to approximately six feet bgs. The northeastern excavation extent totaled approximately 900 square feet and an estimated 200 cubic yards were excavated.

Composite soil samples FS09, FS10, and SW07 were collected from the floor and sidewalls of the western excavation from depths ranging from ground surface to approximately 4 feet bgs. The

western excavation extent totaled approximately 350 square feet and an estimated 50 cubic yards were excavated. The excavation soil samples were collected, handled and analyzed as described above and submitted to Xenco in Carlsbad, New Mexico. The excavation extents and excavation soil sample locations are depicted on Figure 3.

The excavation extents totaled approximately 2,600 square feet in area. A total of approximately 500 cubic yards of impacted soil were removed from the excavations. The impacted soil was transported and properly disposed of at the Lea Land landfill facility located in Hobbs, New Mexico.

To address the release extent mapped on the lease road, a bulldozer blade was used to grade the lease road. The bladed area measured approximately 4,830 square feet in area. On November 26, 2019, following the blading of the lease road, LTE personnel returned to the Site to collect confirmation composite soil samples (FS10 through FS20) on the lease road south of the caliche well pad. The confirmation soil samples were collected, handled and analyzed as described above and submitted to Xenco in Carlsbad, New Mexico. The extent of the bladed area and the confirmation soil samples are presented on Figure 3.

DELINEATION SOIL SAMPLING

From October 14 through 18, 2019, additional soil assessment along the release extent was conducted concurrently with excavation activities. Potholes and boreholes were advanced at 10 locations within the release extent. Potholes PH01 through PH03 were advanced via track-mounted backhoe to depths ranging from 5 feet to 6 feet bgs. Boreholes BH01 through BH07 were advanced via hand auger in the release extent to a depth of 6 feet bgs. Two soil samples were collected from each boring at depth intervals ranging from one foot to six feet bgs. LTE screened soil for volatile aromatic hydrocarbons and chloride at multiple depths within each delineation sample utilizing a calibrated PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole/borehole were logged on lithologic/soil sampling logs, which are included in Attachment 2. The potholes/boreholes and delineation soil sample locations are depicted on Figure 4. The additional soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Carlsbad, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results indicated that BTEX, TPH-GRO, TPH-DRO, and/or TPH concentrations in preliminary soil samples SS01 and SS02, collected at approximately 0.5 feet bgs, exceeded the Closure Criteria. In addition, laboratory analytical results indicated chloride concentrations in preliminary soil sample SS03, collected at approximately 0.5 feet bgs, exceeded the 600 mg/kg reclamation standard. Based on the laboratory analytical results from the preliminary soil samples and visual observations, impacted soil was excavated in these three areas.

Following excavation of impacted soil, confirmation soil samples were collected from the sidewalls and floor of the excavations, and on the lease road south of the caliche well pad. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in floor and sidewall samples of the northeastern and western excavations. Impacted soil within the top four feet of the southern was removed and the sidewall samples were compliant with the 600 mg/kg chloride reclamation standard in excavation soil samples. Floor samples from the southern excavation were compliant with Closure Criteria.

Laboratory analytical results for delineation soil samples PH01/PH01A through PH03/PH03A, BH01/BH01A through BH05/BH05A, BH06A, and BH07/BH07A indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations in the soil within the areas of release extent that was not excavated were compliant with the Closure Criteria. Soil sample BH06 collected from 1 foot bgs was compliant with the reclamation chloride standard. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 3.

CLOSURE REQUEST

Laboratory analytical results indicated that BTEX, TPH-GRO, TPH-DRO, TPH, and/or chloride concentrations in preliminary soil samples SS01 through SS03 exceeded the Closure Criteria and/or reclamation chloride standard. As a result, impacted soil was excavated. A total of approximately 500 cubic yards of impacted soil were excavated, and laboratory analytical results for the confirmation soil samples collected from within the final excavation extents indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and reclamation chloride standard.

The area of the release extent on the lease road was worked with a blade and laboratory analytical results for the confirmation soil samples collected from the lease road indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and reclamation chloride standard.

Additional delineation soil sampling activities were conducted in the release extent that was not excavated or bladed. Laboratory analytical results for the delineation soil samples indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and reclamation chloride standard, and no further excavation was required.

Initial response efforts, remediation activities, and excavation of impacted soil have mitigated impacts at this Site. XTO requests NFA for RP Number 1RP-5567. An updated Form C-141 is attached to this Closure Request.

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

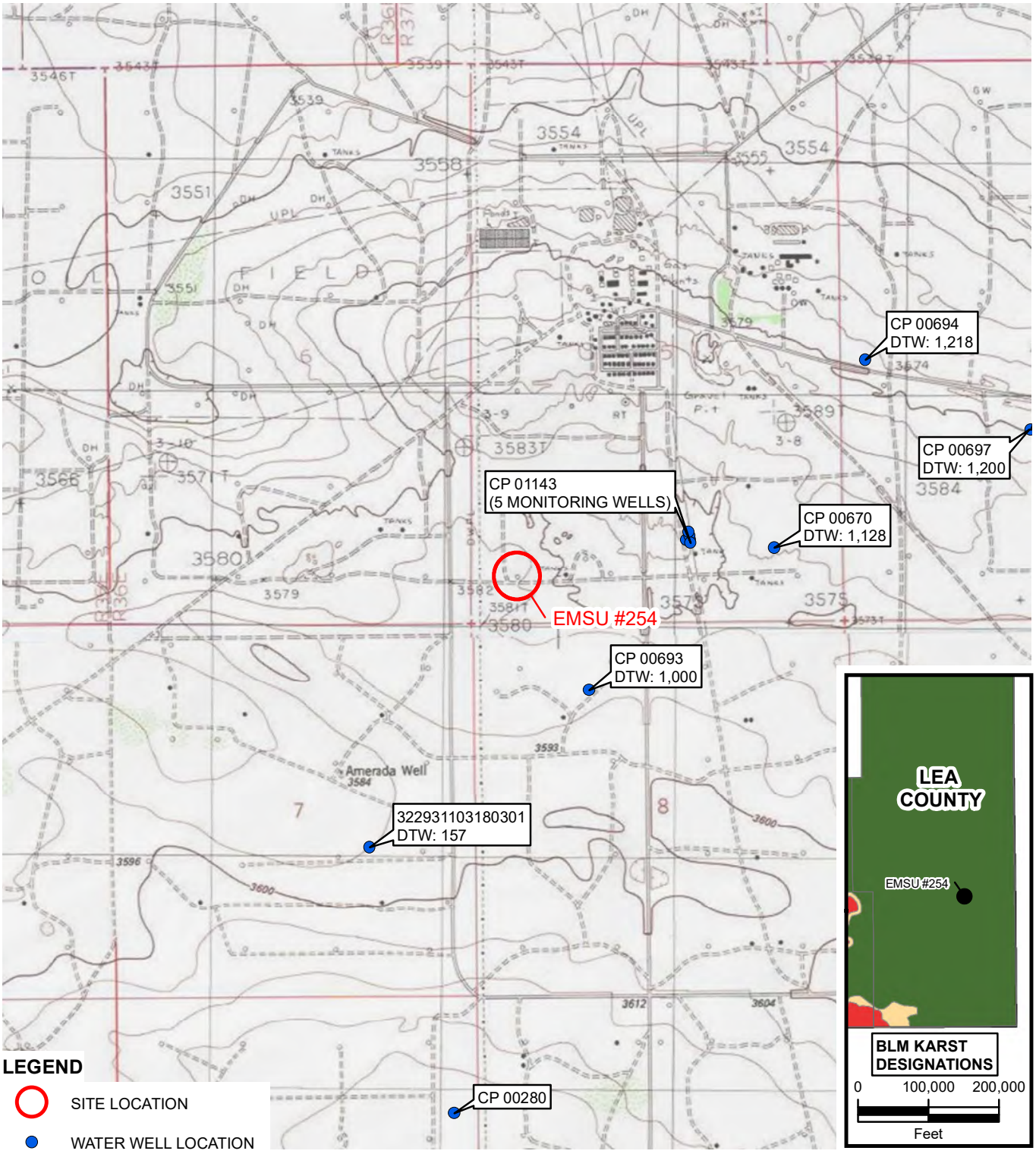
Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Ryan Mann, State Land Office

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Figure 4	Delineation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Photographic Log
Attachment 2	Lithologic/Soil Sampling Logs
Attachment 3	Laboratory Analytical Reports

FIGURES



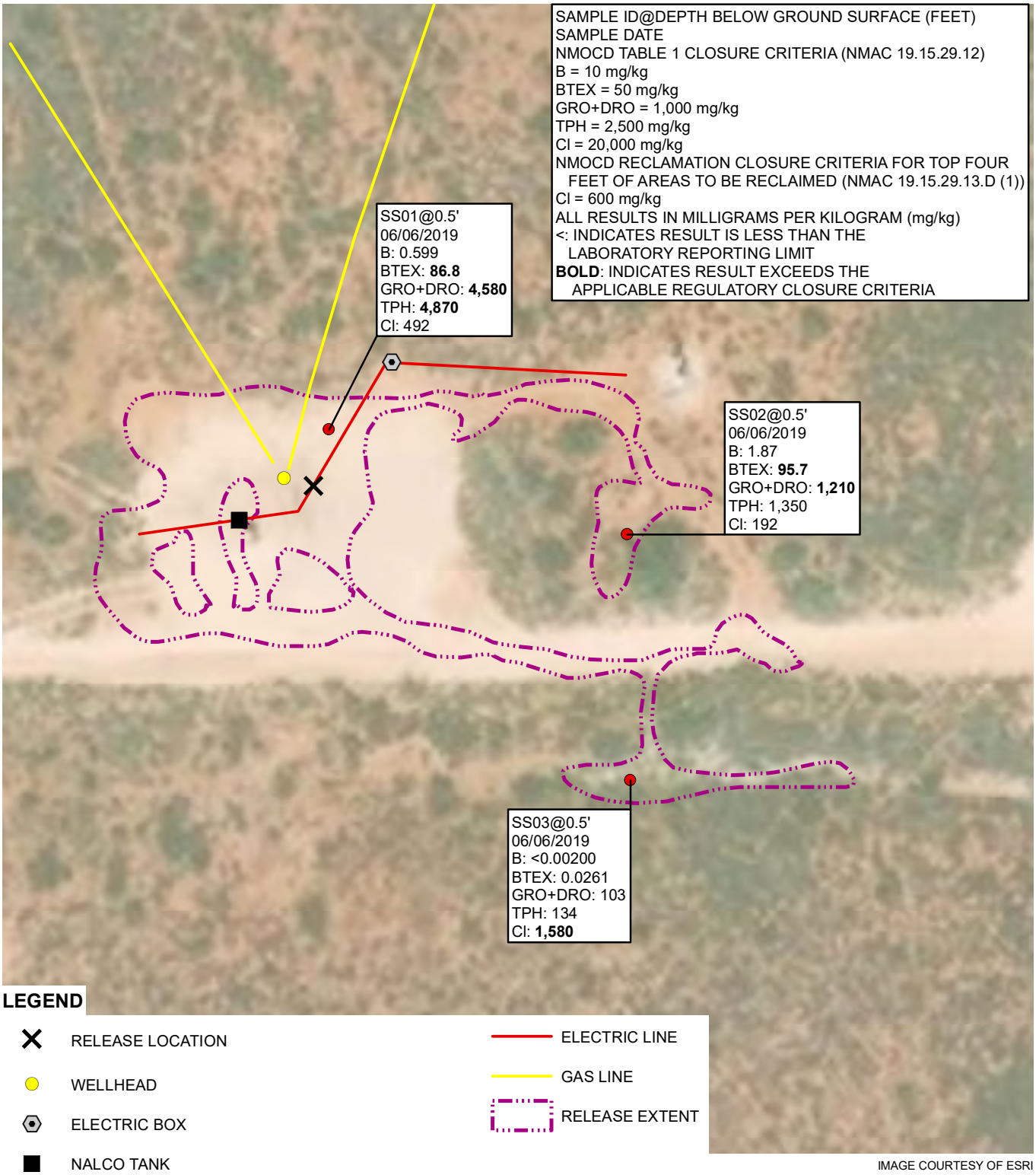
LEGEND

- 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 1RP-5567
DTW: DEPTH TO WATER IN FEET

FIGURE 2
SITE LOCATION MAP
EMSU #254
UNIT U SEC 5 T21S R36E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

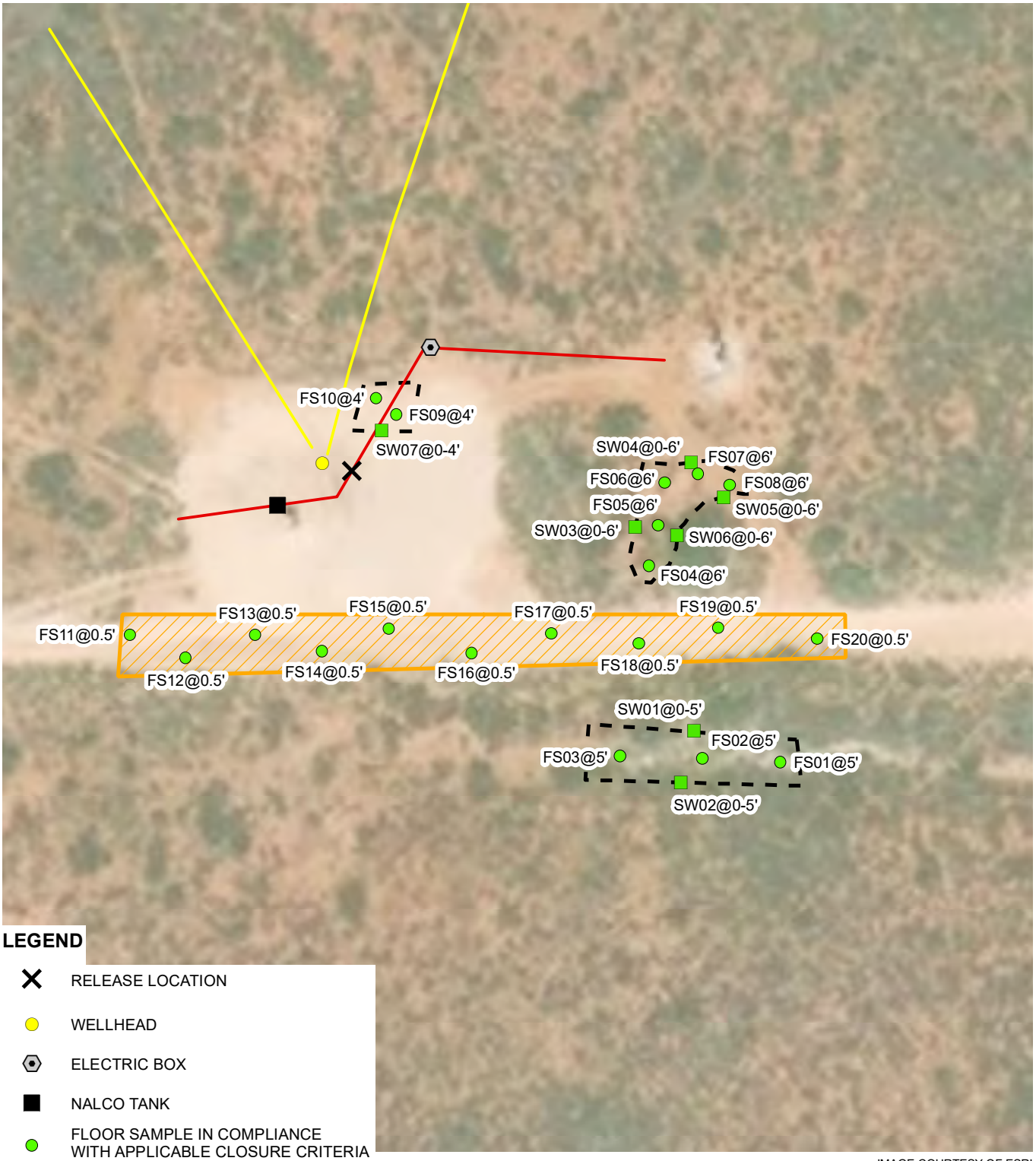
P:\XTO Energy\GIS\MXD\012919107_EMSU #254\012919107_FIG01_SL_5567.mxd



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 1RP-5567

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
EMSU #254
UNIT U SEC 5 T21S R36E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919107_EMSU #254\012919107_FIG02_PRELIMINARY_5567.mxd



LEGEND

- RELEASE LOCATION
- WELLHEAD
- ELECTRIC BOX
- NALCO TANK
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- SIDEWALL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- ELECTRIC LINE
- GAS LINE
- EXCAVATION EXTENT
- BLADED AREA

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 1RP-5567

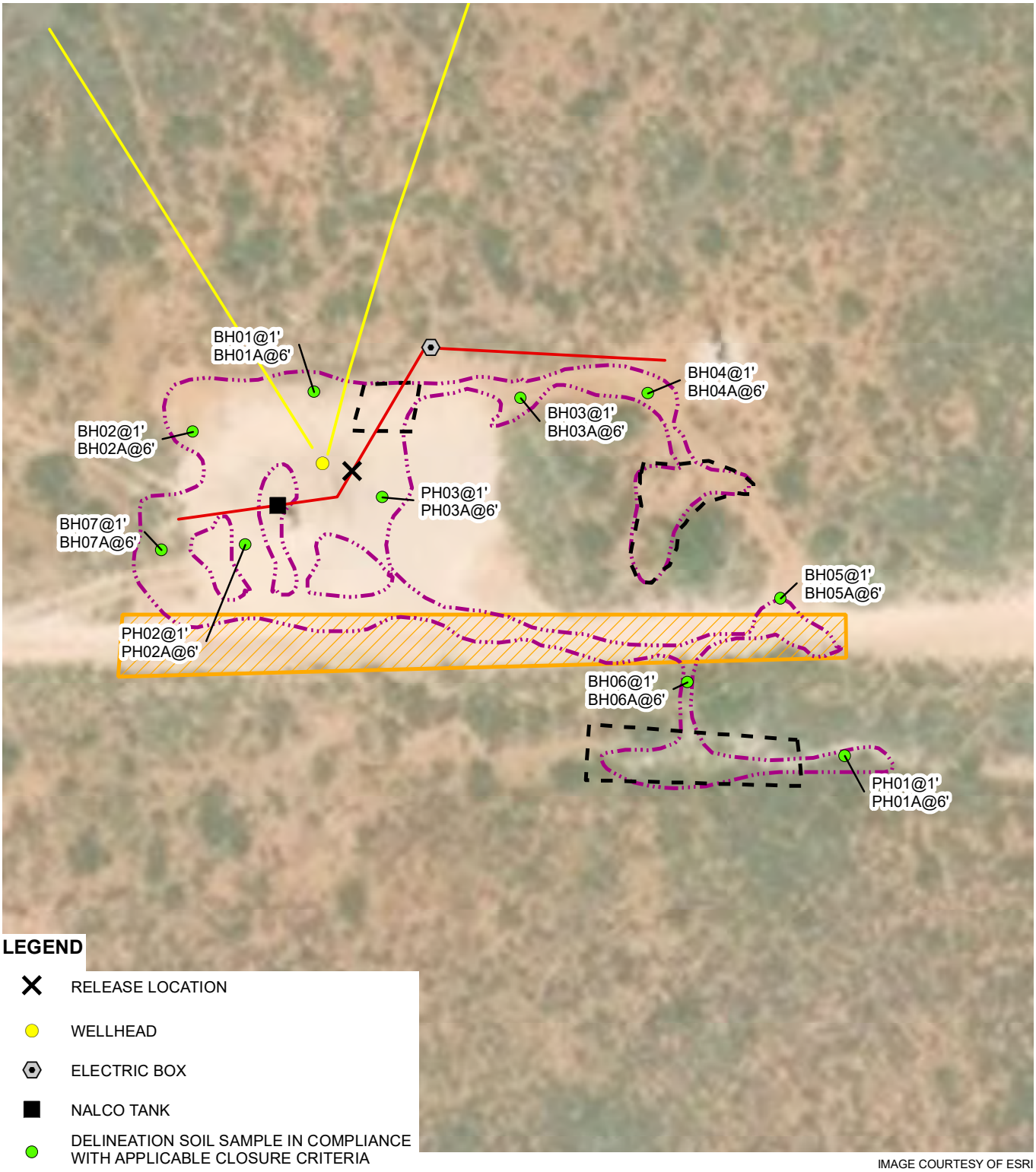
IMAGE COURTESY OF ESRI

0 50 100
Feet

N

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
EMSU #254
UNIT U SEC 5 T21S R36E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919107_EMSU #254\012919107_FIG03_EXCAVATION_5567.mxd



LEGEND

- RELEASE LOCATION
- WELLHEAD
- ELECTRIC BOX
- NALCO TANK
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- ELECTRIC LINE
- GAS LINE
- RELEASE EXTENT
- EXCAVATION EXTENT
- BLADED AREA

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 1RP-5567

IMAGE COURTESY OF ESRI

0 50 100
Feet

N

FIGURE 4
DELINEATION SOIL SAMPLE LOCATIONS
EMSU #254
UNIT U SEC 5 T21S R36E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919107_EMSU #254\012919107_FIG04_DELINEATION_5567.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS

EMSU #254
REMEDIATION PERMIT NUMBER 1RP-5567
LEA 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	06/06/2019	0.599	13.7	14.8	57.7	**86.8**	262	4320	286	**4,870**	**4,580**	492
SS02	0.5	06/06/2019	1.87	15.2	17.2	61.4	**95.7**	<74.9	1210	140	**1,350**	1,210	192*
SS03	0.5	06/06/2019	<0.00200	<0.00200	0.0111	0.0150	0.0261	<15.0	103	30.9	134	103	**1,580***
PH01	1	10/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	111*
PH01A	5	10/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	80.8	<49.8	80.8	80.8	405
PH02	1	10/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	8.32
PH02A	6	10/16/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	335
PH03	1	10/16/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	5.00
PH03A	6	10/16/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	11.1
BH01	1	10/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	81.2	<49.9	81.2	81.2	71.3
BH01A	6	10/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	139
BH02	1	10/16/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	391
BH02A	6	10/16/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	128
BH03	1	10/18/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.9	<49.9	<49.9	<49.9	<49.9	<9.98
BH03A	6	10/18/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.0	<50.0	<50.0	<50.0	<50.0	292
BH04	1	10/18/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.0	<50.0	<50.0	<50.0	<50.0	<10.1
BH04A	6	10/18/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<49.9	<49.9	<49.9	<49.9	<49.9	25.2
BH05	1	10/18/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<49.9	<49.9	<49.9	<49.9	<49.9	<10.1
BH05A	6	10/18/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<49.8	<49.8	<49.8	<49.8	<49.8	14.5
BH06	1	10/18/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.1	<50.1	<50.1	<50.1	<50.1	329*
BH06A	6	10/18/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.9	<49.9	<49.9	<49.9	<49.9	20.9
BH07	1	10/18/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	<10.0
BH07A	6	10/18/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98
FS01	5	10/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	827
FS02	5	10/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	267	56.4	267	323	633
FS03	5	10/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	58.2	<49.9	58.2	58.2	801
FS04	6	10/17/2019	<0.000988	<0.000988	<0.000988	<0.000988	<0.000988	<49.9	<49.9	<49.9	<49.9	<49.9	378
FS05	6	10/17/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<49.9	<49.9	<49.9	<49.9	<49.9	161
FS06	6	10/17/2019	<0.000988	<0.000988	<0.000988	<0.000988	<0.000988	<49.9	<49.9	<49.9	<49.9	<49.9	390
FS07	6	10/17/2019	<0.000992	<0.000992	<0.000992	<0.000992	<0.000992	<52.4	<52.4	<52.4	<52.4	<52.4	311
FS08	6	10/17/2019	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<50.1	<50.1	<50.1	<50.1	<50.1	<9.90

TABLE 1
SOIL ANALYTICAL RESULTS

EMSU #254
REMEDIATION PERMIT NUMBER 1RP-5567
LEA 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**
FS09	4	10/18/2019	<0.000992	<0.000992	<0.000992	<0.000992	<0.000992	<49.9	<49.9	<49.9	<49.9	<49.9	665
FS10	4	10/18/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.0	<50.0	<50.0	<50.0	<50.0	738
FS11	0.5	11/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	<10.1
FS12	0.5	11/26/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	19.0
FS13	0.5	11/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	38.1
FS14	0.5	11/26/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	318
FS15	0.5	11/26/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	572
FS16	0.5	11/26/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	371
FS17	0.5	11/26/2019	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	<50.2	<50.2	<50.2	<50.2	<50.2	695
FS18	0.5	11/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	325
FS19	0.5	11/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	879
FS20	0.5	11/26/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	1,550
SW01	0-5	10/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	108	<50.0	108	108	19.3*
SW02	0-5	10/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	323*
SW03	0-6	10/16/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	180
SW04	0-6	10/16/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	156	60.5	156	217	<5.00
SW05	0-6	10/15/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	121	<50.0	121	121	32.0
SW06	0-6	10/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	9.05
SW07	0-4	10/18/2019	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<50.0	<50.0	<50.0	<50.0	<50.0	174

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
* - indicates sample was collected in area to be reclaimed after remediation is complete; closure criteria for chloride concentration in the top 4 feet of soil is 600 mg/kg

ATTACHMENT 1: PHOTOGRAPHIC LOG

Point of release area during site assessment activities.

Project: 012919107	XTO Energy, Inc. EMSU #254	LTE Advancing Opportunity
June 6, 2019	Photographic Log	

View of final southern excavation extent during confirmation soil sampling activities.

Project: 012919107	XTO Energy, Inc. EMSU #254	LTE Advancing Opportunity
October 16, 2019	Photographic Log	

View of final northeastern excavation extent during confirmation soil sampling activities facing south.

Project: 012919107	XTO Energy, Inc. EMSU #254	LTE Advancing Opportunity
October 17, 2019	Photographic Log	

View of final western excavation extent during confirmation soil sampling activities facing north.

Project: 012919107	XTO Energy, Inc. EMSU #254	LTE Advancing Opportunity
October 18, 2019	Photographic Log	

ATTACHMENT 2: LITHOLOGIC/SOIL SAMPLING LOGS

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
PH01	10/14/19
Project Name: EMSU 254	RP Number:
Logged By: Fatima Smith	Method:
Hole Diameter:	Total Depth: 5'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	0.6	<179	N		0–1		S	earthy brwn, SC, SL, SP, no odor
Dry	0.9	"	N		1–2		S	
					2–3			
Dry	1.2	296	N		3–4		S	
Dry	0.0	252	N		4–5		S	deepest sample @ 5'

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
PH02	10/16/19
Project Name:	**RP Number:**
EMSU 254	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Fatima Smith	Method:
Hole Diameter:	Total Depth: 6

Lat/Long: Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	492	0.0	N		1		S	reddish brwn, SC, SP, SL, no odor, no cohesiveness
Dry	296	0.0	N		2		S	
Dry	828	0.1	N		4		S	
Dry	492	0.0	N		6		S	deepest sample @ 6'

Fatima

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: PH03	Date: 10/16/19
Project Name: EMSU 254	RP Number:
Logged By: Fatima Smith	Method:
Hole Diameter:	Total Depth: 6'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	<179	3.5	N		0–1		S	reddish brwn, SC, SL, SP, no odor, no cohesiveness
Dry	"	20.1	N		1–2		S	
					2–3			
Dry	"	1.8	N		3–4		S	
					4–5			
Dry	"	11.9	N		5–6		S	deepest sample @ 6'
					6–7			
					7–8			
					8–9			
					9–10			
					10–11			
					11–12			

Fatima

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
BH01	10/16/19
Project Name: EMSU 254	RP Number:
Logged By: Fatima Smith	Method:
Hole Diameter:	Total Depth: 6'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	<179	1.1	N		0–1		S	reddish brwn, SC, SL, SP, no odor, no cohesiveness
Dry	"	3.2	N		1–2		S	
Dry	492	0.7	N		4–5		S	
Dry	492	2.5	N		6		S	deepest sample @ 6'

0 1 2 3 4 5 6 7 8 9 10 11 12

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
BH02	10/16/19
Project Name:	**RP Number:**
EMSU 254	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Fatima Smith / Method:
Lat/Long: / Field Screening:	Hole Diameter: / Total Depth: 6
Comments:	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	<179	1.8	N		1		S	reddish brwn, SC, SL, SP, no odor, no cohesiveness
Dry	"	2.9	N		2		S	
Dry	"	2.1	N		4		S	
Dry	"	2.5	N		6		S	deepest sample @ 6'

Fatima

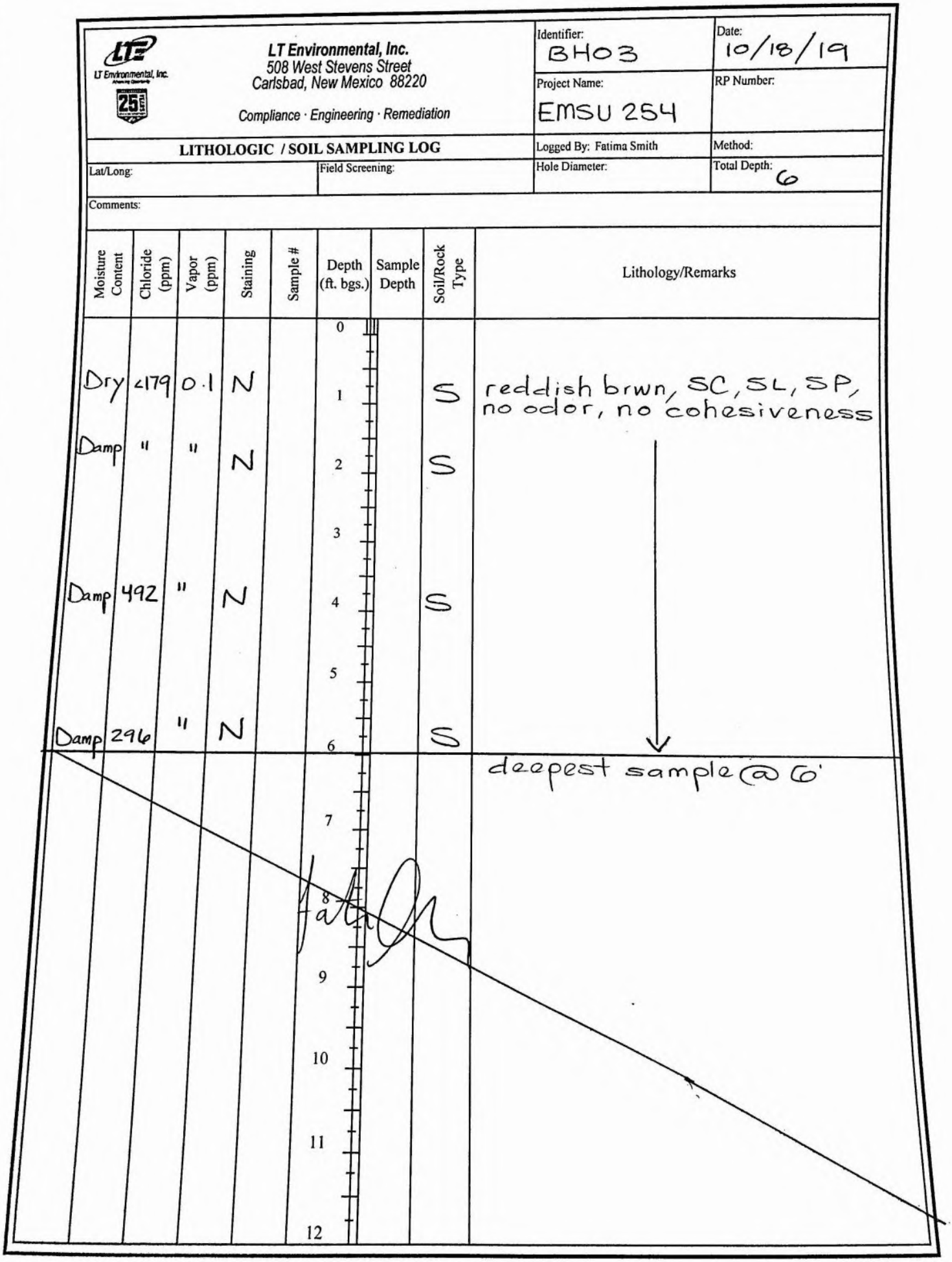
LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
BH03	10/18/19
Project Name:	**RP Number:**
EMSU 254	
Logged By: Fatima Smith	**Method:**
Lat/Long:	**Field Screening:**
Hole Diameter:	**Total Depth:** 6

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	<179	0.1	N		0–1		S	reddish brwn, SC, SL, SP, no odor, no cohesiveness
Damp	"	"	N		2		S	
Damp	492	"	N		4		S	
Damp	296	"	N		6		S	deepest sample @ 6'



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
BH04	10/18/19
Project Name:	RP Number:
EMSU 254	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Fatima Smith	Method:
Lat/Long:	Field Screening:
Hole Diameter:	Total Depth: 6

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	<179	0.3	N		0–1		S	reddish brwn, SP, fine grained, sub-rounded
Dry	"	0.5	N		2–3		S	SL, SC, sp reddish brwn, no odor, cohesive
Dry	"	0.3	N		4–5		S	– very compact
Dry	"	0.4	N		6		S	"
								deepest sample @ 6'

0 1 2 3 4 5 6 7 8 9 10 11 12

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
BH05	10/18/19
Project Name:	**RP Number:**
EMSU 254	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Fatima Smith / Method:
Lat/Long: / Field Screening:	Hole Diameter: / Total Depth: 6
Comments:	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	<179	0.2	N		0–1		S	reddish brwn, SP, fine grained, sub-angular
Dry	"	0.3	N		2–3		S	- very compact
Dry	"	0.3	N		4–5		S	
Dry	"	0.0	N		6		S	deepest sample @ 6'

0 1 2 3 4 5 6 7 8 9 10 11 12

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
BH06	10/18/19
Project Name: EMSU 254	RP Number:
Logged By: Fatima Smith	Method:
Lat/Long:	Field Screening:
Hole Diameter:	Total Depth: 6

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	386	0.2	N		1		S	reddish brwn, SC, SP, SL, no odor, no cohesiveness
Dry	554	0.1	N		2		S	- very compact
Dry	11	0.0	N		4		S	
Dry	616	0.2	N		6		S	deepest sample @ 6

0 1 2 3 4 5 6 7 8 9 10 11 12

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
BH07	10/18/19
Project Name:	RP Number:
EMSU 254	
Logged By: Fatima Smith	Method:
Lat/Long:	Field Screening:
Hole Diameter:	Total Depth: 6

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	<179	0.2	N		1		S	SC, SL, SP, reddish brwn, no odor, no cohesiveness
Dry	"	0.1	N		2		S	~~SAND~~ F.S reddish brwn, fine grained, SP, sub-angular
Dry	"	0.1	N		4		S	
Dry	"	0.0	N		6		S	deepest sample @ 6'

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

Analytical Report 627209

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254

12919067

19-JUN-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

19-JUN-19

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

Reference: XENCO Report No(s): **627209**
EMSU 254
Project Address: Delaware Basin

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) 627209. 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. 627209 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 627209

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	06-06-19 13:10	0.5 ft	627209-001
SS02	S	06-06-19 13:20	0.5 ft	627209-002
SS03	S	06-06-19 13:30	0.5 ft	627209-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 254

Project ID: *12919067*
Work Order Number(s): *627209*

Report Date: *19-JUN-19*
Date Received: *06/11/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3092435 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected.
Samples affected are: 627209-003.

Batch: LBA-3092736 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 627209-001,627209-002.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 627209

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

Project Id: 12919067
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Tue Jun-11-19 11:20 am
Report Date: 19-JUN-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	627209-001		627209-002		627209-003					
	Field Id:	SS01		SS02		SS03					
	Depth:	0.5- ft		0.5- ft		0.5- ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Jun-06-19 13:10		Jun-06-19 13:20		Jun-06-19 13:30					
BTEX by EPA 8021B	***Extracted:***	Jun-14-19 14:00		Jun-14-19 14:00		Jun-14-19 14:00					
	Analyzed:	Jun-18-19 16:38		Jun-18-19 14:58		Jun-18-19 09:36					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		0.599	0.199	1.87	0.200	<0.00200	0.00200				
Toluene		13.7	0.199	15.2	0.200	<0.00200	0.00200				
Ethylbenzene		14.8	0.199	17.2	0.200	0.0111	0.00200				
m,p-Xylenes		40.6	0.398	44.6	0.401	<0.00399	0.00399				
o-Xylene		17.1	0.199	16.8	0.200	0.0150	0.00200				
Total Xylenes		57.7	0.199	61.4	0.200	0.0150	0.00200				
Total BTEX		86.8	0.199	95.7	0.200	0.0261	0.00200				
Chloride by EPA 300	***Extracted:***	Jun-12-19 09:00		Jun-12-19 09:00		Jun-12-19 09:00					
	Analyzed:	Jun-12-19 09:45		Jun-12-19 09:50		Jun-12-19 09:55					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		492	4.97	192	5.05	1580	25.3				
TPH by SW8015 Mod	***Extracted:***	Jun-14-19 12:00		Jun-14-19 12:00		Jun-14-19 12:00					
	Analyzed:	Jun-15-19 11:06		Jun-15-19 11:31		Jun-15-19 11:56					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		262	74.7	<74.9	74.9	<15.0	15.0				
Diesel Range Organics (DRO)		4320	74.7	1210	74.9	103	15.0				
Motor Oil Range Hydrocarbons (MRO)		286	74.7	140	74.9	30.9	15.0				
Total TPH		4870	74.7	1350	74.9	134	15.0				
Total GRO-DRO		4580	74.7	1210	74.9	103	15.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 627209

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	06.11.19 11.20
Lab Sample Id:	627209-001	Date Collected:	06.06.19 13.10	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	06.12.19 09.00	Basis:	Wet Weight
Seq Number:	3092083				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**492**	4.97	mg/kg	06.12.19 09.45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.14.19 12.00	Basis:	Wet Weight
Seq Number:	3092435				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**262**	74.7	mg/kg	06.15.19 11.06		5
Diesel Range Organics (DRO)	C10C28DRO	**4320**	74.7	mg/kg	06.15.19 11.06		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**286**	74.7	mg/kg	06.15.19 11.06		5
Total TPH	PHC635	**4870**	74.7	mg/kg	06.15.19 11.06		5
Total GRO-DRO	PHC628	**4580**	74.7	mg/kg	06.15.19 11.06		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	06.15.19 11.06	
o-Terphenyl	84-15-1	76	%	70-135	06.15.19 11.06	

Certificate of Analytical Results 627209

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	06.11.19 11.20
Lab Sample Id:	627209-001	Date Collected:	06.06.19 13.10	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.14.19 14.00	Basis:	Wet Weight
Seq Number:	3092736				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.599**	0.199	mg/kg	06.18.19 16.38		100
Toluene	108-88-3	**13.7**	0.199	mg/kg	06.18.19 16.38		100
Ethylbenzene	100-41-4	**14.8**	0.199	mg/kg	06.18.19 16.38		100
m,p-Xylenes	179601-23-1	**40.6**	0.398	mg/kg	06.18.19 16.38		100
o-Xylene	95-47-6	**17.1**	0.199	mg/kg	06.18.19 16.38		100
Total Xylenes	1330-20-7	**57.7**	0.199	mg/kg	06.18.19 16.38		100
Total BTEX		**86.8**	0.199	mg/kg	06.18.19 16.38		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	06.18.19 16.38	
4-Bromofluorobenzene	460-00-4	224	%	70-130	06.18.19 16.38	**

Certificate of Analytical Results 627209

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	06.11.19 11.20
Lab Sample Id:	627209-002	Date Collected:	06.06.19 13.20	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	06.12.19 09.00	Basis:	Wet Weight
Seq Number:	3092083				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**192**	5.05	mg/kg	06.12.19 09.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.14.19 12.00	Basis:	Wet Weight
Seq Number:	3092435				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.9	74.9	mg/kg	06.15.19 11.31	U	5
Diesel Range Organics (DRO)	C10C28DRO	**1210**	74.9	mg/kg	06.15.19 11.31		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**140**	74.9	mg/kg	06.15.19 11.31		5
Total TPH	PHC635	**1350**	74.9	mg/kg	06.15.19 11.31		5
Total GRO-DRO	PHC628	**1210**	74.9	mg/kg	06.15.19 11.31		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	06.15.19 11.31	
o-Terphenyl	84-15-1	82	%	70-135	06.15.19 11.31	

Certificate of Analytical Results 627209

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	06.11.19 11.20
Lab Sample Id:	627209-002	Date Collected:	06.06.19 13.20	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.14.19 14.00	Basis:	Wet Weight
Seq Number:	3092736				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**1.87**	0.200	mg/kg	06.18.19 14.58		100
Toluene	108-88-3	**15.2**	0.200	mg/kg	06.18.19 14.58		100
Ethylbenzene	100-41-4	**17.2**	0.200	mg/kg	06.18.19 14.58		100
m,p-Xylenes	179601-23-1	**44.6**	0.401	mg/kg	06.18.19 14.58		100
o-Xylene	95-47-6	**16.8**	0.200	mg/kg	06.18.19 14.58		100
Total Xylenes	1330-20-7	**61.4**	0.200	mg/kg	06.18.19 14.58		100
Total BTEX		**95.7**	0.200	mg/kg	06.18.19 14.58		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	257	%	70-130	06.18.19 14.58	**
1,4-Difluorobenzene	540-36-3	114	%	70-130	06.18.19 14.58	

Certificate of Analytical Results 627209

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	06.11.19 11.20
Lab Sample Id:	627209-003	Date Collected:	06.06.19 13.30	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	06.12.19 09.00	Basis:	Wet Weight
Seq Number:	3092083				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1580**	25.3	mg/kg	06.12.19 09.55		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.14.19 12.00	Basis:	Wet Weight
Seq Number:	3092435				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.15.19 11.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	**103**	15.0	mg/kg	06.15.19 11.56		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**30.9**	15.0	mg/kg	06.15.19 11.56		1
Total TPH	PHC635	**134**	15.0	mg/kg	06.15.19 11.56		1
Total GRO-DRO	PHC628	**103**	15.0	mg/kg	06.15.19 11.56		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	06.15.19 11.56	
o-Terphenyl	84-15-1	57	%	70-135	06.15.19 11.56	**

Certificate of Analytical Results 627209

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	06.11.19 11.20
Lab Sample Id:	627209-003	Date Collected:	06.06.19 13.30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.14.19 14.00	Basis:	Wet Weight
Seq Number:	3092736				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.18.19 09.36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.18.19 09.36	U	1
Ethylbenzene	100-41-4	**0.0111**	0.00200	mg/kg	06.18.19 09.36		1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.18.19 09.36	U	1
o-Xylene	95-47-6	**0.0150**	0.00200	mg/kg	06.18.19 09.36		1
Total Xylenes	1330-20-7	**0.0150**	0.00200	mg/kg	06.18.19 09.36		1
Total BTEX		**0.0261**	0.00200	mg/kg	06.18.19 09.36		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	06.18.19 09.36	
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.18.19 09.36	

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 627209

LT Environmental, Inc.

EMSU 254

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092083 — Matrix: Solid — Date Prep: 06.12.19
MB Sample Id: 7679681-1-BLK — LCS Sample Id: 7679681-1-BKS — LCSD Sample Id: 7679681-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	237	95	239	96	90-110	1	20	mg/kg	06.12.19 09:07	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092083 — Matrix: Soil — Date Prep: 06.12.19
Parent Sample Id: 627208-002 — MS Sample Id: 627208-002 S — MSD Sample Id: 627208-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14.5	250	289	110	291	111	90-110	1	20	mg/kg	06.12.19 09:35	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092083 — Matrix: Soil — Date Prep: 06.12.19
Parent Sample Id: 627226-001 — MS Sample Id: 627226-001 S — MSD Sample Id: 627226-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4.11	250	257	101	257	101	90-110	0	20	mg/kg	06.12.19 10:43	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3092435 — Matrix: Solid — Date Prep: 06.14.19
MB Sample Id: 7680003-1-BLK — LCS Sample Id: 7680003-1-BKS — LCSD Sample Id: 7680003-1-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)	14.8	1000	862	86	841	84	70-135	2	20	mg/kg	06.15.19 01:41	
Diesel Range Organics (DRO)	<8.13	1000	899	90	876	88	70-135	3	20	mg/kg	06.15.19 01:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		86		83		70-135	%	06.15.19 01:41
o-Terphenyl	92		99		94		70-135	%	06.15.19 01:41

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 627209

LT Environmental, Inc.

EMSU 254

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3092435 | Matrix: Soil | Date Prep: 06.14.19
Parent Sample Id: 627205-001 | MS Sample Id: 627205-001 S | MSD Sample Id: 627205-001 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)	14.8	1000	789	77	800	79	70-135	1	20	mg/kg	06.15.19 02:54	
Diesel Range Organics (DRO)	8.75	1000	828	82	845	84	70-135	2	20	mg/kg	06.15.19 02:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	73		77		70-135	%	06.15.19 02:54
o-Terphenyl	90		86		70-135	%	06.15.19 02:54

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3092736 | Matrix: Solid | Date Prep: 06.14.19
MB Sample Id: 7680039-1-BLK | LCS Sample Id: 7680039-1-BKS | LCSD Sample Id: 7680039-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0743	74	0.0838	84	70-130	12	35	mg/kg	06.18.19 05:06	
Toluene	<0.000455	0.0998	0.0765	77	0.0843	84	70-130	10	35	mg/kg	06.18.19 05:06	
Ethylbenzene	<0.000564	0.0998	0.0883	88	0.0964	96	70-130	9	35	mg/kg	06.18.19 05:06	
m,p-Xylenes	<0.00101	0.200	0.177	89	0.192	96	70-130	8	35	mg/kg	06.18.19 05:06	
o-Xylene	<0.00200	0.0998	0.0850	85	0.0924	92	70-130	8	35	mg/kg	06.18.19 05:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		95		96		70-130	%	06.18.19 05:06
4-Bromofluorobenzene	110		106		103		70-130	%	06.18.19 05:06

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3092736 | Matrix: Soil | Date Prep: 06.14.19
Parent Sample Id: 627205-007 | MS Sample Id: 627205-007 S | MSD Sample Id: 627205-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0813	80	0.0862	86	70-130	6	35	mg/kg	06.18.19 05:46	
Toluene	<0.00201	0.101	0.0826	82	0.0840	84	70-130	2	35	mg/kg	06.18.19 05:46	
Ethylbenzene	<0.00201	0.101	0.0942	93	0.0944	94	70-130	0	35	mg/kg	06.18.19 05:46	
m,p-Xylenes	<0.00102	0.201	0.189	94	0.188	94	70-130	1	35	mg/kg	06.18.19 05:46	
o-Xylene	<0.00201	0.101	0.0921	91	0.0911	91	70-130	1	35	mg/kg	06.18.19 05:46	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		98		70-130	%	06.18.19 05:46
4-Bromofluorobenzene	110		104		70-130	%	06.18.19 05:46

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: E27JC4

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)

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 Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	llaumbach@ltenv.com, dmoir@ltenv.com

Work Order Comments

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

Project Name:	EMSU 254	Turn Around	
Project Number:	12919067	Routine	X
P.O. Number:		Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.4/0.4	Thermometer ID	DE	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01	S	06/06/2019	13:10	0.5'	1	X	X	X
SS02	S	06/06/2019	13:20	0.5'	1	X	X	X
SS03	S	06/06/2019	13:30	0.5'	1	X	X	X

ANALYSIS REQUEST

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
1			06-07-19 1620			
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: 06/11/2019 11:20:00 AM

Work Order #: 627209

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**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)?	**N/A**
#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: Brianna Teel Date: 06/11/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 06/11/2019
Jessica Kramer

Analytical Report 640101

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254

012919107

21-OCT-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 (2017-142), North Carolina (681)

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-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)

21-OCT-19

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

Reference: XENCO Report No(s): **640101**
EMSU 254
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) 640101. 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. 640101 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 640101

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	10-14-19 12:36	1	640101-001
PH01A	S	10-14-19 13:00	5	640101-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: EMSU 254

Project ID: *012919107*
Work Order Number(s): *640101*

Report Date: *21-OCT-19*
Date Received: *10/15/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104855 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 640101

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

Project Id: 012919107
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Oct-15-19 04:49 pm
Report Date: 21-OCT-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	640101-001		640101-002					
	Field Id:	PH01		PH01A					
	Depth:	1-		5-					
	Matrix:	SOIL		SOIL					
	Sampled:	Oct-14-19 12:36		Oct-14-19 13:00					
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Oct-18-19 16:30		Oct-18-19 16:30					
	Analyzed:	** ** ** **		** ** ** **					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00201	0.00201				
Toluene		<0.00200	0.00200	<0.00201	0.00201				
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201				
m,p-Xylenes		<0.00401	0.00401	<0.00402	0.00402				
o-Xylene		<0.00200	0.00200	<0.00201	0.00201				
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201				
Total BTEX		<0.00200	0.00200	<0.00201	0.00201				
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Oct-17-19 14:15		Oct-17-19 14:15					
	Analyzed:	Oct-17-19 20:06		Oct-17-19 20:11					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		111	4.98	405	5.00				
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Oct-17-19 12:00		Oct-17-19 12:00					
	Analyzed:	Oct-17-19 17:28		Oct-17-19 18:06					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.8	49.8				
Diesel Range Organics (DRO)		<49.9	49.9	80.8	49.8				
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.8	49.8				
Total GRO-DRO		<49.9	49.9	80.8	49.8				
Total TPH		<49.9	49.9	80.8	49.8				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 640101

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.15.19 16.49
Lab Sample Id:	640101-001	Date Collected:	10.14.19 12.36	Sample Depth:	1

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.17.19 14.15	Basis:	Wet Weight
Seq Number:	3104674			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**111**	4.98	mg/kg	10.17.19 20.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.17.19 12.00	Basis:	Wet Weight
Seq Number:	3104730			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.17.19 17.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.17.19 17.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.17.19 17.28	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.17.19 17.28	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.17.19 17.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.17.19 17.28	
o-Terphenyl	84-15-1	102	%	70-135	10.17.19 17.28	

Certificate of Analytical Results 640101

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.15.19 16.49
Lab Sample Id:	640101-001	Date Collected:	10.14.19 12.36	Sample Depth:	1
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 16.30	Basis:	Wet Weight
Seq Number:	3104855			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.18.19 11.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.18.19 11.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.18.19 11.55	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.18.19 11.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.18.19 11.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.18.19 11.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.18.19 11.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	70-130	10.18.19 11.55	
1,4-Difluorobenzene	540-36-3	90	%	70-130	10.18.19 11.55	

Certificate of Analytical Results 640101

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	10.15.19 16.49
Lab Sample Id:	640101-002	Date Collected:	10.14.19 13.00	Sample Depth:	5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.17.19 14.15	Basis:	Wet Weight
Seq Number:	3104674			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**405**	5.00	mg/kg	10.17.19 20.11		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.17.19 12.00	Basis:	Wet Weight
Seq Number:	3104730			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.17.19 18.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	**80.8**	49.8	mg/kg	10.17.19 18.06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.17.19 18.06	U	1
Total GRO-DRO	PHC628	**80.8**	49.8	mg/kg	10.17.19 18.06		1
Total TPH	PHC635	**80.8**	49.8	mg/kg	10.17.19 18.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.17.19 18.06	
o-Terphenyl	84-15-1	95	%	70-135	10.17.19 18.06	

Certificate of Analytical Results 640101

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	10.15.19 16.49
Lab Sample Id:	640101-002	Date Collected:	10.14.19 13.00	Sample Depth:	5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 16.30	Basis:	Wet Weight
Seq Number:	3104855			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.18.19 11.35	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.18.19 11.35	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.18.19 11.35	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.18.19 11.35	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.18.19 11.35	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.18.19 11.35	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.18.19 11.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	91	%	70-130	10.18.19 11.35	
4-Bromofluorobenzene	460-00-4	90	%	70-130	10.18.19 11.35	

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 640101

LT Environmental, Inc.

EMSU 254

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104674 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688366-1-BLK — LCS Sample Id: 7688366-1-BKS — LCSD Sample Id: 7688366-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	266	106	265	106	90-110	0	20	mg/kg	10.17.19 19:36	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104674 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640098-011 — MS Sample Id: 640098-011 S — MSD Sample Id: 640098-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.4	250	258	99	261	100	90-110	1	20	mg/kg	10.17.19 19:51	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104674 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640269-006 — MS Sample Id: 640269-006 S — MSD Sample Id: 640269-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	298	250	533	94	535	95	90-110	0	20	mg/kg	10.17.19 21:01	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104730 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688340-1-BLK — LCS Sample Id: 7688340-1-BKS — LCSD Sample Id: 7688340-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1060	106	1190	119	70-135	12	20	mg/kg	10.17.19 13:06	
Diesel Range Organics (DRO)	<15.0	1000	945	95	1060	106	70-135	11	20	mg/kg	10.17.19 13:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	84		115		125		70-135	%	10.17.19 13:06
o-Terphenyl	85		101		107		70-135	%	10.17.19 13:06

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104730 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688340-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.17.19 12:47	

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 640101

LT Environmental, Inc.

EMSU 254

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104730 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640096-001 — MS Sample Id: 640096-001 S — MSD Sample Id: 640096-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	1160	116	1190	119	70-135	3	20	mg/kg	10.17.19 14:21	
Diesel Range Organics (DRO)	<15.0	998	1110	111	1120	112	70-135	1	20	mg/kg	10.17.19 14:21	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		129		70-135	%	10.17.19 14:21
o-Terphenyl	105		107		70-135	%	10.17.19 14:21

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104855 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688520-1-BLK — LCS Sample Id: 7688520-1-BKS — LCSD Sample Id: 7688520-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000730	0.100	0.0978	98	0.103	103	70-130	5	35	mg/kg	10.18.19 04:15	
Toluene	<0.00200	0.100	0.109	109	0.105	105	70-130	4	35	mg/kg	10.18.19 04:15	
Ethylbenzene	<0.00200	0.100	0.0997	100	0.104	104	70-130	4	35	mg/kg	10.18.19 04:15	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.204	102	70-130	3	35	mg/kg	10.18.19 04:15	
o-Xylene	<0.00200	0.100	0.101	101	0.106	106	70-130	5	35	mg/kg	10.18.19 04:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		88		93		70-130	%	10.18.19 04:15
4-Bromofluorobenzene	70		98		102		70-130	%	10.18.19 04:15

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104855 — Matrix: Soil — Date Prep: 10.18.19
Parent Sample Id: 640269-001 — MS Sample Id: 640269-001 S — MSD Sample Id: 640269-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0716	72	0.0727	73	70-130	2	35	mg/kg	10.18.19 04:55	
Toluene	<0.00199	0.0996	0.0797	80	0.0782	78	70-130	2	35	mg/kg	10.18.19 04:55	
Ethylbenzene	<0.00199	0.0996	0.0846	85	0.0813	81	70-130	4	35	mg/kg	10.18.19 04:55	
m,p-Xylenes	<0.00398	0.199	0.157	79	0.161	81	70-130	3	35	mg/kg	10.18.19 04:55	
o-Xylene	<0.00199	0.0996	0.0819	82	0.0871	87	70-130	6	35	mg/kg	10.18.19 04:55	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		92		70-130	%	10.18.19 04:55
4-Bromofluorobenzene	107		96		70-130	%	10.18.19 04:55

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: 640101

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)
www.xenco.com

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian Office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	fsmith@ltenv.com, dmoir@ltenv.com

Work Order Comments

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

Project Name:	EMSU 254	Turn Around	
Project Number:	012919107	Routine	☑
P.O. Number:	IRP-5567	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	2.0	Thermometer ID	T-NM-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	2

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH01	S	10/14/19	1236	1'	1	X	X	X
PH01A	S	10/14/19	1300	5'	1	X	X	X

ANALYSIS REQUEST

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			10/15/19 16:40	2			
3				4			
5				6			

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **50230**

Date/Time: 10/16/19 10:23
Created by: Elizabeth Mcclellan
Please send report to: Jessica Kramer

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.: 776737745954
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640101-001	S	PH01	10/14/19 12:36	SW8015MOD_NM	TPH by SW8015 Mod	10/21/19	10/28/19	JKR	GRO-DRO PHCC10C28 PH	
640101-001	S	PH01	10/14/19 12:36	SW8021B	BTEX by EPA 8021B	10/21/19	10/28/19	JKR	BR4FBZ BZ BZME EBZ X	
640101-001	S	PH01	10/14/19 12:36	E300_CL	Chloride by EPA 300	10/21/19	04/11/20	JKR	CL	
640101-002	S	PH01A	10/14/19 13:00	SW8021B	BTEX by EPA 8021B	10/21/19	10/28/19	JKR	BR4FBZ BZ BZME EBZ X	
640101-002	S	PH01A	10/14/19 13:00	E300_CL	Chloride by EPA 300	10/21/19	04/11/20	JKR	CL	
640101-002	S	PH01A	10/14/19 13:00	SW8015MOD_NM	TPH by SW8015 Mod	10/21/19	10/28/19	JKR	GRO-DRO PHCC10C28 PH	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/16/2019

Received By: Amanda Levario

Date Received: 10/17/2019 11:19

Cooler Temperature: 3.3

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 50230

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Elizabeth McClellan **Date Sent:** 10/16/2019 10:23 AM

Received By: Amanda Levario **Date Received:** 10/17/2019 11:19 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.3	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: _____ Date: 10/17/2019
Amanda Levario

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/15/2019 04:49:00 PM

Work Order #: 640101

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	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Subbed to Midland.
#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: 10/16/2019

Checklist reviewed by: Jessica Kramer Date: 10/17/2019

Jessica Kramer

Analytical Report 640103

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254

012919107

21-OCT-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 (2017-142), North Carolina (681)

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-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)

21-OCT-19

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

Reference: XENCO Report No(s): **640103**
EMSU 254
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) 640103. 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. 640103 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 640103

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	10-14-19 09:30	5 ft	640103-001
FS02	S	10-14-19 15:35	5 ft	640103-002
FS03	S	10-14-19 15:41	5 ft	640103-003
SW01	S	10-14-19 15:46	0 - 5 ft	640103-004
SW02	S	10-14-19 15:50	0 - 5 ft	640103-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 254

Project ID: *012919107*
Work Order Number(s): *640103*

Report Date: *21-OCT-19*
Date Received: *10/15/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104749 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3104855 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 640103

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

Project Id: 012919107
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Oct-15-19 04:40 pm
Report Date: 21-OCT-19
Project Manager: Jessica Kramer

Analysis Requested		Lab Id:	640103-001		640103-002		640103-003		640103-004		640103-005	
		Field Id:	FS01		FS02		FS03		SW01		SW02	
		Depth:	5- ft		5- ft		5- ft		0-5 ft		0-5 ft	
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
		Sampled:	Oct-14-19 09:30		Oct-14-19 15:35		Oct-14-19 15:41		Oct-14-19 15:46		Oct-14-19 15:50	
BTEX by EPA 8021B	Extracted:		Oct-17-19 17:00		Oct-17-19 17:00		Oct-17-19 17:00		Oct-18-19 16:30		Oct-18-19 16:30	
SUB: T104704400-19-19	Analyzed:		Oct-18-19 01:59		Oct-18-19 02:19		Oct-18-19 02:39		** ** ** **		** ** ** **	
	Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene			<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Toluene			<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene			<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes			<0.00402	0.00402	<0.00398	0.00398	<0.00399	0.00399	<0.00402	0.00402	<0.00401	0.00401
o-Xylene			<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Total Xylenes			<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Total BTEX			<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Chloride by EPA 300	Extracted:		Oct-17-19 14:15		Oct-17-19 12:40		Oct-17-19 12:40		Oct-17-19 12:40		Oct-17-19 13:45	
SUB: T104704400-19-19	Analyzed:		Oct-17-19 20:16		Oct-17-19 19:06		Oct-17-19 19:11		Oct-17-19 19:16		Oct-17-19 17:12	
	Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride			827	5.05	633	5.05	801	4.98	19.3	4.99	323	4.96
TPH by SW8015 Mod	Extracted:		Oct-17-19 14:00		Oct-17-19 14:00		Oct-17-19 14:00		Oct-17-19 14:00		Oct-17-19 14:00	
SUB: T104704400-19-19	Analyzed:		Oct-18-19 05:39		Oct-18-19 06:00		Oct-18-19 06:21		Oct-18-19 08:49		Oct-18-19 07:03	
	Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)			<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0
Diesel Range Organics (DRO)			<49.9	49.9	267	50.0	58.2	49.9	108	50.0	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)			<49.9	49.9	56.4	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0
Total GRO-DRO			<49.9	49.9	267	50.0	58.2	49.9	108	50.0	<50.0	50.0
Total TPH			<49.9	49.9	323	50.0	58.2	49.9	108	50.0	<50.0	50.0

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant

Certificate of Analytical Results 640103

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	10.15.19 16.40
Lab Sample Id:	640103-001	Date Collected:	10.14.19 09.30	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.17.19 14.15	Basis:	Wet Weight
Seq Number:	3104674			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**827**	5.05	mg/kg	10.17.19 20.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.17.19 14.00	Basis:	Wet Weight
Seq Number:	3104736			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.18.19 05.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.18.19 05.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.18.19 05.39	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.18.19 05.39	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.18.19 05.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	10.18.19 05.39	
o-Terphenyl	84-15-1	114	%	70-135	10.18.19 05.39	

Certificate of Analytical Results 640103

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	10.15.19 16.40
Lab Sample Id:	640103-001	Date Collected:	10.14.19 09.30	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.17.19 17.00	Basis:	Wet Weight
Seq Number:	3104749			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.18.19 01.59	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.18.19 01.59	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.18.19 01.59	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.18.19 01.59	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.18.19 01.59	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.18.19 01.59	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.18.19 01.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	91	%	70-130	10.18.19 01.59	
4-Bromofluorobenzene	460-00-4	92	%	70-130	10.18.19 01.59	

Certificate of Analytical Results 640103

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	10.15.19 16.40
Lab Sample Id:	640103-002	Date Collected:	10.14.19 15.35	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.17.19 12.40	Basis:	Wet Weight
Seq Number:	3104667			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**633**	5.05	mg/kg	10.17.19 19.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.17.19 14.00	Basis:	Wet Weight
Seq Number:	3104736			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.18.19 06.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	**267**	50.0	mg/kg	10.18.19 06.00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**56.4**	50.0	mg/kg	10.18.19 06.00		1
Total GRO-DRO	PHC628	**267**	50.0	mg/kg	10.18.19 06.00		1
Total TPH	PHC635	**323**	50.0	mg/kg	10.18.19 06.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	10.18.19 06.00	
o-Terphenyl	84-15-1	113	%	70-135	10.18.19 06.00	

Certificate of Analytical Results 640103

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	10.15.19 16.40
Lab Sample Id:	640103-002	Date Collected:	10.14.19 15.35	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.17.19 17.00	Basis:	Wet Weight
Seq Number:	3104749			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.18.19 02.19	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.18.19 02.19	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.18.19 02.19	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.18.19 02.19	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.18.19 02.19	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.18.19 02.19	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.18.19 02.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	10.18.19 02.19	
1,4-Difluorobenzene	540-36-3	92	%	70-130	10.18.19 02.19	

Certificate of Analytical Results 640103

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	10.15.19 16.40
Lab Sample Id:	640103-003	Date Collected:	10.14.19 15.41	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.17.19 12.40	Basis:	Wet Weight
Seq Number:	3104667			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**801**	4.98	mg/kg	10.17.19 19.11		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.17.19 14.00	Basis:	Wet Weight
Seq Number:	3104736			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.18.19 06.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	**58.2**	49.9	mg/kg	10.18.19 06.21		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.18.19 06.21	U	1
Total GRO-DRO	PHC628	**58.2**	49.9	mg/kg	10.18.19 06.21		1
Total TPH	PHC635	**58.2**	49.9	mg/kg	10.18.19 06.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	10.18.19 06.21	
o-Terphenyl	84-15-1	108	%	70-135	10.18.19 06.21	

Certificate of Analytical Results 640103

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	10.15.19 16.40
Lab Sample Id:	640103-003	Date Collected:	10.14.19 15.41	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.17.19 17.00	Basis:	Wet Weight
Seq Number:	3104749			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.18.19 02.39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.18.19 02.39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.18.19 02.39	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.18.19 02.39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.18.19 02.39	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.18.19 02.39	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.18.19 02.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	10.18.19 02.39	
4-Bromofluorobenzene	460-00-4	91	%	70-130	10.18.19 02.39	

Certificate of Analytical Results 640103

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	10.15.19 16.40
Lab Sample Id:	640103-004	Date Collected:	10.14.19 15.46	Sample Depth:	0 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.17.19 12.40	Basis:	Wet Weight
Seq Number:	3104667			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.3**	4.99	mg/kg	10.17.19 19.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.17.19 14.00	Basis:	Wet Weight
Seq Number:	3104736			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.18.19 08.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	**108**	50.0	mg/kg	10.18.19 08.49		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.18.19 08.49	U	1
Total GRO-DRO	PHC628	**108**	50.0	mg/kg	10.18.19 08.49		1
Total TPH	PHC635	**108**	50.0	mg/kg	10.18.19 08.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	10.18.19 08.49	
o-Terphenyl	84-15-1	98	%	70-135	10.18.19 08.49	

Certificate of Analytical Results 640103

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	10.15.19 16.40
Lab Sample Id:	640103-004	Date Collected:	10.14.19 15.46	Sample Depth:	0 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 16.30	Basis:	Wet Weight
Seq Number:	3104855			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.18.19 07.35	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.18.19 07.35	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.18.19 07.35	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.18.19 07.35	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.18.19 07.35	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.18.19 07.35	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.18.19 07.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	10.18.19 07.35	
1,4-Difluorobenzene	540-36-3	96	%	70-130	10.18.19 07.35	

Certificate of Analytical Results 640103

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	10.15.19 16.40
Lab Sample Id:	640103-005	Date Collected:	10.14.19 15.50	Sample Depth:	0 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.17.19 13.45	Basis:	Wet Weight
Seq Number:	3104670			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**323**	4.96	mg/kg	10.17.19 17.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.17.19 14.00	Basis:	Wet Weight
Seq Number:	3104736			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.18.19 07.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.18.19 07.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.18.19 07.03	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.18.19 07.03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.18.19 07.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	10.18.19 07.03	
o-Terphenyl	84-15-1	114	%	70-135	10.18.19 07.03	

Certificate of Analytical Results 640103

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	10.15.19 16.40
Lab Sample Id:	640103-005	Date Collected:	10.14.19 15.50	Sample Depth:	0 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 16.30	Basis:	Wet Weight
Seq Number:	3104855			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.18.19 07.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.18.19 07.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.18.19 07.55	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.18.19 07.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.18.19 07.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.18.19 07.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.18.19 07.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	91	%	70-130	10.18.19 07.55	
4-Bromofluorobenzene	460-00-4	88	%	70-130	10.18.19 07.55	

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 640103

LT Environmental, Inc.

EMSU 254

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104667 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688334-1-BLK — LCS Sample Id: 7688334-1-BKS — LCSD Sample Id: 7688334-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	260	104	258	103	90-110	1	20	mg/kg	10.17.19 16:51	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104670 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688364-1-BLK — LCS Sample Id: 7688364-1-BKS — LCSD Sample Id: 7688364-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	255	102	254	102	90-110	0	20	mg/kg	10.17.19 15:24	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104674 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688366-1-BLK — LCS Sample Id: 7688366-1-BKS — LCSD Sample Id: 7688366-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	266	106	265	106	90-110	0	20	mg/kg	10.17.19 19:36	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104667 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640134-008 — MS Sample Id: 640134-008 S — MSD Sample Id: 640134-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.850	248	244	98	249	100	90-110	2	20	mg/kg	10.17.19 17:06	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104667 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640134-020 — MS Sample Id: 640134-020 S — MSD Sample Id: 640134-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.43	251	256	101	257	102	90-110	0	20	mg/kg	10.17.19 18:16	

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 640103

LT Environmental, Inc.

EMSU 254

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104670 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 639881-001 — MS Sample Id: 639881-001 S — MSD Sample Id: 639881-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.12	252	262	101	258	99	90-110	2	20	mg/kg	10.17.19 15:47	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104670 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640104-002 — MS Sample Id: 640104-002 S — MSD Sample Id: 640104-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	528	250	759	92	734	82	90-110	3	20	mg/kg	10.17.19 17:36	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104674 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640098-011 — MS Sample Id: 640098-011 S — MSD Sample Id: 640098-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.4	250	258	99	261	100	90-110	1	20	mg/kg	10.17.19 19:51	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104674 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640269-006 — MS Sample Id: 640269-006 S — MSD Sample Id: 640269-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	298	250	533	94	535	95	90-110	0	20	mg/kg	10.17.19 21:01	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104736 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688387-1-BLK — LCS Sample Id: 7688387-1-BKS — LCSD Sample Id: 7688387-1-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	1180	118	1170	117	70-135	1	20	mg/kg	10.17.19 22:41	
Diesel Range Organics (DRO)	<15.0	1000	1130	113	1090	109	70-135	4	20	mg/kg	10.17.19 22:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		114		111		70-135	%	10.17.19 22:41
o-Terphenyl	99		105		105		70-135	%	10.17.19 22:41

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 640103

LT Environmental, Inc.

EMSU 254

Analytical Method: TPH by SW8015 Mod
Seq Number: 3104736
Matrix: Solid
MB Sample Id: 7688387-1-BLK
Prep Method: SW8015P
Date Prep: 10.17.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.17.19 22:20	

Analytical Method: TPH by SW8015 Mod
Seq Number: 3104736
Parent Sample Id: 640098-001
Matrix: Soil
MS Sample Id: 640098-001 S
MSD Sample Id: 640098-001 SD
Prep Method: SW8015P
Date Prep: 10.17.19

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	1460	146	1430	143	70-135	2	20	mg/kg	10.17.19 23:44	X
Diesel Range Organics (DRO)	<15.0	999	1400	140	1410	141	70-135	1	20	mg/kg	10.17.19 23:44	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		125		70-135	%	10.17.19 23:44
o-Terphenyl	122		122		70-135	%	10.17.19 23:44

Analytical Method: BTEX by EPA 8021B
Seq Number: 3104749
MB Sample Id: 7688437-1-BLK
Matrix: Solid
LCS Sample Id: 7688437-1-BKS
LCSD Sample Id: 7688437-1-BSD
Prep Method: SW5035A
Date Prep: 10.17.19

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0801	80	0.0872	87	70-130	8	35	mg/kg	10.17.19 05:18	
Toluene	<0.00200	0.100	0.0907	91	0.0976	98	70-130	7	35	mg/kg	10.17.19 05:18	
Ethylbenzene	<0.00200	0.100	0.0923	92	0.101	101	70-130	9	35	mg/kg	10.17.19 05:18	
m,p-Xylenes	<0.00400	0.200	0.185	93	0.201	101	70-130	8	35	mg/kg	10.17.19 05:18	
o-Xylene	<0.00200	0.100	0.0978	98	0.106	106	70-130	8	35	mg/kg	10.17.19 05:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		91		95		70-130	%	10.17.19 05:18
4-Bromofluorobenzene	84		99		103		70-130	%	10.17.19 05:18

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 640103

LT Environmental, Inc.

EMSU 254

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104855 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688520-1-BLK — LCS Sample Id: 7688520-1-BKS — LCSD Sample Id: 7688520-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000730	0.100	0.0978	98	0.103	103	70-130	5	35	mg/kg	10.18.19 04:15	
Toluene	<0.00200	0.100	0.109	109	0.105	105	70-130	4	35	mg/kg	10.18.19 04:15	
Ethylbenzene	<0.00200	0.100	0.0997	100	0.104	104	70-130	4	35	mg/kg	10.18.19 04:15	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.204	102	70-130	3	35	mg/kg	10.18.19 04:15	
o-Xylene	<0.00200	0.100	0.101	101	0.106	106	70-130	5	35	mg/kg	10.18.19 04:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		88		93		70-130	%	10.18.19 04:15
4-Bromofluorobenzene	70		98		102		70-130	%	10.18.19 04:15

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3104749 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640337-001 — MS Sample Id: 640337-001 S — MSD Sample Id: 640337-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00208	0.104	0.0733	70	0.0804	78	70-130	9	35	mg/kg	10.17.19 05:58	
Toluene	<0.00208	0.104	0.0891	86	0.0904	88	70-130	1	35	mg/kg	10.17.19 05:58	
Ethylbenzene	<0.00208	0.104	0.0956	92	0.0932	90	70-130	3	35	mg/kg	10.17.19 05:58	
m,p-Xylenes	<0.00417	0.208	0.191	92	0.188	91	70-130	2	35	mg/kg	10.17.19 05:58	
o-Xylene	<0.00208	0.104	0.101	97	0.0977	95	70-130	3	35	mg/kg	10.17.19 05:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		92		70-130	%	10.17.19 05:58
4-Bromofluorobenzene	100		104		70-130	%	10.17.19 05:58

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104855 — Matrix: Soil — Date Prep: 10.18.19
Parent Sample Id: 640269-001 — MS Sample Id: 640269-001 S — MSD Sample Id: 640269-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0716	72	0.0727	73	70-130	2	35	mg/kg	10.18.19 04:55	
Toluene	<0.00199	0.0996	0.0797	80	0.0782	78	70-130	2	35	mg/kg	10.18.19 04:55	
Ethylbenzene	<0.00199	0.0996	0.0846	85	0.0813	81	70-130	4	35	mg/kg	10.18.19 04:55	
m,p-Xylenes	<0.00398	0.199	0.157	79	0.161	81	70-130	3	35	mg/kg	10.18.19 04:55	
o-Xylene	<0.00199	0.0996	0.0819	82	0.0871	87	70-130	6	35	mg/kg	10.18.19 04:55	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		92		70-130	%	10.18.19 04:55
4-Bromofluorobenzene	107		96		70-130	%	10.18.19 04:55

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: 641D103

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)
www.xenco.com

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian Office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	fsmith@ltenv.com, dmoir@ltenv.com

Work Order Comments

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

Project Name:	EMSU 254	Turn Around	
Project Number:	012919107	Routine	☑
P.O. Number:	IRP-5567	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	2.0	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:	5

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS01	S	10/14/19	0930	5'	1	X	X	X
FS02	S	10/14/19	1535	5'	1	X	X	X
FS03	S	10/14/19	1541	5'	1	X	X	X
SW01	S	10/14/19	1546	0-5'	1	X	X	X
SW02	S	10/14/19	1550	0-5'	1	X	X	X

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
1			10/15/19 16:40	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **50231**

Date/Time: 10/16/19 10:31
Created by: Elizabeth Mcclellan
Please send report to: Jessica Kramer

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.: 776737745954
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640103-001	S	FS01	10/14/19 09:30	SW8015MOD_NM	TPH by SW8015 Mod	10/21/19	10/28/19	JKR	GRO-DRO PHCC10C28 PH	
640103-001	S	FS01	10/14/19 09:30	E300_CL	Chloride by EPA 300	10/21/19	04/11/20	JKR	CL	
640103-001	S	FS01	10/14/19 09:30	SW8021B	BTEX by EPA 8021B	10/21/19	10/28/19	JKR	BR4FBZ BZ BZME EBZ X	
640103-002	S	FS02	10/14/19 15:35	SW8021B	BTEX by EPA 8021B	10/21/19	10/28/19	JKR	BR4FBZ BZ BZME EBZ X	
640103-002	S	FS02	10/14/19 15:35	SW8015MOD_NM	TPH by SW8015 Mod	10/21/19	10/28/19	JKR	GRO-DRO PHCC10C28 PH	
640103-002	S	FS02	10/14/19 15:35	E300_CL	Chloride by EPA 300	10/21/19	04/11/20	JKR	CL	
640103-003	S	FS03	10/14/19 15:41	SW8015MOD_NM	TPH by SW8015 Mod	10/21/19	10/28/19	JKR	GRO-DRO PHCC10C28 PH	
640103-003	S	FS03	10/14/19 15:41	SW8021B	BTEX by EPA 8021B	10/21/19	10/28/19	JKR	BR4FBZ BZ BZME EBZ X	
640103-003	S	FS03	10/14/19 15:41	E300_CL	Chloride by EPA 300	10/21/19	04/11/20	JKR	CL	
640103-004	S	SW01	10/14/19 15:46	SW8015MOD_NM	TPH by SW8015 Mod	10/21/19	10/28/19	JKR	GRO-DRO PHCC10C28 PH	
640103-004	S	SW01	10/14/19 15:46	E300_CL	Chloride by EPA 300	10/21/19	04/11/20	JKR	CL	
640103-004	S	SW01	10/14/19 15:46	SW8021B	BTEX by EPA 8021B	10/21/19	10/28/19	JKR	BR4FBZ BZ BZME EBZ X	
640103-005	S	SW02	10/14/19 15:50	SW8021B	BTEX by EPA 8021B	10/21/19	10/28/19	JKR	BR4FBZ BZ BZME EBZ X	
640103-005	S	SW02	10/14/19 15:50	SW8015MOD_NM	TPH by SW8015 Mod	10/21/19	10/28/19	JKR	GRO-DRO PHCC10C28 PH	
640103-005	S	SW02	10/14/19 15:50	E300_CL	Chloride by EPA 300	10/21/19	04/11/20	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/16/2019

Received By: Amanda Levario

Date Received: 10/17/2019 11:19

Cooler Temperature: 3.3

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 50231

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Elizabeth McClellan **Date Sent:** 10/16/2019 10:31 AM

Received By: Amanda Levario **Date Received:** 10/17/2019 11:19 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.3	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: _____ Date: 10/17/2019
Amanda Levario

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/15/2019 04:40:00 PM

Work Order #: 640103

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	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Subbed to Midland.
#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: 10/16/2019

Checklist reviewed by: Jessica Kramer Date: 10/17/2019

Analytical Report 640249

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254

012919107

21-OCT-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 (2017-142), North Carolina (681)

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-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)

21-OCT-19

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

Reference: XENCO Report No(s): **640249**
EMSU 254
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) 640249. 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. 640249 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH02	S	10-16-19 12:48	1 ft	640249-001
PH02A	S	10-16-19 13:02	6 ft	640249-002
PH03	S	10-16-19 13:14	1 ft	640249-003
PH03A	S	10-16-19 13:27	6 ft	640249-004
BH01	S	10-16-19 13:40	1 ft	640249-005
BH01A	S	10-16-19 14:11	6 ft	640249-006
BH02	S	10-16-19 14:23	1 ft	640249-007
BH02A	S	10-16-19 14:45	6 ft	640249-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 254

Project ID: *012919107*
Work Order Number(s): *640249*

Report Date: *21-OCT-19*
Date Received: *10/17/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104843 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 640249

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

Project Id: 012919107
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu Oct-17-19 08:30 am
Report Date: 21-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	640249-001		640249-002		640249-003		640249-004		640249-005		640249-006	
	Field Id:	PH02		PH02A		PH03		PH03A		BH01		BH01A	
	Depth:	1- ft		6- ft		1- ft		6- ft		1- ft		6- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-16-19 12:48		Oct-16-19 13:02		Oct-16-19 13:14		Oct-16-19 13:27		Oct-16-19 13:40		Oct-16-19 14:11	
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Oct-18-19 09:00		Oct-18-19 09:00		Oct-18-19 09:00		Oct-18-19 09:00		Oct-18-19 09:00		Oct-18-19 09:00	
	Analyzed:	Oct-18-19 14:08		Oct-18-19 14:28		Oct-18-19 14:48		Oct-18-19 15:09		Oct-18-19 15:29		Oct-18-19 16:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00401	0.00401	<0.00402	0.00402	<0.00397	0.00397	<0.00398	0.00398	<0.00399	0.00399	<0.00401	0.00401
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Oct-18-19 11:10		Oct-18-19 11:10		Oct-18-19 11:10		Oct-18-19 11:10		Oct-18-19 11:10		Oct-18-19 11:10	
	Analyzed:	Oct-18-19 12:05		Oct-18-19 12:21		Oct-18-19 12:26		Oct-18-19 12:32		Oct-18-19 12:37		Oct-18-19 12:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8.32	5.00	335	4.97	5.00	4.99	11.1	4.98	71.3	4.97	139	5.01
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Oct-18-19 13:00		Oct-18-19 13:00		Oct-18-19 13:00		Oct-18-19 13:00		Oct-18-19 13:00		Oct-18-19 13:00	
	Analyzed:	Oct-18-19 23:12		Oct-19-19 00:16		Oct-19-19 00:37		Oct-19-19 00:59		Oct-19-19 07:39		Oct-19-19 08:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0	81.2	49.9	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9
Total GRO-DRO		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0	81.2	49.9	<49.9	49.9
Total TPH		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0	81.2	49.9	<49.9	49.9

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 640249

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

Project Id: 012919107
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu Oct-17-19 08:30 am
Report Date: 21-OCT-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	640249-007		640249-008					
	Field Id:	BH02		BH02A					
	Depth:	1- ft		6- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Oct-16-19 14:23		Oct-16-19 14:45					
BTEX by EPA 8021B	***Extracted:***	Oct-18-19 09:00		Oct-18-19 09:00					
SUB: T104704400-19-19	***Analyzed:***	Oct-18-19 17:07		Oct-18-19 17:27					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00198	0.00198				
Toluene		<0.00199	0.00199	<0.00198	0.00198				
Ethylbenzene		<0.00199	0.00199	<0.00198	0.00198				
m,p-Xylenes		<0.00398	0.00398	<0.00397	0.00397				
o-Xylene		<0.00199	0.00199	<0.00198	0.00198				
Total Xylenes		<0.00199	0.00199	<0.00198	0.00198				
Total BTEX		<0.00199	0.00199	<0.00198	0.00198				
Chloride by EPA 300	***Extracted:***	Oct-18-19 11:10		Oct-18-19 11:10					
SUB: T104704400-19-19	***Analyzed:***	Oct-18-19 12:48		Oct-18-19 13:04					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		391	4.95	128	5.04				
TPH by SW8015 Mod	***Extracted:***	Oct-18-19 13:00		Oct-18-19 13:00					
SUB: T104704400-19-19	***Analyzed:***	Oct-19-19 08:21		Oct-19-19 08:43					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.8	49.8				
Diesel Range Organics (DRO)		<49.9	49.9	<49.8	49.8				
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.8	49.8				
Total GRO-DRO		<49.9	49.9	<49.8	49.8				
Total TPH		<49.9	49.9	<49.8	49.8				

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-001	Date Collected:	10.16.19 12.48	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.32**	5.00	mg/kg	10.18.19 12.05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.18.19 23.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.18.19 23.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.18.19 23.12	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.18.19 23.12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.18.19 23.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	10.18.19 23.12	
o-Terphenyl	84-15-1	120	%	70-135	10.18.19 23.12	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-001	Date Collected:	10.16.19 12.48	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.18.19 14.08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.18.19 14.08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.18.19 14.08	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.18.19 14.08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.18.19 14.08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.18.19 14.08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.18.19 14.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	70-130	10.18.19 14.08	
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.18.19 14.08	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-002	Date Collected:	10.16.19 13.02	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**335**	4.97	mg/kg	10.18.19 12.21		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.19.19 00.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.19.19 00.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.19.19 00.16	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.19.19 00.16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.19.19 00.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.19.19 00.16	
o-Terphenyl	84-15-1	111	%	70-135	10.19.19 00.16	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-002	Date Collected:	10.16.19 13.02	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.18.19 14.28	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.18.19 14.28	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.18.19 14.28	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.18.19 14.28	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.18.19 14.28	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.18.19 14.28	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.18.19 14.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.18.19 14.28	
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.18.19 14.28	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-003	Date Collected:	10.16.19 13.14	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.00**	4.99	mg/kg	10.18.19 12.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.19.19 00.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.19.19 00.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.19.19 00.37	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.19.19 00.37	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.19.19 00.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	10.19.19 00.37	
o-Terphenyl	84-15-1	120	%	70-135	10.19.19 00.37	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-003	Date Collected:	10.16.19 13.14	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.18.19 14.48	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.18.19 14.48	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.18.19 14.48	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.18.19 14.48	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.18.19 14.48	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.18.19 14.48	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.18.19 14.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	10.18.19 14.48	
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.18.19 14.48	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-004	Date Collected:	10.16.19 13.27	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.1**	4.98	mg/kg	10.18.19 12.32		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.19.19 00.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.19.19 00.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.19.19 00.59	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.19.19 00.59	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.19.19 00.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.19.19 00.59	
o-Terphenyl	84-15-1	109	%	70-135	10.19.19 00.59	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-004	Date Collected:	10.16.19 13.27	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.18.19 15.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.18.19 15.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.18.19 15.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.18.19 15.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.18.19 15.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.18.19 15.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.18.19 15.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	90	%	70-130	10.18.19 15.09	
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.18.19 15.09	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-005	Date Collected:	10.16.19 13.40	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**71.3**	4.97	mg/kg	10.18.19 12.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.19.19 07.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	**81.2**	49.9	mg/kg	10.19.19 07.39		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.19.19 07.39	U	1
Total GRO-DRO	PHC628	**81.2**	49.9	mg/kg	10.19.19 07.39		1
Total TPH	PHC635	**81.2**	49.9	mg/kg	10.19.19 07.39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.19.19 07.39	
o-Terphenyl	84-15-1	100	%	70-135	10.19.19 07.39	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-005	Date Collected:	10.16.19 13.40	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.18.19 15.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.18.19 15.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.18.19 15.29	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.18.19 15.29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.18.19 15.29	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.18.19 15.29	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.18.19 15.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	10.18.19 15.29	
1,4-Difluorobenzene	540-36-3	70	%	70-130	10.18.19 15.29	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-006	Date Collected:	10.16.19 14.11	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**139**	5.01	mg/kg	10.18.19 12.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.19.19 08.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.19.19 08.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.19.19 08.00	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.19.19 08.00	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.19.19 08.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.19.19 08.00	
o-Terphenyl	84-15-1	110	%	70-135	10.19.19 08.00	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-006	Date Collected:	10.16.19 14.11	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.18.19 16.47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.18.19 16.47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.18.19 16.47	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.18.19 16.47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.18.19 16.47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.18.19 16.47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.18.19 16.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	10.18.19 16.47	
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.18.19 16.47	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-007	Date Collected:	10.16.19 14.23	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**391**	4.95	mg/kg	10.18.19 12.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.19.19 08.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.19.19 08.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.19.19 08.21	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.19.19 08.21	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.19.19 08.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.19.19 08.21	
o-Terphenyl	84-15-1	110	%	70-135	10.19.19 08.21	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-007	Date Collected:	10.16.19 14.23	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.18.19 17.07	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.18.19 17.07	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.18.19 17.07	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.18.19 17.07	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.18.19 17.07	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.18.19 17.07	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.18.19 17.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.18.19 17.07	
4-Bromofluorobenzene	460-00-4	101	%	70-130	10.18.19 17.07	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-008	Date Collected:	10.16.19 14.45	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**128**	5.04	mg/kg	10.18.19 13.04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.19.19 08.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.19.19 08.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.19.19 08.43	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.19.19 08.43	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.19.19 08.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.19.19 08.43	
o-Terphenyl	84-15-1	112	%	70-135	10.19.19 08.43	

Certificate of Analytical Results 640249

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640249-008	Date Collected:	10.16.19 14.45	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.18.19 17.27	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.18.19 17.27	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.18.19 17.27	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.18.19 17.27	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.18.19 17.27	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.18.19 17.27	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.18.19 17.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	10.18.19 17.27	
1,4-Difluorobenzene	540-36-3	90	%	70-130	10.18.19 17.27	

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 640249

LT Environmental, Inc.

EMSU 254

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104768 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688420-1-BLK — LCS Sample Id: 7688420-1-BKS — LCSD Sample Id: 7688420-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	254	102	252	101	90-110	1	20	mg/kg	10.18.19 11:22	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104768 — Matrix: Soil — Date Prep: 10.18.19
Parent Sample Id: 640249-007 — MS Sample Id: 640249-007 S — MSD Sample Id: 640249-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	391	248	636	99	622	93	90-110	2	20	mg/kg	10.18.19 12:53	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104768 — Matrix: Soil — Date Prep: 10.18.19
Parent Sample Id: 640251-001 — MS Sample Id: 640251-001 S — MSD Sample Id: 640251-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.0	249	272	96	271	96	90-110	0	20	mg/kg	10.18.19 11:38	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104820 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688450-1-BLK — LCS Sample Id: 7688450-1-BKS — LCSD Sample Id: 7688450-1-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	1050	105	1010	101	70-135	4	20	mg/kg	10.18.19 22:29	
Diesel Range Organics (DRO)	<15.0	1000	1070	107	1030	103	70-135	4	20	mg/kg	10.18.19 22:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		109		104		70-135	%	10.18.19 22:29
o-Terphenyl	107		109		110		70-135	%	10.18.19 22:29

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104820 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688450-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.18.19 22:08	

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 640249

LT Environmental, Inc.

EMSU 254

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104820 — Matrix: Soil — Date Prep: 10.18.19
Parent Sample Id: 640249-001 — MS Sample Id: 640249-001 S — MSD Sample Id: 640249-001 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)	24.2	997	1100	108	1100	108	70-135	0	20	mg/kg	10.18.19 23:33	
Diesel Range Organics (DRO)	<15.0	997	1170	117	1140	114	70-135	3	20	mg/kg	10.18.19 23:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		110		70-135	%	10.18.19 23:33
o-Terphenyl	119		113		70-135	%	10.18.19 23:33

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104843 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688505-1-BLK — LCS Sample Id: 7688505-1-BKS — LCSD Sample Id: 7688505-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0884	88	0.0886	89	70-130	0	35	mg/kg	10.18.19 10:28	
Toluene	<0.00200	0.100	0.0909	91	0.0912	91	70-130	0	35	mg/kg	10.18.19 10:28	
Ethylbenzene	<0.00200	0.100	0.0998	100	0.100	100	70-130	0	35	mg/kg	10.18.19 10:28	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.198	99	70-130	1	35	mg/kg	10.18.19 10:28	
o-Xylene	<0.00200	0.100	0.105	105	0.107	107	70-130	2	35	mg/kg	10.18.19 10:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		90		91		70-130	%	10.18.19 10:28
4-Bromofluorobenzene	99		118		118		70-130	%	10.18.19 10:28

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104843 — Matrix: Soil — Date Prep: 10.18.19
Parent Sample Id: 640162-001 — MS Sample Id: 640162-001 S — MSD Sample Id: 640162-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0757	76	0.0618	62	70-130	20	35	mg/kg	10.18.19 11:08	X
Toluene	<0.00199	0.0996	0.0778	78	0.0636	64	70-130	20	35	mg/kg	10.18.19 11:08	X
Ethylbenzene	<0.00199	0.0996	0.0861	86	0.0702	70	70-130	20	35	mg/kg	10.18.19 11:08	
m,p-Xylenes	<0.00398	0.199	0.169	85	0.139	70	70-130	19	35	mg/kg	10.18.19 11:08	
o-Xylene	<0.00199	0.0996	0.0911	91	0.0757	76	70-130	18	35	mg/kg	10.18.19 11:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		91		70-130	%	10.18.19 11:08
4-Bromofluorobenzene	119		115		70-130	%	10.18.19 11:08

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: 640249

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)

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 Energy
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	fsmith@ltenv.com, dmoir@ltenv.com

Work Order Comments

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

Project Name:	EMSU 254	Turn Around	
Project Number:	012919107	Routine	☑
P.O. Number:	IRP-5567	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	2.0	Thermometer ID	TNM007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH02	S	10/16/19	1248	1'	1	X	X	X
PH02A			1302	6'				
PH03			1314	1'				
PH03A			1327	6'				
BH01			1340	1'				
BH01A			1411	6'				
BH02			1423	1'				
BH02A			1445	6'				

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
1		Anna Byers	10/17/19 0800	2 Anna Byers		10/17/19 0830
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **50320**

Date/Time: 10/17/19 10:15
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776749013368

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640249-001	S	PH02	10/16/19 12:48	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/30/19	JKR	GRO-DRO PHCC10C28 PI	
640249-001	S	PH02	10/16/19 12:48	E300_CL	Chloride by EPA 300	10/18/19	04/13/20	JKR	CL	
640249-001	S	PH02	10/16/19 12:48	SW8021B	BTEX by EPA 8021B	10/18/19	10/30/19	JKR	BR4FBZ BZ BZME EBZ X	
640249-002	S	PH02A	10/16/19 13:02	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/30/19	JKR	GRO-DRO PHCC10C28 PI	
640249-002	S	PH02A	10/16/19 13:02	SW8021B	BTEX by EPA 8021B	10/18/19	10/30/19	JKR	BR4FBZ BZ BZME EBZ X	
640249-002	S	PH02A	10/16/19 13:02	E300_CL	Chloride by EPA 300	10/18/19	04/13/20	JKR	CL	
640249-003	S	PH03	10/16/19 13:14	SW8021B	BTEX by EPA 8021B	10/18/19	10/30/19	JKR	BR4FBZ BZ BZME EBZ X	
640249-003	S	PH03	10/16/19 13:14	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/30/19	JKR	GRO-DRO PHCC10C28 PI	
640249-003	S	PH03	10/16/19 13:14	E300_CL	Chloride by EPA 300	10/18/19	04/13/20	JKR	CL	
640249-004	S	PH03A	10/16/19 13:27	SW8021B	BTEX by EPA 8021B	10/18/19	10/30/19	JKR	BR4FBZ BZ BZME EBZ X	
640249-004	S	PH03A	10/16/19 13:27	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/30/19	JKR	GRO-DRO PHCC10C28 PI	
640249-004	S	PH03A	10/16/19 13:27	E300_CL	Chloride by EPA 300	10/18/19	04/13/20	JKR	CL	
640249-005	S	BH01	10/16/19 13:40	SW8021B	BTEX by EPA 8021B	10/18/19	10/30/19	JKR	BR4FBZ BZ BZME EBZ X	
640249-005	S	BH01	10/16/19 13:40	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/30/19	JKR	GRO-DRO PHCC10C28 PI	
640249-005	S	BH01	10/16/19 13:40	E300_CL	Chloride by EPA 300	10/18/19	04/13/20	JKR	CL	
640249-006	S	BH01A	10/16/19 14:11	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/30/19	JKR	GRO-DRO PHCC10C28 PI	
640249-006	S	BH01A	10/16/19 14:11	SW8021B	BTEX by EPA 8021B	10/18/19	10/30/19	JKR	BR4FBZ BZ BZME EBZ X	
640249-006	S	BH01A	10/16/19 14:11	E300_CL	Chloride by EPA 300	10/18/19	04/13/20	JKR	CL	
640249-007	S	BH02	10/16/19 14:23	E300_CL	Chloride by EPA 300	10/18/19	04/13/20	JKR	CL	
640249-007	S	BH02	10/16/19 14:23	SW8021B	BTEX by EPA 8021B	10/18/19	10/30/19	JKR	BR4FBZ BZ BZME EBZ X	
640249-007	S	BH02	10/16/19 14:23	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/30/19	JKR	GRO-DRO PHCC10C28 PI	
640249-008	S	BH02A	10/16/19 14:45	SW8021B	BTEX by EPA 8021B	10/18/19	10/30/19	JKR	BR4FBZ BZ BZME EBZ X	
640249-008	S	BH02A	10/16/19 14:45	E300_CL	Chloride by EPA 300	10/18/19	04/13/20	JKR	CL	
640249-008	S	BH02A	10/16/19 14:45	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/30/19	JKR	GRO-DRO PHCC10C28 PI	

Inter-Office Shipment

IOS Number **50320**

Date/Time: 10/17/19 10:15

Lab# From: **Carlsbad**

Lab# To: **Midland**

Created by: Elizabeth Mcclellan

Delivery Priority:

Air Bill No.: 776749013368

Please send report to: Jessica Kramer

Address: 1089 N Canal Street

E-Mail: jessica.kramer@xenco.com

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/17/2019

Received By: Brianna Teel

Date Received: 10/18/2019 00:00

Cooler Temperature: 0.5

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 50320

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Elizabeth McClellan **Date Sent:** 10/17/2019 10:15 AM

Received By: Brianna Teel **Date Received:** 10/18/2019 12:00 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.5	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Brianna Teel Date: 10/18/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/17/2019 08:30:00 AM

Work Order #: 640249

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	
#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)?	**Yes**	Subbed to Midland.
#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: 10/17/2019

Checklist reviewed by: Jessica Kramer Date: 10/17/2019

Analytical Report 640251

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254

012919107

21-OCT-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 (2017-142), North Carolina (681)

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-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)

21-OCT-19

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

Reference: XENCO Report No(s): **640251**
EMSU 254
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) 640251. 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. 640251 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 640251

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW05	S	10-15-19 13:14	0 - 6 ft	640251-001
SW03	S	10-16-19 09:34	0 - 6 ft	640251-002
SW04	S	10-16-19 10:32	0 - 6 ft	640251-003
SW06	S	10-16-19 11:10	0 - 6 ft	640251-004

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 254

Project ID: *012919107*
Work Order Number(s): *640251*

Report Date: *21-OCT-19*
Date Received: *10/17/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104843 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 640251-001.

Certificate of Analysis Summary 640251

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

Project Id: 012919107
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu Oct-17-19 08:30 am
Report Date: 21-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	640251-001		640251-002		640251-003		640251-004					
	Field Id:	SW05		SW03		SW04		SW06					
	Depth:	0-6 ft		0-6 ft		0-6 ft		0-6 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Oct-15-19 13:14		Oct-16-19 09:34		Oct-16-19 10:32		Oct-16-19 11:10					
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Oct-18-19 09:00		Oct-18-19 09:00		Oct-18-19 09:00		Oct-18-19 09:00					
	Analyzed:	Oct-18-19 12:48		Oct-18-19 13:08		Oct-18-19 13:28		Oct-18-19 13:48					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200				
Toluene		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200				
Ethylbenzene		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200				
m,p-Xylenes		<0.00403	0.00403	<0.00402	0.00402	<0.00398	0.00398	<0.00399	0.00399				
o-Xylene		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200				
Total Xylenes		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200				
Total BTEX		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200				
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Oct-18-19 11:10		Oct-18-19 11:10		Oct-18-19 11:10		Oct-18-19 11:10					
	Analyzed:	Oct-18-19 11:33		Oct-18-19 11:49		Oct-18-19 11:54		Oct-18-19 12:00					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		32.0	4.98	180	4.96	<5.00	5.00	9.05	5.00				
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Oct-18-19 13:00		Oct-18-19 13:00		Oct-18-19 13:00		Oct-18-19 13:00					
	Analyzed:	Oct-19-19 09:26		Oct-19-19 10:08		Oct-19-19 10:29		Oct-19-19 10:50					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9				
Diesel Range Organics (DRO)		121	50.0	<49.9	49.9	156	50.0	<49.9	49.9				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	60.5	50.0	<49.9	49.9				
Total GRO-DRO		121	50.0	<49.9	49.9	156	50.0	<49.9	49.9				
Total TPH		121	50.0	<49.9	49.9	217	50.0	<49.9	49.9				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 640251

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640251-001	Date Collected:	10.15.19 13.14	Sample Depth:	0 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**32.0**	4.98	mg/kg	10.18.19 11.33		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.19.19 09.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	**121**	50.0	mg/kg	10.19.19 09.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.19.19 09.26	U	1
Total GRO-DRO	PHC628	**121**	50.0	mg/kg	10.19.19 09.26		1
Total TPH	PHC635	**121**	50.0	mg/kg	10.19.19 09.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	10.19.19 09.26	
o-Terphenyl	84-15-1	111	%	70-135	10.19.19 09.26	

Certificate of Analytical Results 640251

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640251-001	Date Collected:	10.15.19 13.14	Sample Depth:	0 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.18.19 12.48	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.18.19 12.48	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.18.19 12.48	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.18.19 12.48	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.18.19 12.48	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.18.19 12.48	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.18.19 12.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	10.18.19 12.48	
1,4-Difluorobenzene	540-36-3	0	%	70-130	10.18.19 12.48	**

Certificate of Analytical Results 640251

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640251-002	Date Collected:	10.16.19 09.34	Sample Depth:	0 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**180**	4.96	mg/kg	10.18.19 11.49		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.19.19 10.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.19.19 10.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.19.19 10.08	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.19.19 10.08	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.19.19 10.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.19.19 10.08	
o-Terphenyl	84-15-1	109	%	70-135	10.19.19 10.08	

Certificate of Analytical Results 640251

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640251-002	Date Collected:	10.16.19 09.34	Sample Depth:	0 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.18.19 13.08	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.18.19 13.08	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.18.19 13.08	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.18.19 13.08	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.18.19 13.08	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.18.19 13.08	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.18.19 13.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	10.18.19 13.08	
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.18.19 13.08	

Certificate of Analytical Results 640251

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640251-003	Date Collected:	10.16.19 10.32	Sample Depth:	0 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	10.18.19 11.54	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.19.19 10.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	**156**	50.0	mg/kg	10.19.19 10.29		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**60.5**	50.0	mg/kg	10.19.19 10.29		1
Total GRO-DRO	PHC628	**156**	50.0	mg/kg	10.19.19 10.29		1
Total TPH	PHC635	**217**	50.0	mg/kg	10.19.19 10.29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	10.19.19 10.29	
o-Terphenyl	84-15-1	112	%	70-135	10.19.19 10.29	

Certificate of Analytical Results 640251

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640251-003	Date Collected:	10.16.19 10.32	Sample Depth:	0 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.18.19 13.28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.18.19 13.28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.18.19 13.28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.18.19 13.28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.18.19 13.28	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.18.19 13.28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.18.19 13.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.18.19 13.28	
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.18.19 13.28	

Certificate of Analytical Results 640251

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640251-004	Date Collected:	10.16.19 11.10	Sample Depth:	0 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.19 11.10	Basis:	Wet Weight
Seq Number:	3104768			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.05**	5.00	mg/kg	10.18.19 12.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.18.19 13.00	Basis:	Wet Weight
Seq Number:	3104820			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.19.19 10.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.19.19 10.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.19.19 10.50	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.19.19 10.50	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.19.19 10.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.19.19 10.50	
o-Terphenyl	84-15-1	107	%	70-135	10.19.19 10.50	

Certificate of Analytical Results 640251

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	10.17.19 08.30
Lab Sample Id:	640251-004	Date Collected:	10.16.19 11.10	Sample Depth:	0 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 09.00	Basis:	Wet Weight
Seq Number:	3104843			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.18.19 13.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.18.19 13.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.18.19 13.48	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.18.19 13.48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.18.19 13.48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.18.19 13.48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.18.19 13.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83	%	70-130	10.18.19 13.48	
4-Bromofluorobenzene	460-00-4	106	%	70-130	10.18.19 13.48	

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 640251

LT Environmental, Inc.

EMSU 254

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104768 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688420-1-BLK — LCS Sample Id: 7688420-1-BKS — LCSD Sample Id: 7688420-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	254	102	252	101	90-110	1	20	mg/kg	10.18.19 11:22	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104768 — Matrix: Soil — Date Prep: 10.18.19
Parent Sample Id: 640249-007 — MS Sample Id: 640249-007 S — MSD Sample Id: 640249-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	391	248	636	99	622	93	90-110	2	20	mg/kg	10.18.19 12:53	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104768 — Matrix: Soil — Date Prep: 10.18.19
Parent Sample Id: 640251-001 — MS Sample Id: 640251-001 S — MSD Sample Id: 640251-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.0	249	272	96	271	96	90-110	0	20	mg/kg	10.18.19 11:38	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104820 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688450-1-BLK — LCS Sample Id: 7688450-1-BKS — LCSD Sample Id: 7688450-1-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	1050	105	1010	101	70-135	4	20	mg/kg	10.18.19 22:29	
Diesel Range Organics (DRO)	<15.0	1000	1070	107	1030	103	70-135	4	20	mg/kg	10.18.19 22:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		109		104		70-135	%	10.18.19 22:29
o-Terphenyl	107		109		110		70-135	%	10.18.19 22:29

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104820 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688450-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.18.19 22:08	

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 640251

LT Environmental, Inc.

EMSU 254

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104820 — Matrix: Soil — Date Prep: 10.18.19
Parent Sample Id: 640249-001 — MS Sample Id: 640249-001 S — MSD Sample Id: 640249-001 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)	24.2	997	1100	108	1100	108	70-135	0	20	mg/kg	10.18.19 23:33	
Diesel Range Organics (DRO)	<15.0	997	1170	117	1140	114	70-135	3	20	mg/kg	10.18.19 23:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		110		70-135	%	10.18.19 23:33
o-Terphenyl	119		113		70-135	%	10.18.19 23:33

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104843 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688505-1-BLK — LCS Sample Id: 7688505-1-BKS — LCSD Sample Id: 7688505-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0884	88	0.0886	89	70-130	0	35	mg/kg	10.18.19 10:28	
Toluene	<0.00200	0.100	0.0909	91	0.0912	91	70-130	0	35	mg/kg	10.18.19 10:28	
Ethylbenzene	<0.00200	0.100	0.0998	100	0.100	100	70-130	0	35	mg/kg	10.18.19 10:28	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.198	99	70-130	1	35	mg/kg	10.18.19 10:28	
o-Xylene	<0.00200	0.100	0.105	105	0.107	107	70-130	2	35	mg/kg	10.18.19 10:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		90		91		70-130	%	10.18.19 10:28
4-Bromofluorobenzene	99		118		118		70-130	%	10.18.19 10:28

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104843 — Matrix: Soil — Date Prep: 10.18.19
Parent Sample Id: 640162-001 — MS Sample Id: 640162-001 S — MSD Sample Id: 640162-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0757	76	0.0618	62	70-130	20	35	mg/kg	10.18.19 11:08	X
Toluene	<0.00199	0.0996	0.0778	78	0.0636	64	70-130	20	35	mg/kg	10.18.19 11:08	X
Ethylbenzene	<0.00199	0.0996	0.0861	86	0.0702	70	70-130	20	35	mg/kg	10.18.19 11:08	
m,p-Xylenes	<0.00398	0.199	0.169	85	0.139	70	70-130	19	35	mg/kg	10.18.19 11:08	
o-Xylene	<0.00199	0.0996	0.0911	91	0.0757	76	70-130	18	35	mg/kg	10.18.19 11:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		91		70-130	%	10.18.19 11:08
4-Bromofluorobenzene	119		115		70-130	%	10.18.19 11:08

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)
www.xenco.com

Work Order No: 640251

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian Office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	fsmith@ltenv.com, dmoir@ltenv.com

Work Order Comments

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

Project Name:	EMSU 254	Turn Around	
Project Number:	012919107	Routine	☑
P.O. Number:	IRP-5567	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	2.0	Thermometer ID	TNM007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.7
Sample Custody Seals:	Yes (No) N/A	Total Containers:	4

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SW05	S	10/15/19	1314	0-6'	1	X	X	X
SW03	S	10/16/19	0934	0-6'	1	X	X	X
SW04	S	10/16/19	1032	0-6'	1	X	X	X
SW06	S	10/16/19	1110	0-6'	1	X	X	X

ANALYSIS REQUEST

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	Fatima Smith	Anna Byers	10/17/19 @ 0800	2 Anna Byers		10/17/19 0830
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **50321**

Date/Time: 10/17/19 10:20
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776749013368

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640251-001	S	SW05	10/15/19 13:14	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/29/19	JKR	GRO-DRO PHCC10C28 PI	
640251-001	S	SW05	10/15/19 13:14	SW8021B	BTEX by EPA 8021B	10/18/19	10/29/19	JKR	BR4FBZ BZ BZME EBZ X	
640251-001	S	SW05	10/15/19 13:14	E300_CL	Chloride by EPA 300	10/18/19	04/12/20	JKR	CL	
640251-002	S	SW03	10/16/19 09:34	SW8021B	BTEX by EPA 8021B	10/18/19	10/30/19	JKR	BR4FBZ BZ BZME EBZ X	
640251-002	S	SW03	10/16/19 09:34	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/30/19	JKR	GRO-DRO PHCC10C28 PI	
640251-002	S	SW03	10/16/19 09:34	E300_CL	Chloride by EPA 300	10/18/19	04/13/20	JKR	CL	
640251-003	S	SW04	10/16/19 10:32	SW8021B	BTEX by EPA 8021B	10/18/19	10/30/19	JKR	BR4FBZ BZ BZME EBZ X	
640251-003	S	SW04	10/16/19 10:32	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/30/19	JKR	GRO-DRO PHCC10C28 PI	
640251-003	S	SW04	10/16/19 10:32	E300_CL	Chloride by EPA 300	10/18/19	04/13/20	JKR	CL	
640251-004	S	SW06	10/16/19 11:10	SW8021B	BTEX by EPA 8021B	10/18/19	10/30/19	JKR	BR4FBZ BZ BZME EBZ X	
640251-004	S	SW06	10/16/19 11:10	E300_CL	Chloride by EPA 300	10/18/19	04/13/20	JKR	CL	
640251-004	S	SW06	10/16/19 11:10	SW8015MOD_NM	TPH by SW8015 Mod	10/18/19	10/30/19	JKR	GRO-DRO PHCC10C28 PI	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/17/2019

Received By: Brianna Teel

Date Received: 10/18/2019 00:00

Cooler Temperature: 0.5

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 50321

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Elizabeth McClellan **Date Sent:** 10/17/2019 10:20 AM

Received By: Brianna Teel **Date Received:** 10/18/2019 12:00 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.5	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Brianna Teel Date: 10/18/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/17/2019 08:30:00 AM

Work Order #: 640251

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	
#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)?	**Yes**	Subbed to Midland
#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: 10/17/2019

Checklist reviewed by: Jessica Kramer Date: 10/17/2019

Analytical Report 640360

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254

012919107

21-OCT-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 (2017-142), North Carolina (681)

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-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)

21-OCT-19

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

Reference: XENCO Report No(s): **640360**
EMSU 254
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) 640360. 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. 640360 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 640360

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS04	S	10-17-19 09:48	6 ft	640360-001
FS05	S	10-17-19 10:07	6 ft	640360-002
FS06	S	10-17-19 11:25	6 ft	640360-003
FS07	S	10-17-19 12:00	6 ft	640360-004
FS08	S	10-17-19 12:19	6 ft	640360-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 254

Project ID: *012919107*
Work Order Number(s): *640360*

Report Date: *21-OCT-19*
Date Received: *10/17/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104727 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 640360-001 SD.

Ethylbenzene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.
Samples in the analytical batch are: 640360-001, -002, -003, -004, -005
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 640360-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 640360-001, -002, -003, -004, -005.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3104735 Chloride by EPA 300
Lab Sample ID 640361-014 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: 640360-001, -002, -003, -004, -005.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 640360

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

Project Id: 012919107
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu Oct-17-19 05:10 pm
Report Date: 21-OCT-19
Project Manager: Jessica Kramer

Analysis Requested																	
	Lab Id:	640360-001		640360-002		640360-003		640360-004		640360-005							
	Field Id:	FS04		FS05		FS06		FS07		FS08							
	Depth:	6- ft		6- ft		6- ft		6- ft		6- ft							
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL							
	Sampled:	Oct-17-19 09:48		Oct-17-19 10:07		Oct-17-19 11:25		Oct-17-19 12:00		Oct-17-19 12:19							
BTEX by EPA 8021B	*Extracted:*	** ** ** **		** ** ** **		** ** ** **		** ** ** **		** ** ** **							
	Analyzed:	Oct-17-19 22:01		Oct-17-19 22:20		Oct-17-19 22:39		Oct-17-19 22:58		Oct-18-19 12:13							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.000988	0.000988	<0.000994	0.000994	<0.000988	0.000988	<0.000992	0.000992	<0.000990	0.000990						
Toluene		<0.000988	0.000988	<0.000994	0.000994	<0.000988	0.000988	<0.000992	0.000992	<0.000990	0.000990						
Ethylbenzene		<0.000988	0.000988	<0.000994	0.000994	<0.000988	0.000988	<0.000992	0.000992	<0.000990	0.000990						
m,p-Xylenes		<0.00198	0.00198	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198						
o-Xylene		<0.000988	0.000988	<0.000994	0.000994	<0.000988	0.000988	<0.000992	0.000992	<0.000990	0.000990						
Total Xylenes		<0.000988	0.000988	<0.000994	0.000994	<0.000988	0.000988	<0.000992	0.000992	<0.000990	0.000990						
Total BTEX		<0.000988	0.000988	<0.000994	0.000994	<0.000988	0.000988	<0.000992	0.000992	<0.000990	0.000990						
Chloride by EPA 300	*Extracted:*	Oct-17-19 17:30		Oct-17-19 17:30		Oct-17-19 17:30		Oct-17-19 17:30		Oct-17-19 17:30							
	Analyzed:	Oct-17-19 19:21		Oct-17-19 19:40		Oct-17-19 19:46		Oct-17-19 19:52		Oct-17-19 19:58							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		378 D	99.4	161	9.88	390 D	98.8	311	9.86	<9.90	9.90						
TPH by SW8015 Mod	*Extracted:*	Oct-18-19 13:10		Oct-18-19 13:10		Oct-18-19 13:10		Oct-18-19 13:10		Oct-18-19 13:10							
	Analyzed:	Oct-18-19 14:17		Oct-18-19 14:37		Oct-18-19 14:57		Oct-18-19 14:57		Oct-18-19 15:17							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.9	49.9	<49.9	49.9	<52.4	52.4	<50.1	50.1						
Diesel Range Organics (DRO)		<49.9	49.9	<49.9	49.9	<49.9	49.9	<52.4	52.4	<50.1	50.1						
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.9	49.9	<49.9	49.9	<52.4	52.4	<50.1	50.1						
Total GRO-DRO		<49.9	49.9	<49.9	49.9	<49.9	49.9	<52.4	52.4	<50.1	50.1						
Total TPH		<49.9	49.9	<49.9	49.9	<49.9	49.9	<52.4	52.4	<50.1	50.1						

Jessica Kramer
Project Assistant

Certificate of Analytical Results 640360

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	10.17.19 17.10
Lab Sample Id:	640360-001	Date Collected:	10.17.19 09.48	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.17.19 17.30	Basis:	Wet Weight
Seq Number:	3104735				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**378**	99.4	mg/kg	10.18.19 13.26	D	10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.18.19 13.10	Basis:	Wet Weight
Seq Number:	3104794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.18.19 14.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.18.19 14.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.18.19 14.17	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.18.19 14.17	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.18.19 14.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	10.18.19 14.17	
o-Terphenyl	84-15-1	99	%	70-135	10.18.19 14.17	

Certificate of Analytical Results 640360

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	10.17.19 17.10
Lab Sample Id:	640360-001	Date Collected:	10.17.19 09.48	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.17.19 17.10	Basis:	Wet Weight
Seq Number:	3104727				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000988	0.000988	mg/kg	10.17.19 22.01	U	1
Toluene	108-88-3	<0.000988	0.000988	mg/kg	10.17.19 22.01	U	1
Ethylbenzene	100-41-4	<0.000988	0.000988	mg/kg	10.17.19 22.01	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	10.17.19 22.01	U	1
o-Xylene	95-47-6	<0.000988	0.000988	mg/kg	10.17.19 22.01	U	1
Total Xylenes	1330-20-7	<0.000988	0.000988	mg/kg	10.17.19 22.01	U	1
Total BTEX		<0.000988	0.000988	mg/kg	10.17.19 22.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	10.17.19 22.01	
1,4-Difluorobenzene	540-36-3	105	%	70-130	10.17.19 22.01	

Certificate of Analytical Results 640360

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	10.17.19 17.10
Lab Sample Id:	640360-002	Date Collected:	10.17.19 10.07	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.17.19 17.30	Basis:	Wet Weight
Seq Number:	3104735				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**161**	9.88	mg/kg	10.17.19 19.40		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.18.19 13.10	Basis:	Wet Weight
Seq Number:	3104794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.18.19 14.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.18.19 14.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.18.19 14.37	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.18.19 14.37	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.18.19 14.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	10.18.19 14.37	
o-Terphenyl	84-15-1	96	%	70-135	10.18.19 14.37	

Certificate of Analytical Results 640360

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	10.17.19 17.10
Lab Sample Id:	640360-002	Date Collected:	10.17.19 10.07	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.17.19 17.10	Basis:	Wet Weight
Seq Number:	3104727				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	10.17.19 22.20	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	10.17.19 22.20	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	10.17.19 22.20	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	10.17.19 22.20	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	10.17.19 22.20	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	10.17.19 22.20	U	1
Total BTEX		<0.000994	0.000994	mg/kg	10.17.19 22.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	10.17.19 22.20	
4-Bromofluorobenzene	460-00-4	125	%	70-130	10.17.19 22.20	

Certificate of Analytical Results 640360

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	10.17.19 17.10
Lab Sample Id:	640360-003	Date Collected:	10.17.19 11.25	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.17.19 17.30	Basis:	Wet Weight
Seq Number:	3104735				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**390**	98.8	mg/kg	10.18.19 13.33	D	10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.18.19 13.10	Basis:	Wet Weight
Seq Number:	3104794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.18.19 14.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.18.19 14.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.18.19 14.57	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.18.19 14.57	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.18.19 14.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	10.18.19 14.57	
o-Terphenyl	84-15-1	86	%	70-135	10.18.19 14.57	

Certificate of Analytical Results 640360

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	10.17.19 17.10
Lab Sample Id:	640360-003	Date Collected:	10.17.19 11.25	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.17.19 17.10	Basis:	Wet Weight
Seq Number:	3104727				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000988	0.000988	mg/kg	10.17.19 22.39	U	1
Toluene	108-88-3	<0.000988	0.000988	mg/kg	10.17.19 22.39	U	1
Ethylbenzene	100-41-4	<0.000988	0.000988	mg/kg	10.17.19 22.39	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	10.17.19 22.39	U	1
o-Xylene	95-47-6	<0.000988	0.000988	mg/kg	10.17.19 22.39	U	1
Total Xylenes	1330-20-7	<0.000988	0.000988	mg/kg	10.17.19 22.39	U	1
Total BTEX		<0.000988	0.000988	mg/kg	10.17.19 22.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	10.17.19 22.39	
1,4-Difluorobenzene	540-36-3	96	%	70-130	10.17.19 22.39	

Certificate of Analytical Results 640360

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	10.17.19 17.10
Lab Sample Id:	640360-004	Date Collected:	10.17.19 12.00	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.17.19 17.30	Basis:	Wet Weight
Seq Number:	3104735				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**311**	9.86	mg/kg	10.17.19 19.52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.18.19 13.10	Basis:	Wet Weight
Seq Number:	3104794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<52.4	52.4	mg/kg	10.18.19 14.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<52.4	52.4	mg/kg	10.18.19 14.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<52.4	52.4	mg/kg	10.18.19 14.57	U	1
Total GRO-DRO	PHC628	<52.4	52.4	mg/kg	10.18.19 14.57	U	1
Total TPH	PHC635	<52.4	52.4	mg/kg	10.18.19 14.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	10.18.19 14.57	
o-Terphenyl	84-15-1	106	%	70-135	10.18.19 14.57	

Certificate of Analytical Results 640360

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	10.17.19 17.10
Lab Sample Id:	640360-004	Date Collected:	10.17.19 12.00	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.17.19 17.10	Basis:	Wet Weight
Seq Number:	3104727				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	10.17.19 22.58	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	10.17.19 22.58	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	10.17.19 22.58	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	10.17.19 22.58	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	10.17.19 22.58	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	10.17.19 22.58	U	1
Total BTEX		<0.000992	0.000992	mg/kg	10.17.19 22.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	129	%	70-130	10.17.19 22.58	
1,4-Difluorobenzene	540-36-3	106	%	70-130	10.17.19 22.58	

Certificate of Analytical Results 640360

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	10.17.19 17.10
Lab Sample Id:	640360-005	Date Collected:	10.17.19 12.19	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.17.19 17.30	Basis:	Wet Weight
Seq Number:	3104735				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.90	9.90	mg/kg	10.17.19 19.58	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.18.19 13.10	Basis:	Wet Weight
Seq Number:	3104794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	10.18.19 15.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	10.18.19 15.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	10.18.19 15.17	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	10.18.19 15.17	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	10.18.19 15.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	10.18.19 15.17	
o-Terphenyl	84-15-1	86	%	70-135	10.18.19 15.17	

Certificate of Analytical Results 640360

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	10.17.19 17.10
Lab Sample Id:	640360-005	Date Collected:	10.17.19 12.19	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.17.19 17.10	Basis:	Wet Weight
Seq Number:	3104727				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	10.18.19 12.13	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	10.18.19 12.13	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	10.18.19 12.13	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	10.18.19 12.13	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	10.18.19 12.13	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	10.18.19 12.13	U	1
Total BTEX		<0.000990	0.000990	mg/kg	10.18.19 12.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.18.19 12.13	
4-Bromofluorobenzene	460-00-4	107	%	70-130	10.18.19 12.13	

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 640360

LT Environmental, Inc.

EMSU 254

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104735 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688378-1-BLK — LCS Sample Id: 7688378-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Chloride	<10.0	250	252	101	90-110	mg/kg	10.17.19 19:08	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104735 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640360-001 — MS Sample Id: 640360-001 S — MSD Sample Id: 640360-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	378	199	682	153	683	153	90-110	0	20	mg/kg	10.17.19 19:27	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104735 — Matrix: Solid — Date Prep: 10.17.19
Parent Sample Id: 640361-014 — MS Sample Id: 640361-014 S — MSD Sample Id: 640361-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	96.3	2000	2030	97	2040	97	90-110	0	20	mg/kg	10.17.19 21:58	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104794 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688468-1-BLK — LCS Sample Id: 7688468-1-BKS — LCSD Sample Id: 7688468-1-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	886	89	901	90	70-135	2	35	mg/kg	10.18.19 13:57	
Diesel Range Organics (DRO)	<50.0	1000	793	79	810	81	70-135	2	35	mg/kg	10.18.19 13:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		100		104		70-135	%	10.18.19 13:57
o-Terphenyl	102		98		101		70-135	%	10.18.19 13:57

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104794 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688468-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.18.19 13:37	

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 640360

LT Environmental, Inc.

EMSU 254

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104794 — Matrix: Soil — Date Prep: 10.18.19
Parent Sample Id: 640360-001 — MS Sample Id: 640360-001 S — MSD Sample Id: 640360-001 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)	<50.2	1000	1010	101	874	87	70-135	14	35	mg/kg	10.18.19 14:17	
Diesel Range Organics (DRO)	<50.2	1000	989	99	802	80	70-135	21	35	mg/kg	10.18.19 14:17	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		100		70-135	%	10.18.19 14:17
o-Terphenyl	121		99		70-135	%	10.18.19 14:17

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104727 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688429-1-BLK — LCS Sample Id: 7688429-1-BKS — LCSD Sample Id: 7688429-1-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	0.0982	98	0.0972	97	70-130	1	35	mg/kg	10.17.19 20:19	
Toluene	<0.00100	0.100	0.0974	97	0.0978	98	70-130	0	35	mg/kg	10.17.19 20:19	
Ethylbenzene	<0.00100	0.100	0.0991	99	0.0998	100	71-129	1	35	mg/kg	10.17.19 20:19	
m,p-Xylenes	<0.00200	0.200	0.216	108	0.217	109	70-135	0	35	mg/kg	10.17.19 20:19	
o-Xylene	<0.00100	0.100	0.108	108	0.108	108	71-133	0	35	mg/kg	10.17.19 20:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		105		104		70-130	%	10.17.19 20:19
4-Bromofluorobenzene	118		122		127		70-130	%	10.17.19 20:19

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104727 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640360-001 — MS Sample Id: 640360-001 S — MSD Sample Id: 640360-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000992	0.0992	0.0778	78	0.0611	62	70-130	24	35	mg/kg	10.17.19 20:57	X
Toluene	<0.000992	0.0992	0.0764	77	0.0563	57	70-130	30	35	mg/kg	10.17.19 20:57	X
Ethylbenzene	<0.000992	0.0992	0.0741	75	0.0482	49	71-129	42	35	mg/kg	10.17.19 20:57	XF
m,p-Xylenes	<0.00198	0.198	0.159	80	0.101	51	70-135	45	35	mg/kg	10.17.19 20:57	XF
o-Xylene	<0.000992	0.0992	0.0790	80	0.0508	51	71-133	43	35	mg/kg	10.17.19 20:57	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		102		70-130	%	10.17.19 20:57
4-Bromofluorobenzene	125		132	**	70-130	%	10.17.19 20:57

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: 640360

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)

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 Energy
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	fsmith@ltenv.com, dmoir@ltenv.com

Work Order Comments

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

Project Name:	EMSU 254	Turn Around	
Project Number:	012919107	Routine ☐	
P.O. Number:	IRP - 5567	Rush: 24 hrs	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	3.0	Thermometer ID	
Received Intact:	(Yes) No	THM007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	5

ANALYSIS REQUEST

Work Order Notes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
FS04	S	10/17/19	0948	6'	1	X	X	X	
FS05	S	10/17/19	1007	6'	1	X	X	X	
FS06	S	10/17/19	1125	6'	1	X	X	X	
FS07	S	10/17/19	1200	6'	1	X	X	X	
FS08	S	10/17/19	1219	6'	1	X	X	X	

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
1			10/17/19 15:55	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: 10/17/2019 05:10:09 PM

Work Order #: 640360

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)?	3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**No**
#6*Custody Seals Signed and dated?	**No**
#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)?	**Yes**
#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: 10/18/2019

Checklist reviewed by: Jessica Kramer Date: 10/18/2019

Jessica Kramer

Analytical Report 640493

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254

012919107

22-OCT-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 (2017-142), North Carolina (681)

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-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)

22-OCT-19

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

Reference: XENCO Report No(s): **640493**
EMSU 254
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) 640493. 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. 640493 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 640493

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS09	S	10-18-19 14:27	4 ft	640493-001
FS10	S	10-18-19 14:25	4 ft	640493-002
SW07	S	10-18-19 14:30	0 - 4 ft	640493-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 254

Project ID: *012919107*
Work Order Number(s): *640493*

Report Date: *22-OCT-19*
Date Received: *10/21/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104975 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 640493

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

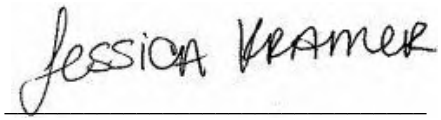
Project Id: 012919107
Contact: Dan Moir
Project Location:

Date Received in Lab: Mon Oct-21-19 09:10 am
Report Date: 22-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	640493-001		640493-002		640493-003							
	Field Id:	FS09		FS10		SW07							
	Depth:	4- ft		4- ft		0-4 ft							
	Matrix:	SOIL		SOIL		SOIL							
	Sampled:	Oct-18-19 14:27		Oct-18-19 14:25		Oct-18-19 14:30							
BTEX by EPA 8021B	*Extracted:*	Oct-21-19 10:10		Oct-21-19 10:10		Oct-21-19 10:10							
	Analyzed:	Oct-21-19 19:09		Oct-21-19 19:29		Oct-21-19 19:50							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.000992	0.000992	<0.00100	0.00100	<0.000990	0.000990						
Toluene		<0.000992	0.000992	<0.00100	0.00100	<0.000990	0.000990						
Ethylbenzene		<0.000992	0.000992	<0.00100	0.00100	<0.000990	0.000990						
m,p-Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00198	0.00198						
o-Xylene		<0.000992	0.000992	<0.00100	0.00100	<0.000990	0.000990						
Total Xylenes		<0.000992	0.000992	<0.00100	0.00100	<0.000990	0.000990						
Total BTEX		<0.000992	0.000992	<0.00100	0.00100	<0.000990	0.000990						
Chloride by EPA 300	*Extracted:*	Oct-21-19 11:10		Oct-21-19 11:10		Oct-21-19 11:10							
	Analyzed:	Oct-21-19 14:47		Oct-21-19 14:53		Oct-21-19 15:00							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		665	49.4	738	49.6	174	10.1						
TPH by SW8015 Mod	*Extracted:*	** ** ** **		** ** ** **		** ** ** **							
	Analyzed:	Oct-21-19 11:13		Oct-21-19 11:13		Oct-21-19 11:33							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0						
Diesel Range Organics (DRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0						
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0						
Total GRO-DRO		<49.9	49.9	<50.0	50.0	<50.0	50.0						
Total TPH		<49.9	49.9	<50.0	50.0	<50.0	50.0						

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%



Jessica Kramer
Project Assistant

Certificate of Analytical Results 640493

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640493-001	Date Collected:	10.18.19 14.27	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**665**	49.4	mg/kg	10.21.19 14.47		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.21.19 11.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.21.19 11.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.21.19 11.13	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.21.19 11.13	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.21.19 11.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-135	10.21.19 11.13	
o-Terphenyl	84-15-1	74	%	70-135	10.21.19 11.13	

Certificate of Analytical Results 640493

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640493-001	Date Collected:	10.18.19 14.27	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	10.21.19 19.09	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	10.21.19 19.09	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	10.21.19 19.09	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	10.21.19 19.09	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	10.21.19 19.09	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	10.21.19 19.09	U	1
Total BTEX		<0.000992	0.000992	mg/kg	10.21.19 19.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	10.21.19 19.09	
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.21.19 19.09	

Certificate of Analytical Results 640493

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640493-002	Date Collected:	10.18.19 14.25	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**738**	49.6	mg/kg	10.21.19 14.53		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.19 11.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.21.19 11.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.21.19 11.13	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.21.19 11.13	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.21.19 11.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	10.21.19 11.13	
o-Terphenyl	84-15-1	80	%	70-135	10.21.19 11.13	

Certificate of Analytical Results 640493

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640493-002	Date Collected:	10.18.19 14.25	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	10.21.19 19.29	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	10.21.19 19.29	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	10.21.19 19.29	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	10.21.19 19.29	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	10.21.19 19.29	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	10.21.19 19.29	U	1
Total BTEX		<0.00100	0.00100	mg/kg	10.21.19 19.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	10.21.19 19.29	
1,4-Difluorobenzene	540-36-3	104	%	70-130	10.21.19 19.29	

Certificate of Analytical Results 640493

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640493-003	Date Collected:	10.18.19 14.30	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**174**	10.1	mg/kg	10.21.19 15.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.19 11.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.21.19 11.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.21.19 11.33	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.21.19 11.33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.21.19 11.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	10.21.19 11.33	
o-Terphenyl	84-15-1	79	%	70-135	10.21.19 11.33	

Certificate of Analytical Results 640493

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640493-003	Date Collected:	10.18.19 14.30	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	10.21.19 19.50	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	10.21.19 19.50	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	10.21.19 19.50	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	10.21.19 19.50	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	10.21.19 19.50	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	10.21.19 19.50	U	1
Total BTEX		<0.000990	0.000990	mg/kg	10.21.19 19.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.21.19 19.50	
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.21.19 19.50	

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 640493

LT Environmental, Inc.

EMSU 254

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104900 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688507-1-BLK — LCS Sample Id: 7688507-1-BKS — LCSD Sample Id: 7688507-1-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	238	95	250	100	90-110	5	20	mg/kg	10.21.19 11:21	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104900 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640490-001 — MS Sample Id: 640490-001 S — MSD Sample Id: 640490-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	345	994	1470	113	1480	114	90-110	1	20	mg/kg	10.21.19 13:51	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104900 — Matrix: Solid — Date Prep: 10.21.19
Parent Sample Id: 640494-010 — MS Sample Id: 640494-010 S — MSD Sample Id: 640494-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.49	198	208	101	211	102	90-110	1	20	mg/kg	10.21.19 16:49	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104862 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688525-1-BLK — LCS Sample Id: 7688525-1-BKS — LCSD Sample Id: 7688525-1-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	848	85	854	85	70-135	1	35	mg/kg	10.21.19 09:22	
Diesel Range Organics (DRO)	<50.0	1000	888	89	885	89	70-135	0	35	mg/kg	10.21.19 09:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		97		99		70-135	%	10.21.19 09:22
o-Terphenyl	83		90		90		70-135	%	10.21.19 09:22

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104862 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688525-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.21.19 09:03	

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 640493

LT Environmental, Inc.

EMSU 254

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104862 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640490-001 — MS Sample Id: 640490-001 S — MSD Sample Id: 640490-001 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)	<13.9	1000	848	85	857	86	70-135	1	35	mg/kg	10.21.19 10:02	
Diesel Range Organics (DRO)	12.5	1000	766	75	788	78	70-135	3	35	mg/kg	10.21.19 10:02	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		103		70-135	%	10.21.19 10:02
o-Terphenyl	101		101		70-135	%	10.21.19 10:02

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104975 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688598-1-BLK — LCS Sample Id: 7688598-1-BKS — LCSD Sample Id: 7688598-1-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	0.0984	98	0.0911	91	70-130	8	35	mg/kg	10.21.19 12:54	
Toluene	<0.00100	0.100	0.0956	96	0.0886	89	70-130	8	35	mg/kg	10.21.19 12:54	
Ethylbenzene	<0.00100	0.100	0.0992	99	0.0915	92	71-129	8	35	mg/kg	10.21.19 12:54	
m,p-Xylenes	<0.00200	0.200	0.199	100	0.184	92	70-135	8	35	mg/kg	10.21.19 12:54	
o-Xylene	<0.00100	0.100	0.0988	99	0.0921	92	71-133	7	35	mg/kg	10.21.19 12:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		103		101		70-130	%	10.21.19 12:54
4-Bromofluorobenzene	104		106		105		70-130	%	10.21.19 12:54

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104975 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640494-001 — MS Sample Id: 640494-001 S — MSD Sample Id: 640494-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.106	105	0.0955	95	70-130	10	35	mg/kg	10.21.19 13:35	
Toluene	<0.00101	0.101	0.103	102	0.0924	91	70-130	11	35	mg/kg	10.21.19 13:35	
Ethylbenzene	<0.00101	0.101	0.106	105	0.0951	94	71-129	11	35	mg/kg	10.21.19 13:35	
m,p-Xylenes	<0.00201	0.201	0.213	106	0.191	95	70-135	11	35	mg/kg	10.21.19 13:35	
o-Xylene	<0.00101	0.101	0.106	105	0.0951	94	71-133	11	35	mg/kg	10.21.19 13:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		103		70-130	%	10.21.19 13:35
4-Bromofluorobenzene	112		112		70-130	%	10.21.19 13:35

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: 640493

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 Energy
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	fsmith@ltenv.com, dmoir@ltenv.com

Work Order Comments

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

Project Name:	EMSU 254	Turn Around	
Project Number:	012919107	Routine ☐	
P.O. Number:	IRP-5567	Rush: 24hrs	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	2.4	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:	3

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS09	S	10/18/19	1427	4'	1	X	X	X
FS10	S	10/18/19	1425	4'	1	X	X	X
SW07	S	10/18/19	1430	0-4'	1	X	X	X

ANALYSIS REQUEST

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		Anna Byers	10/21/19 0845	2 Anna Byers		10/21/19 0930
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: 10/21/2019 09:10:00 AM

Work Order #: 640493

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)?	2.4
#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: 10/21/2019

Checklist reviewed by: Jessica Kramer Date: 10/21/2019

Jessica Kramer

Analytical Report 640494

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254

012919107

22-OCT-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 (2017-142), North Carolina (681)

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-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)

22-OCT-19

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

Reference: XENCO Report No(s): **640494**
EMSU 254
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) 640494. 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. 640494 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH03	S	10-18-19 08:57	1 ft	640494-001
BH03A	S	10-18-19 09:42	6 ft	640494-002
BH04	S	10-18-19 11:10	1 ft	640494-003
BH04A	S	10-18-19 11:50	6 ft	640494-004
BH05	S	10-18-19 11:59	1 ft	640494-005
BH05A	S	10-18-19 12:34	6 ft	640494-006
BH06	S	10-18-19 12:47	1 ft	640494-007
BH06A	S	10-18-19 13:30	6 ft	640494-008
BH07	S	10-18-19 13:47	1 ft	640494-009
BH07A	S	10-18-19 14:20	6 ft	640494-010

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 254

Project ID: *012919107*
Work Order Number(s): *640494*

Report Date: *22-OCT-19*
Date Received: *10/21/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104975 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 640494

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

Project Id: 012919107
Contact: Dan Moir
Project Location:

Date Received in Lab: Mon Oct-21-19 09:10 am
Report Date: 22-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	640494-001		640494-002		640494-003		640494-004		640494-005		640494-006	
	Field Id:	BH03		BH03A		BH04		BH04A		BH05		BH05A	
	Depth:	1- ft		6- ft		1- ft		6- ft		1- ft		6- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-18-19 08:57		Oct-18-19 09:42		Oct-18-19 11:10		Oct-18-19 11:50		Oct-18-19 11:59		Oct-18-19 12:34	
BTEX by EPA 8021B	***Extracted:***	Oct-21-19 10:10		Oct-21-19 10:10		Oct-21-19 10:10		Oct-21-19 10:10		Oct-21-19 10:10		Oct-21-19 10:10	
	Analyzed:	Oct-21-19 14:50		Oct-21-19 15:10		Oct-21-19 15:31		Oct-21-19 15:51		Oct-21-19 16:12		Oct-21-19 16:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Toluene		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Ethylbenzene		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
m,p-Xylenes		<0.00201	0.00201	<0.00201	0.00201	<0.00201	0.00201	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202
o-Xylene		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Total Xylenes		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Total BTEX		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Chloride by EPA 300	***Extracted:***	Oct-21-19 11:10		Oct-21-19 11:10		Oct-21-19 11:10		Oct-21-19 11:10		Oct-21-19 11:10		Oct-21-19 11:10	
	Analyzed:	Oct-21-19 15:06		Oct-21-19 15:12		Oct-21-19 15:18		Oct-21-19 15:25		Oct-21-19 15:31		Oct-21-19 15:37	
	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	292	9.92	<10.1	10.1	25.2	10.0	<10.1	10.1	14.5	9.94
TPH by SW8015 Mod	***Extracted:***	** ** ** **		** ** ** **		** ** ** **		** ** ** **		** ** ** **		** ** ** **	
	Analyzed:	Oct-21-19 11:33		Oct-21-19 11:52		Oct-21-19 12:12		Oct-21-19 12:12		Oct-21-19 12:32		Oct-21-19 12:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8
Diesel Range Organics (DRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8
Total GRO-DRO		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8
Total TPH		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 640494

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

Project Id: 012919107
Contact: Dan Moir
Project Location:

Date Received in Lab: Mon Oct-21-19 09:10 am
Report Date: 22-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	640494-007		640494-008		640494-009		640494-010					
	Field Id:	BH06		BH06A		BH07		BH07A					
	Depth:	1- ft		6- ft		1- ft		6- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Oct-18-19 12:47		Oct-18-19 13:30		Oct-18-19 13:47		Oct-18-19 14:20					
BTEX by EPA 8021B	***Extracted:***	Oct-21-19 10:10		Oct-21-19 10:10		Oct-21-19 10:10		Oct-21-19 10:10					
	Analyzed:	Oct-21-19 16:52		Oct-21-19 17:13		Oct-21-19 17:33		Oct-21-19 17:54					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100				
Toluene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100				
Ethylbenzene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100				
m,p-Xylenes		<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200				
o-Xylene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100				
Total Xylenes		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100				
Total BTEX		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100				
Chloride by EPA 300	***Extracted:***	Oct-21-19 11:10		Oct-21-19 11:10		Oct-21-19 11:10		Oct-21-19 11:10					
	Analyzed:	Oct-21-19 15:43		Oct-21-19 16:09		Oct-21-19 16:29		Oct-21-19 16:43					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		329 D	49.9	20.9	10.0	<10.0	10.0	<9.98	9.98				
TPH by SW8015 Mod	***Extracted:***	** ** ** **		** ** ** **		** ** ** **		** ** ** **					
	Analyzed:	Oct-21-19 12:51		Oct-21-19 12:51		Oct-21-19 13:11		Oct-21-19 13:11					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<49.9	49.9	<50.2	50.2	<50.0	50.0				
Diesel Range Organics (DRO)		<50.1	50.1	<49.9	49.9	<50.2	50.2	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<49.9	49.9	<50.2	50.2	<50.0	50.0				
Total GRO-DRO		<50.1	50.1	<49.9	49.9	<50.2	50.2	<50.0	50.0				
Total TPH		<50.1	50.1	<49.9	49.9	<50.2	50.2	<50.0	50.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-001	Date Collected:	10.18.19 08.57	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	10.21.19 15.06	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.21.19 11.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.21.19 11.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.21.19 11.33	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.21.19 11.33	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.21.19 11.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	70	%	70-135	10.21.19 11.33	
o-Terphenyl	84-15-1	72	%	70-135	10.21.19 11.33	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-001	Date Collected:	10.18.19 08.57	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	10.21.19 14.50	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	10.21.19 14.50	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	10.21.19 14.50	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	10.21.19 14.50	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	10.21.19 14.50	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	10.21.19 14.50	U	1
Total BTEX		<0.00100	0.00100	mg/kg	10.21.19 14.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	10.21.19 14.50	
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.21.19 14.50	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH03A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-002	Date Collected:	10.18.19 09.42	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**292**	9.92	mg/kg	10.21.19 15.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.19 11.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.21.19 11.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.21.19 11.52	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.21.19 11.52	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.21.19 11.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	10.21.19 11.52	
o-Terphenyl	84-15-1	80	%	70-135	10.21.19 11.52	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH03A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-002	Date Collected:	10.18.19 09.42	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	10.21.19 15.10	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	10.21.19 15.10	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	10.21.19 15.10	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	10.21.19 15.10	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	10.21.19 15.10	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	10.21.19 15.10	U	1
Total BTEX		<0.00101	0.00101	mg/kg	10.21.19 15.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.21.19 15.10	
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.21.19 15.10	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-003	Date Collected:	10.18.19 11.10	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	10.21.19 15.18	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.19 12.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.21.19 12.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.21.19 12.12	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.21.19 12.12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.21.19 12.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	73	%	70-135	10.21.19 12.12	
o-Terphenyl	84-15-1	74	%	70-135	10.21.19 12.12	

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LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-003	Date Collected:	10.18.19 11.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	10.21.19 15.31	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	10.21.19 15.31	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	10.21.19 15.31	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	10.21.19 15.31	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	10.21.19 15.31	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	10.21.19 15.31	U	1
Total BTEX		<0.00101	0.00101	mg/kg	10.21.19 15.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	10.21.19 15.31	
1,4-Difluorobenzene	540-36-3	106	%	70-130	10.21.19 15.31	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH04A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-004	Date Collected:	10.18.19 11.50	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**25.2**	10.0	mg/kg	10.21.19 15.25		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.21.19 12.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.21.19 12.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.21.19 12.12	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.21.19 12.12	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.21.19 12.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	10.21.19 12.12	
o-Terphenyl	84-15-1	84	%	70-135	10.21.19 12.12	

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LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH04A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-004	Date Collected:	10.18.19 11.50	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	10.21.19 15.51	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	10.21.19 15.51	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	10.21.19 15.51	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	10.21.19 15.51	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	10.21.19 15.51	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	10.21.19 15.51	U	1
Total BTEX		<0.00101	0.00101	mg/kg	10.21.19 15.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.21.19 15.51	
4-Bromofluorobenzene	460-00-4	107	%	70-130	10.21.19 15.51	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH05**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-005	Date Collected:	10.18.19 11.59	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	10.21.19 15.31	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.21.19 12.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.21.19 12.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.21.19 12.32	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.21.19 12.32	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.21.19 12.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	73	%	70-135	10.21.19 12.32	
o-Terphenyl	84-15-1	72	%	70-135	10.21.19 12.32	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH05**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-005	Date Collected:	10.18.19 11.59	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	10.21.19 16.12	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	10.21.19 16.12	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	10.21.19 16.12	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	10.21.19 16.12	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	10.21.19 16.12	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	10.21.19 16.12	U	1
Total BTEX		<0.00101	0.00101	mg/kg	10.21.19 16.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	10.21.19 16.12	
1,4-Difluorobenzene	540-36-3	104	%	70-130	10.21.19 16.12	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH05A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-006	Date Collected:	10.18.19 12.34	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.5**	9.94	mg/kg	10.21.19 15.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.21.19 12.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.21.19 12.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.21.19 12.32	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.21.19 12.32	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.21.19 12.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	10.21.19 12.32	
o-Terphenyl	84-15-1	78	%	70-135	10.21.19 12.32	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH05A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-006	Date Collected:	10.18.19 12.34	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	10.21.19 16.32	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	10.21.19 16.32	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	10.21.19 16.32	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	10.21.19 16.32	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	10.21.19 16.32	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	10.21.19 16.32	U	1
Total BTEX		<0.00101	0.00101	mg/kg	10.21.19 16.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.21.19 16.32	
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.21.19 16.32	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH06**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-007	Date Collected:	10.18.19 12.47	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**329**	49.9	mg/kg	10.21.19 17.02	D	5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	10.21.19 12.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	10.21.19 12.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	10.21.19 12.51	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	10.21.19 12.51	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	10.21.19 12.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	10.21.19 12.51	
o-Terphenyl	84-15-1	87	%	70-135	10.21.19 12.51	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH06**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-007	Date Collected:	10.18.19 12.47	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	10.21.19 16.52	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	10.21.19 16.52	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	10.21.19 16.52	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	10.21.19 16.52	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	10.21.19 16.52	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	10.21.19 16.52	U	1
Total BTEX		<0.00101	0.00101	mg/kg	10.21.19 16.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	10.21.19 16.52	
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.21.19 16.52	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH06A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-008	Date Collected:	10.18.19 13.30	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.9**	10.0	mg/kg	10.21.19 16.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.21.19 12.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.21.19 12.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.21.19 12.51	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.21.19 12.51	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.21.19 12.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	10.21.19 12.51	
o-Terphenyl	84-15-1	80	%	70-135	10.21.19 12.51	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH06A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-008	Date Collected:	10.18.19 13.30	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	10.21.19 17.13	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	10.21.19 17.13	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	10.21.19 17.13	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	10.21.19 17.13	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	10.21.19 17.13	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	10.21.19 17.13	U	1
Total BTEX		<0.00100	0.00100	mg/kg	10.21.19 17.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	10.21.19 17.13	
1,4-Difluorobenzene	540-36-3	105	%	70-130	10.21.19 17.13	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH07**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-009	Date Collected:	10.18.19 13.47	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	10.21.19 16.29	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.19 13.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.21.19 13.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.19 13.11	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	10.21.19 13.11	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.21.19 13.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	71	%	70-135	10.21.19 13.11	
o-Terphenyl	84-15-1	71	%	70-135	10.21.19 13.11	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH07**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-009	Date Collected:	10.18.19 13.47	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	10.21.19 17.33	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	10.21.19 17.33	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	10.21.19 17.33	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	10.21.19 17.33	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	10.21.19 17.33	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	10.21.19 17.33	U	1
Total BTEX		<0.00101	0.00101	mg/kg	10.21.19 17.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	10.21.19 17.33	
1,4-Difluorobenzene	540-36-3	104	%	70-130	10.21.19 17.33	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH07A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-010	Date Collected:	10.18.19 14.20	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 11.10	Basis:	Wet Weight
Seq Number:	3104900				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	10.21.19 16.43	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 08.50	Basis:	Wet Weight
Seq Number:	3104862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.19 13.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.21.19 13.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.21.19 13.11	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.21.19 13.11	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.21.19 13.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	10.21.19 13.11	
o-Terphenyl	84-15-1	83	%	70-135	10.21.19 13.11	

Certificate of Analytical Results 640494

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**BH07A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640494-010	Date Collected:	10.18.19 14.20	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.21.19 10.10	Basis:	Wet Weight
Seq Number:	3104975				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	10.21.19 17.54	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	10.21.19 17.54	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	10.21.19 17.54	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	10.21.19 17.54	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	10.21.19 17.54	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	10.21.19 17.54	U	1
Total BTEX		<0.00100	0.00100	mg/kg	10.21.19 17.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	10.21.19 17.54	
4-Bromofluorobenzene	460-00-4	115	%	70-130	10.21.19 17.54	

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 640494

LT Environmental, Inc.

EMSU 254

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104900 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688507-1-BLK — LCS Sample Id: 7688507-1-BKS — LCSD Sample Id: 7688507-1-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	238	95	250	100	90-110	5	20	mg/kg	10.21.19 11:21	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104900 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640490-001 — MS Sample Id: 640490-001 S — MSD Sample Id: 640490-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	345	994	1470	113	1480	114	90-110	1	20	mg/kg	10.21.19 13:51	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104900 — Matrix: Solid — Date Prep: 10.21.19
Parent Sample Id: 640494-010 — MS Sample Id: 640494-010 S — MSD Sample Id: 640494-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.49	198	208	101	211	102	90-110	1	20	mg/kg	10.21.19 16:49	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104862 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688525-1-BLK — LCS Sample Id: 7688525-1-BKS — LCSD Sample Id: 7688525-1-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	848	85	854	85	70-135	1	35	mg/kg	10.21.19 09:22	
Diesel Range Organics (DRO)	<50.0	1000	888	89	885	89	70-135	0	35	mg/kg	10.21.19 09:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		97		99		70-135	%	10.21.19 09:22
o-Terphenyl	83		90		90		70-135	%	10.21.19 09:22

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104862 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688525-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.21.19 09:03	

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 640494

LT Environmental, Inc.

EMSU 254

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104862 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640490-001 — MS Sample Id: 640490-001 S — MSD Sample Id: 640490-001 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)	<13.9	1000	848	85	857	86	70-135	1	35	mg/kg	10.21.19 10:02	
Diesel Range Organics (DRO)	12.5	1000	766	75	788	78	70-135	3	35	mg/kg	10.21.19 10:02	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		103		70-135	%	10.21.19 10:02
o-Terphenyl	101		101		70-135	%	10.21.19 10:02

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104975 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688598-1-BLK — LCS Sample Id: 7688598-1-BKS — LCSD Sample Id: 7688598-1-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	0.0984	98	0.0911	91	70-130	8	35	mg/kg	10.21.19 12:54	
Toluene	<0.00100	0.100	0.0956	96	0.0886	89	70-130	8	35	mg/kg	10.21.19 12:54	
Ethylbenzene	<0.00100	0.100	0.0992	99	0.0915	92	71-129	8	35	mg/kg	10.21.19 12:54	
m,p-Xylenes	<0.00200	0.200	0.199	100	0.184	92	70-135	8	35	mg/kg	10.21.19 12:54	
o-Xylene	<0.00100	0.100	0.0988	99	0.0921	92	71-133	7	35	mg/kg	10.21.19 12:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		103		101		70-130	%	10.21.19 12:54
4-Bromofluorobenzene	104		106		105		70-130	%	10.21.19 12:54

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104975 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640494-001 — MS Sample Id: 640494-001 S — MSD Sample Id: 640494-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.106	105	0.0955	95	70-130	10	35	mg/kg	10.21.19 13:35	
Toluene	<0.00101	0.101	0.103	102	0.0924	91	70-130	11	35	mg/kg	10.21.19 13:35	
Ethylbenzene	<0.00101	0.101	0.106	105	0.0951	94	71-129	11	35	mg/kg	10.21.19 13:35	
m,p-Xylenes	<0.00201	0.201	0.213	106	0.191	95	70-135	11	35	mg/kg	10.21.19 13:35	
o-Xylene	<0.00101	0.101	0.106	105	0.0951	94	71-133	11	35	mg/kg	10.21.19 13:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		103		70-130	%	10.21.19 13:35
4-Bromofluorobenzene	112		112		70-130	%	10.21.19 13:35

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: 440494

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)
www.xenco.com

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian Office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	fsmith@ltenv.com, dmoir@ltenv.com

Work Order Comments

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

Project Name:	EMSU 254	Turn Around	
Project Number:	012919107	Routine ☐	
P.O. Number:	IRP- 5567	Rush: 24hrs	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	2.4	Thermometer ID	T-NM-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	10

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
BH03	S	10/18/19	0857	1'	1	X	X	X
BH03A			0942	6'				
BH04			1110	1'				
BH04A			1150	6'				
BH05			1159	1'				
BH05A			1234	6'				
BH06			1247	1'				
BH06A			1330	6'				
BH07			1346	1'				
BH07A	↓	↓	1420	6'	↓	↓	↓	↓

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	Fatima Smith	Anna Byers	10/21/19 0845	2 Anna Byers	Courtney	10/21/19 0910
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: 10/21/2019 09:10:00 AM

Work Order #: 640494

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)?	2.4
#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: 10/21/2019

Checklist reviewed by: Jessica Kramer Date: 10/21/2019

Analytical Report 644679

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254

012919107

03-DEC-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)

03-DEC-19

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

Reference: XENCO Report No(s): **644679**
EMSU 254
Project Address: Eddy County

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) 644679. 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. 644679 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS11	S	11-26-19 09:10	0.5 ft	644679-001
FS12	S	11-26-19 09:15	0.5 ft	644679-002
FS13	S	11-26-19 09:20	0.5 ft	644679-003
FS14	S	11-26-19 09:50	0.5 ft	644679-004
FS15	S	11-26-19 09:55	0.5 ft	644679-005
FS16	S	11-26-19 10:00	0.5 ft	644679-006
FS17	S	11-26-19 10:25	0.5 ft	644679-007
FS18	S	11-26-19 10:30	0.5 ft	644679-008
FS19	S	11-26-19 10:35	0.5 ft	644679-009
FS20	S	11-26-19 10:40	0.5 ft	644679-010

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 254

Project ID: *012919107*
Work Order Number(s): *644679*

Report Date: *03-DEC-19*
Date Received: *11/27/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3109146 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 644679-001 S.

Batch: LBA-3109160 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 644679

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

Project Id: 012919107
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Wed Nov-27-19 09:50 am
Report Date: 03-DEC-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	644679-001		644679-002		644679-003		644679-004		644679-005		644679-006	
	Field Id:	FS11		FS12		FS13		FS14		FS15		FS16	
	Depth:	0.5- ft		0.5- ft		0.5- ft		0.5- ft		0.5- ft		0.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-26-19 09:10		Nov-26-19 09:15		Nov-26-19 09:20		Nov-26-19 09:50		Nov-26-19 09:55		Nov-26-19 10:00	
BTEX by EPA 8021B	**Extracted:**	Dec-02-19 16:00		Dec-02-19 16:00		Dec-02-19 16:00		Dec-02-19 16:00		Dec-02-19 16:00		Dec-02-19 16:00	
	Analyzed:	Dec-02-19 21:55		Dec-02-19 23:18		Dec-02-19 23:37		Dec-02-19 23:56		Dec-03-19 00:15		Dec-03-19 00:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198
m,p-Xylenes		<0.00401	0.00401	<0.00398	0.00398	<0.00399	0.00399	<0.00395	0.00395	<0.00397	0.00397	<0.00395	0.00395
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198
Chloride by EPA 300	**Extracted:**	Dec-02-19 12:37		Dec-02-19 12:37		Dec-02-19 12:37		Dec-02-19 12:37		Dec-02-19 12:37		Dec-02-19 12:37	
	Analyzed:	Dec-02-19 15:52		Dec-02-19 16:09		Dec-02-19 16:15		Dec-02-19 16:21		Dec-02-19 16:27		Dec-02-19 16:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<10.1	10.1	19.0	9.94	38.1	9.98	318	10.1	572	49.7	371	10.1
TPH by SW8015 Mod	**Extracted:**	Dec-02-19 14:00		Dec-02-19 14:00		Dec-02-19 14:00		Dec-02-19 14:00		Dec-02-19 14:00		Dec-02-19 14:00	
	Analyzed:	Dec-02-19 19:34		Dec-02-19 20:13		Dec-02-19 20:13		Dec-02-19 20:33		Dec-02-19 20:33		Dec-02-19 20:53	
	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	<49.8	49.8	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.2	50.2
Diesel Range Organics (DRO)		<50.1	50.1	<49.8	49.8	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.2	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<49.8	49.8	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.2	50.2
Total GRO-DRO		<50.1	50.1	<49.8	49.8	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.2	50.2
Total TPH		<50.1	50.1	<49.8	49.8	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.2	50.2

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 644679

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254

Project Id: 012919107
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Wed Nov-27-19 09:50 am
Report Date: 03-DEC-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	644679-007		644679-008		644679-009		644679-010					
	Field Id:	FS17		FS18		FS19		FS20					
	Depth:	0.5- ft		0.5- ft		0.5- ft		0.5- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Nov-26-19 10:25		Nov-26-19 10:30		Nov-26-19 10:35		Nov-26-19 10:40					
BTEX by EPA 8021B	*Extracted:*	Dec-02-19 16:00		Dec-02-19 16:00		Dec-02-19 16:00		Dec-02-19 16:00					
	Analyzed:	Dec-03-19 00:54		Dec-03-19 01:13		Dec-03-19 01:32		Dec-03-19 01:51					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
Toluene		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
Ethylbenzene		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
m,p-Xylenes		<0.00394	0.00394	<0.00399	0.00399	<0.00401	0.00401	<0.00402	0.00402				
o-Xylene		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
Total Xylenes		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
Total BTEX		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
Chloride by EPA 300	*Extracted:*	Dec-02-19 12:37		Dec-02-19 12:37		Dec-02-19 12:37		Dec-02-19 12:37					
	Analyzed:	Dec-02-19 17:05		Dec-02-19 17:12		Dec-02-19 17:19		Dec-02-19 17:25					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		695	50.1	325	9.94	879	49.9	1550	50.1				
TPH by SW8015 Mod	*Extracted:*	Dec-02-19 14:00		Dec-02-19 14:00		Dec-02-19 14:00		Dec-02-19 14:00					
	Analyzed:	Dec-02-19 20:53		Dec-02-19 21:12		Dec-02-19 21:12		Dec-02-19 21:32					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2				
Diesel Range Organics (DRO)		<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2				
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2				
Total GRO-DRO		<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2				
Total TPH		<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-001	Date Collected:	11.26.19 09.10	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 12.37	Basis:	Wet Weight
Seq Number:	3109171				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	12.02.19 15.52	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.02.19 14.00	Basis:	Wet Weight
Seq Number:	3109146				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.02.19 19.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.02.19 19.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.02.19 19.34	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.02.19 19.34	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.02.19 19.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.02.19 19.34	
o-Terphenyl	84-15-1	107	%	70-135	12.02.19 19.34	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-001	Date Collected:	11.26.19 09.10	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 16.00	Basis:	Wet Weight
Seq Number:	3109160				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.02.19 21.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.02.19 21.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.02.19 21.55	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.02.19 21.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.02.19 21.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.02.19 21.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.02.19 21.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.02.19 21.55	
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.02.19 21.55	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS12**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-002	Date Collected:	11.26.19 09.15	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 12.37	Basis:	Wet Weight
Seq Number:	3109171				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.0**	9.94	mg/kg	12.02.19 16.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.02.19 14.00	Basis:	Wet Weight
Seq Number:	3109146				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.02.19 20.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.02.19 20.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.02.19 20.13	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.02.19 20.13	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.02.19 20.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.02.19 20.13	
o-Terphenyl	84-15-1	124	%	70-135	12.02.19 20.13	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS12**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-002	Date Collected:	11.26.19 09.15	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 16.00	Basis:	Wet Weight
Seq Number:	3109160				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.02.19 23.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.02.19 23.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.02.19 23.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.02.19 23.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.02.19 23.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.02.19 23.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.02.19 23.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.02.19 23.18	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.02.19 23.18	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS13**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-003	Date Collected:	11.26.19 09.20	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 12.37	Basis:	Wet Weight
Seq Number:	3109171				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**38.1**	9.98	mg/kg	12.02.19 16.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.02.19 14.00	Basis:	Wet Weight
Seq Number:	3109146				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.02.19 20.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.02.19 20.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.02.19 20.13	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.02.19 20.13	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.02.19 20.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.02.19 20.13	
o-Terphenyl	84-15-1	111	%	70-135	12.02.19 20.13	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS13**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-003	Date Collected:	11.26.19 09.20	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 16.00	Basis:	Wet Weight
Seq Number:	3109160				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.02.19 23.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.02.19 23.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.02.19 23.37	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.02.19 23.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.02.19 23.37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.02.19 23.37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.02.19 23.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.02.19 23.37	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.02.19 23.37	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS14**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-004	Date Collected:	11.26.19 09.50	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 12.37	Basis:	Wet Weight
Seq Number:	3109171				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**318**	10.1	mg/kg	12.02.19 16.21		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.02.19 14.00	Basis:	Wet Weight
Seq Number:	3109146				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.02.19 20.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.02.19 20.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.02.19 20.33	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.02.19 20.33	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.02.19 20.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	12.02.19 20.33	
o-Terphenyl	84-15-1	122	%	70-135	12.02.19 20.33	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS14**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-004	Date Collected:	11.26.19 09.50	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 16.00	Basis:	Wet Weight
Seq Number:	3109160				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.02.19 23.56	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.02.19 23.56	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.02.19 23.56	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	12.02.19 23.56	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.02.19 23.56	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.02.19 23.56	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.02.19 23.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.02.19 23.56	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.02.19 23.56	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS15**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-005	Date Collected:	11.26.19 09.55	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 12.37	Basis:	Wet Weight
Seq Number:	3109171				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**572**	49.7	mg/kg	12.02.19 16.27		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.02.19 14.00	Basis:	Wet Weight
Seq Number:	3109146				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.02.19 20.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.02.19 20.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.02.19 20.33	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.02.19 20.33	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.02.19 20.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.02.19 20.33	
o-Terphenyl	84-15-1	111	%	70-135	12.02.19 20.33	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS15**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-005	Date Collected:	11.26.19 09.55	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 16.00	Basis:	Wet Weight
Seq Number:	3109160				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.03.19 00.15	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.03.19 00.15	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.03.19 00.15	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.03.19 00.15	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.03.19 00.15	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.03.19 00.15	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.03.19 00.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.03.19 00.15	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.03.19 00.15	

Certificate of Analytical Results 644679

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EMSU 254

Sample Id:	**FS16**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-006	Date Collected:	11.26.19 10.00	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 12.37	Basis:	Wet Weight
Seq Number:	3109171				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**371**	10.1	mg/kg	12.02.19 16.59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.02.19 14.00	Basis:	Wet Weight
Seq Number:	3109146				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.02.19 20.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.02.19 20.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.02.19 20.53	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.02.19 20.53	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.02.19 20.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	12.02.19 20.53	
o-Terphenyl	84-15-1	127	%	70-135	12.02.19 20.53	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS16**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-006	Date Collected:	11.26.19 10.00	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 16.00	Basis:	Wet Weight
Seq Number:	3109160				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.03.19 00.34	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.03.19 00.34	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.03.19 00.34	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	12.03.19 00.34	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.03.19 00.34	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.03.19 00.34	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.03.19 00.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.03.19 00.34	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.03.19 00.34	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS17**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-007	Date Collected:	11.26.19 10.25	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 12.37	Basis:	Wet Weight
Seq Number:	3109171				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**695**	50.1	mg/kg	12.02.19 17.05		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.02.19 14.00	Basis:	Wet Weight
Seq Number:	3109146				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.02.19 20.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.02.19 20.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.02.19 20.53	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.02.19 20.53	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.02.19 20.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.02.19 20.53	
o-Terphenyl	84-15-1	110	%	70-135	12.02.19 20.53	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS17**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-007	Date Collected:	11.26.19 10.25	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 16.00	Basis:	Wet Weight
Seq Number:	3109160				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00197	0.00197	mg/kg	12.03.19 00.54	U	1
Toluene	108-88-3	<0.00197	0.00197	mg/kg	12.03.19 00.54	U	1
Ethylbenzene	100-41-4	<0.00197	0.00197	mg/kg	12.03.19 00.54	U	1
m,p-Xylenes	179601-23-1	<0.00394	0.00394	mg/kg	12.03.19 00.54	U	1
o-Xylene	95-47-6	<0.00197	0.00197	mg/kg	12.03.19 00.54	U	1
Total Xylenes	1330-20-7	<0.00197	0.00197	mg/kg	12.03.19 00.54	U	1
Total BTEX		<0.00197	0.00197	mg/kg	12.03.19 00.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.03.19 00.54	
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.03.19 00.54	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS18**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-008	Date Collected:	11.26.19 10.30	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 12.37	Basis:	Wet Weight
Seq Number:	3109171				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**325**	9.94	mg/kg	12.02.19 17.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.02.19 14.00	Basis:	Wet Weight
Seq Number:	3109146				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.02.19 21.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.02.19 21.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.02.19 21.12	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.02.19 21.12	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.02.19 21.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.02.19 21.12	
o-Terphenyl	84-15-1	125	%	70-135	12.02.19 21.12	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS18**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-008	Date Collected:	11.26.19 10.30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 16.00	Basis:	Wet Weight
Seq Number:	3109160				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.03.19 01.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.03.19 01.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.03.19 01.13	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.03.19 01.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.03.19 01.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.03.19 01.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.03.19 01.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.03.19 01.13	
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.03.19 01.13	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS19**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-009	Date Collected:	11.26.19 10.35	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 12.37	Basis:	Wet Weight
Seq Number:	3109171				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**879**	49.9	mg/kg	12.02.19 17.19		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.02.19 14.00	Basis:	Wet Weight
Seq Number:	3109146				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.02.19 21.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.02.19 21.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.02.19 21.12	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.02.19 21.12	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.02.19 21.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.02.19 21.12	
o-Terphenyl	84-15-1	114	%	70-135	12.02.19 21.12	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS19**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-009	Date Collected:	11.26.19 10.35	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 16.00	Basis:	Wet Weight
Seq Number:	3109160				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.03.19 01.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.03.19 01.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.03.19 01.32	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.03.19 01.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.03.19 01.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.03.19 01.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.03.19 01.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.03.19 01.32	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.03.19 01.32	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS20**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-010	Date Collected:	11.26.19 10.40	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 12.37	Basis:	Wet Weight
Seq Number:	3109171				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1550**	50.1	mg/kg	12.02.19 17.25		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.02.19 14.00	Basis:	Wet Weight
Seq Number:	3109146				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.02.19 21.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.02.19 21.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.02.19 21.32	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.02.19 21.32	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.02.19 21.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.02.19 21.32	
o-Terphenyl	84-15-1	119	%	70-135	12.02.19 21.32	

Certificate of Analytical Results 644679

LT Environmental, Inc., Arvada, CO

EMSU 254

Sample Id:	**FS20**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644679-010	Date Collected:	11.26.19 10.40	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.02.19 16.00	Basis:	Wet Weight
Seq Number:	3109160				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.03.19 01.51	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.03.19 01.51	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.03.19 01.51	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.03.19 01.51	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.03.19 01.51	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.03.19 01.51	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.03.19 01.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.03.19 01.51	
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.03.19 01.51	

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 644679

LT Environmental, Inc.

EMSU 254

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109171 — Matrix: Solid — Date Prep: 12.02.19
MB Sample Id: 7691461-1-BLK — LCS Sample Id: 7691461-1-BKS — LCSD Sample Id: 7691461-1-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	262	105	264	106	90-110	1	20	mg/kg	12.02.19 15:40	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109171 — Matrix: Soil — Date Prep: 12.02.19
Parent Sample Id: 644679-001 — MS Sample Id: 644679-001 S — MSD Sample Id: 644679-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.1	201	220	109	219	108	90-110	0	20	mg/kg	12.02.19 15:58	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109171 — Matrix: Soil — Date Prep: 12.02.19
Parent Sample Id: 644772-001 — MS Sample Id: 644772-001 S — MSD Sample Id: 644772-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14400	247	14600	81	14600	80	90-110	0	20	mg/kg	12.03.19 11:05	X

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3109146 — Matrix: Solid — Date Prep: 12.02.19
MB Sample Id: 7691483-1-BLK — LCS Sample Id: 7691483-1-BKS — LCSD Sample Id: 7691483-1-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	879	88	976	98	70-135	10	35	mg/kg	12.02.19 19:14	
Diesel Range Organics (DRO)	<50.0	1000	1070	107	1140	114	70-135	6	35	mg/kg	12.02.19 19:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		120		132		70-135	%	12.02.19 19:14
o-Terphenyl	120		122		131		70-135	%	12.02.19 19:14

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3109146 — Matrix: Solid — Date Prep: 12.02.19
MB Sample Id: 7691483-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.02.19 19:14	

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 644679

LT Environmental, Inc.

EMSU 254

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3109146 — Matrix: Soil — Date Prep: 12.02.19
Parent Sample Id: 644679-001 — MS Sample Id: 644679-001 S — MSD Sample Id: 644679-001 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	983	98	898	89	70-135	9	35	mg/kg	12.03.19 09:09	
Diesel Range Organics (DRO)	<50.0	1000	1250	125	1100	109	70-135	13	35	mg/kg	12.03.19 09:09	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	135		119		70-135	%	12.03.19 09:09
o-Terphenyl	136	**	125		70-135	%	12.03.19 09:09

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3109160 — Matrix: Solid — Date Prep: 12.02.19
MB Sample Id: 7691464-1-BLK — LCS Sample Id: 7691464-1-BKS — LCSD Sample Id: 7691464-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0856	86	0.0885	89	70-130	3	35	mg/kg	12.02.19 21:17	
Toluene	<0.00200	0.100	0.0854	85	0.0908	91	70-130	6	35	mg/kg	12.02.19 21:17	
Ethylbenzene	<0.00200	0.100	0.0839	84	0.0901	90	71-129	7	35	mg/kg	12.02.19 21:17	
m,p-Xylenes	<0.00400	0.200	0.177	89	0.191	96	70-135	8	35	mg/kg	12.02.19 21:17	
o-Xylene	<0.00200	0.100	0.0900	90	0.0977	98	71-133	8	35	mg/kg	12.02.19 21:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		102		101		70-130	%	12.02.19 21:17
4-Bromofluorobenzene	108		114		114		70-130	%	12.02.19 21:17

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3109160 — Matrix: Soil — Date Prep: 12.02.19
Parent Sample Id: 644679-001 — MS Sample Id: 644679-001 S — MSD Sample Id: 644679-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0836	83	0.0744	74	70-130	12	35	mg/kg	12.02.19 22:59	
Toluene	<0.00202	0.101	0.0847	84	0.0780	78	70-130	8	35	mg/kg	12.02.19 22:59	
Ethylbenzene	<0.00202	0.101	0.0843	83	0.0776	78	71-129	8	35	mg/kg	12.02.19 22:59	
m,p-Xylenes	<0.000760	0.202	0.178	88	0.165	82	70-135	8	35	mg/kg	12.02.19 22:59	
o-Xylene	<0.00202	0.101	0.0897	89	0.0853	85	71-133	5	35	mg/kg	12.02.19 22:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		98		70-130	%	12.02.19 22:59
4-Bromofluorobenzene	111		119		70-130	%	12.02.19 22:59

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: 641679

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)
www.xenco.com

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

Work Order Comments

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

Project Name:	EMSU 254	Turn Around	
Project Number:	01291907	Routine	X
P.O. Number:	Eddy County	Rush:	
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	0.0	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:	10

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
FS 11	S	11/26/19	0910	0.5'	1	X	X	X	composite
FS 12			0915						
FS 13			0920						
FS 14			0950						
FS 15			0955						
FS 16			1000						
FS 17			1025						
FS 18			1030						
FS 19			1035						
FS 20			1040						

Work Order Notes

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

ANALYSIS REQUEST

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 Elizabeth Naka		11/27/19 9:20	2		11/27/19 9:50
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: 11/27/2019 09:50:00 AM

Work Order #: 644679

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)?	.6
#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: 12/02/2019

Checklist reviewed by: Jessica Kramer Date: 12/02/2019

Jessica Kramer