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	NDHR1910939620
District RP	1RP-5434
Facility ID	
Application ID	pDHR1910935923

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

Location of Release Source

Latitude 32.503330° Longitude -103.293542°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Eunice Monument South Unit 254	Site Type Production Well Facility flow line
Date Release Discovered 4/7/2019	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) 3.17	Volume Recovered (bbls) 1.44
☒ Produced Water	Volume Released (bbls) 94.41	Volume Recovered (bbls) 78.56
	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

Poly flow line developed a hole due to weathering and released fluids to pasture soils and adjacent Apache well pad. The line was isolated and a vacuum truck recovered free 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	NDHR1910939620
District RP	1RP-5434
Facility ID	
Application ID	pDHR1910935923

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 Shelby Pennington to emnrd-ocd-district1spills@state.nm.us, and Jim Griswold (NMOCD), and Ryan Mann (SLO) on 4/8/2019 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: Kyle Littrell
Title: SH&E Supervisor
Signature:
Date: 4/19/2019
email: Kyle_Littrell@xtoenergy.com
Telephone: 432-221-7331

OCD Only

Received by: Dylan Rose-Coss
Date: 4/19/2019

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	NDHR1910939620
District RP	1RP-5434
Facility ID	
Application ID	pDHR1910935923

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	NDHR1910939620
District RP	1RP-5434
Facility ID	
Application ID	pDHR1910935923

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ Date: 12/31/2019

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NDHR1910939620
District RP	1RP-5434
Facility ID	
Application ID	pDHR1910935923

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: 12/31/2019

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

December 31, 2019

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

RE: Closure Request
Eunice Monument South Unit 254
Remediation Permit Number 1RP-5434
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, excavation, and soil sampling activities at the Eunice Monument South Unit 254 (Site) located in Unit U, Section 5, Township 21 South, Range 36 East, in Lea County, New Mexico (Figure 1). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil following a release of crude oil and produced water at the Site. Based on excavation activities and results of the soil sampling events, XTO is submitting this Closure Request and respectfully requesting no further action (NFA) for Remediation Permit (RP) Number 1RP-5434.

RELEASE BACKGROUND

On April 7, 2019, a hole developed in a poly flow line, resulting in the release of approximately 3.17 barrels (bbls) of crude oil and 94.41 bbls of produced water onto surrounding pasture soils and east onto the adjacent well pad. The leaking poly line was isolated and a vacuum truck was dispatched to the Site to recover free-standing fluid; approximately 1.44 bbls of crude oil and 78.56 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on April 19, 2019 and was subsequently assigned RP Number 1RP-5434.

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 water wells are CP 01143, however, no depth to water is listed. The closest permitted groundwater wells with depth to groundwater data are New Mexico Office of State Engineers (NMOSE) wells CP 00693

and CP00670, located approximately 2,169 feet south of the Site and 3,519 feet east of the Site, respectively. These groundwater wells have a depth to groundwater of approximately 1,000 feet and 1,128 feet bgs, respectively; however, these wells were drilled for oil and gas production purposes and likely omitted observations of shallow groundwater. A United States Geological Survey (USGS) well (322931103180301) is located approximately 4,667 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 freshwater pond located approximately 2.46 miles to the southwest. 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 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, DELINEATION, AND EXCAVATION ACTIVITIES

On May 8, 2019, LTE personnel conducted reconnaissance at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected six preliminary soil samples SS01 through SS06 from within the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of impacted soil. Soil from the preliminary soil samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic

documentation was conducted during excavation activities. Photographs are included in Attachment 1.

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

Laboratory analytical results for preliminary soil samples SS01 and SS04 indicated that TPH-GRO + TPH-DRO and TPH concentrations exceeded the Closure Criteria or reclamation requirements in the pasture. Based on the laboratory analytical results for the preliminary soil samples and field observations, excavation and delineation activities appeared to be warranted. Laboratory analytical results for the preliminary soil samples are presented on Figure 2 and summarized in Table 1.

On October 3 through October 15, 2019, LTE personnel oversaw excavation of impacted soil in the areas of SS01 and SS04 via track-mounted backhoe and hydro-vacuum. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. The extent of the excavation is presented on Figure 4. The majority of the excavation was 1 foot in depth except in a small area near preliminary soil sample SS04, which extended to 6 feet bgs.

Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. In areas where the excavation was 1 foot in depth, confirmation samples FS02 through FS21 were collected to represent both the floor and sidewalls of the excavation. In the area advanced to 6 feet bgs, two sidewall samples (SW01 and SW02) and one floor sample (FS01) were collected. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The excavation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico. The excavation extent and soil sample locations are depicted on Figure 3.

In addition to the primary excavation, soil removal via hydro-vacuum occurred in the eastern portion of the release extent where a liner was previously installed to address a historical release. The liner was exposed and no damage was observed. Due to the presence of the liner, no confirmation samples were collected, as soil above the liner was removed. The depth of the liner ranged from 0.5 feet to 4 feet bgs. The liner was immediately backfilled to preserve the integrity of the liner. The liner location and excavation extent are depicted on Figure 3.

The final excavation extents measured approximately 4,640 square feet in area. A total of approximately 180 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the R360 landfill facility located in Hobbs, New Mexico. Clean backfill material was transported to the Site and the excavation in the pasture was backfilled. The Site will be reseeded with Bureau of Land Management (BLM) seed mix #2.

On October 3 and October 4, 2019, LTE advanced two potholes (PH05 and PH06) and one borehole (BH01) around the liner excavation since confirmation samples could not be collected in that area. Potholes PH05 and PH06 were advanced via track-mounted backhoe to a depth of approximately six feet bgs. Borehole BH01 was advanced via hydro-vacuum to a depth of approximately six feet bgs. Two soil samples were collected from each pothole and the borehole at depths of approximately one foot and six feet bgs. Soil from the potholes/borehole was field screened for volatile aromatic hydrocarbons and chloride 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 delineation soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Carlsbad, New Mexico. The potholes and the borehole were backfilled with the soil removed. The pothole/borehole and delineation soil sample locations are depicted on Figure 3.

ANALYTICAL RESULTS

Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in preliminary soil samples SS02, SS03, and SS05. Laboratory analytical results for preliminary soil samples SS01 and SS04 indicated that TPH-GRO, TPH-DRO, and TPH concentrations exceeded the Closure Criteria, with concentrations ranging from 3,190 mg/kg to 11,300 mg/kg for TPH-GRO and TPH-DRO and 3,560 mg/kg to 12,500 mg/kg for TPH.

Following removal of impacted soil, LTE collected confirmation soil samples within the excavation extent. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and the 600 mg/kg chloride reclamation standard in excavation soil samples SW01, SW02, FS01 through FS21, and FS10A.

LTE advanced potholes and one borehole around the liner excavation to confirm impacted soil had been removed. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and reclamation chloride standard in delineation soil samples PH05/PH05A, PH06/PH06A, and BH01/BH01A. Laboratory analytical results are summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

CONCLUSIONS

Preliminary soil samples SS01 through SS05 were collected from within the release extent at depths of 0.5 feet bgs to assess the presence or absence of impacted soil. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and reclamation chloride standard in preliminary soil samples SS02, SS03, and SS05. Laboratory analytical results for preliminary soil samples SS01 and SS04 indicated that TPH-GRO, TPH-DRO, and TPH concentrations exceeded the Closure Criteria.

Soil in the area of preliminary soil sample SS04 was removed to a depth of approximately 6 feet bgs. Other portions of the visibility stained release footprint were excavated to approximately 1 foot bgs. Following removal of impacted soil, LTE collected confirmation soil samples within the primary excavation extent at depths ranging from approximately one foot to six feet bgs. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and the 600 mg/kg reclamation chloride standard in excavation soil samples SW01, SW02, FS01 through FS21, and FS10A.

Soil in the area of preliminary soil sample SS01 was excavated to depths ranging from approximately one foot to four feet bgs until a previously installed liner was exposed. Excavation confirmation soil samples were not collected where the liner was exposed. Instead, LTE advanced two potholes and one borehole around the liner to depths of approximately six feet bgs. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and reclamation chloride standard in delineation soil samples PH05/PH05A, PH06/PH06A, and BH01/BH01A.

Initial response effort and remedial activities have mitigated impacts at this Site. XTO requests NFA for RP Number 12RP-5434.

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

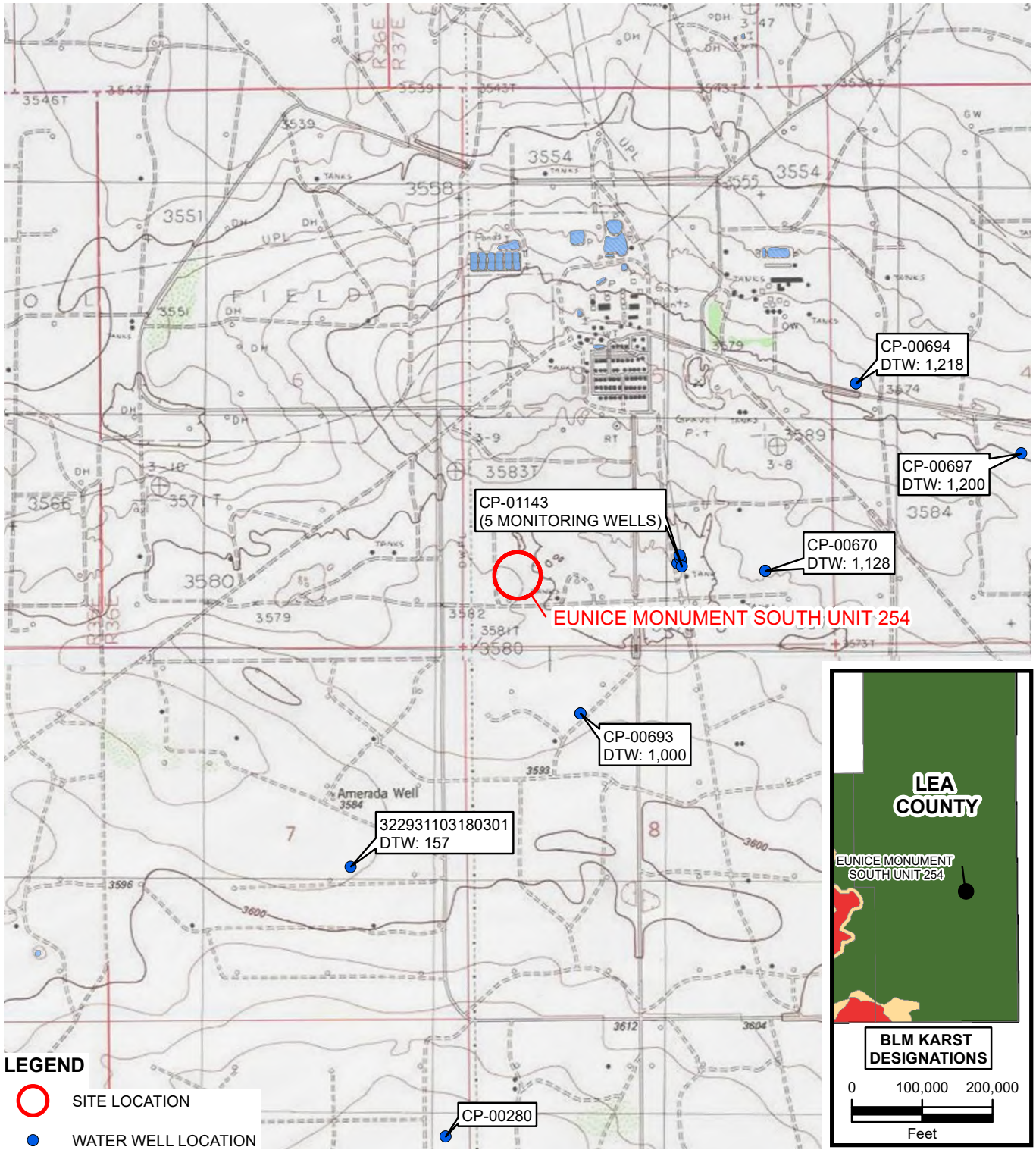
Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Ryan Mann, State Land Office
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Appendices:

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

FIGURES



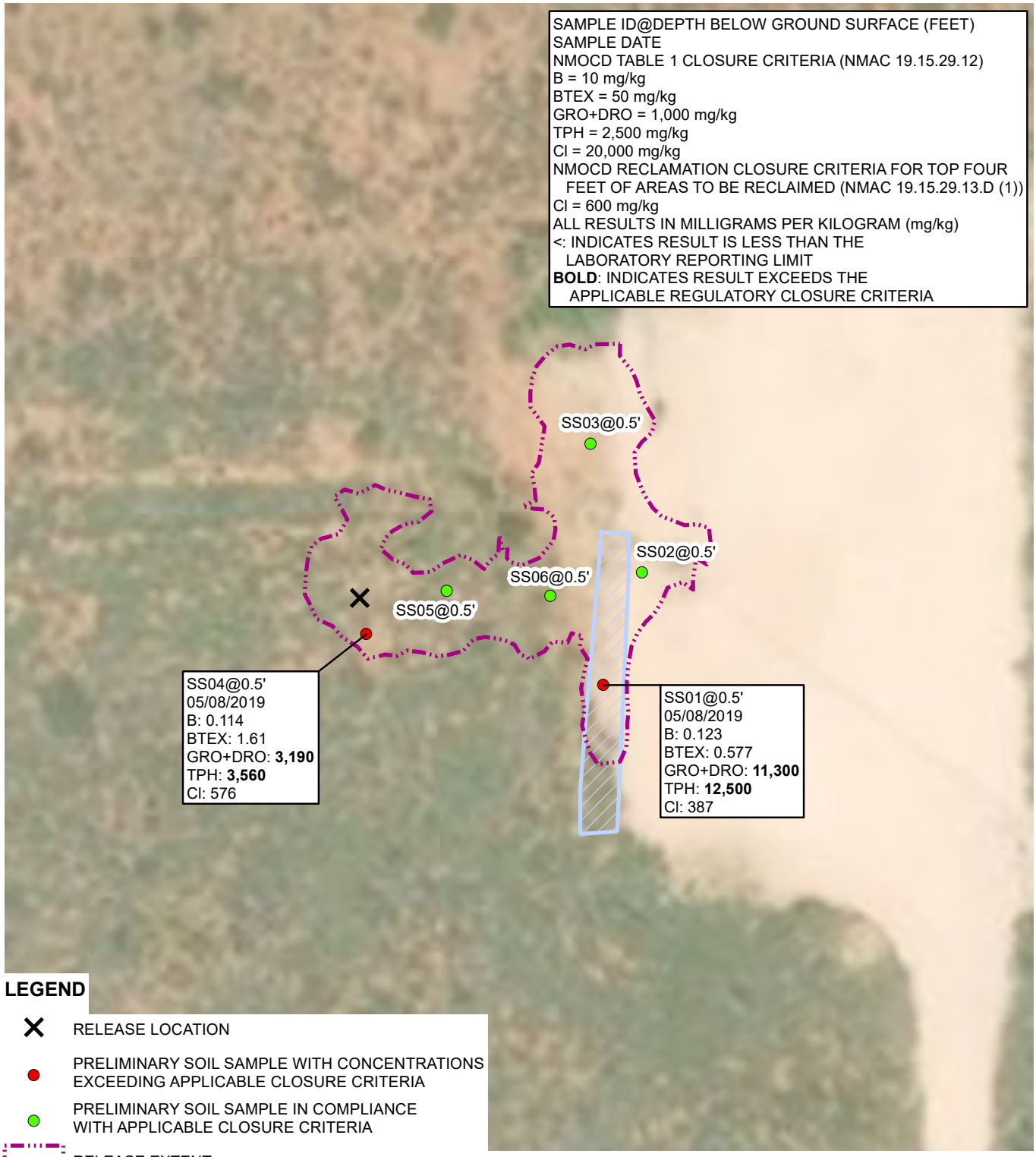
LEGEND

- 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-5434
DTW: DEPTH TO WATER IN FEET

FIGURE 1
POTENTIAL RECEPTOR MAP
EUNICE MONUMENT SOUTH UNIT 254
UNIT U SEC 5 T21S R36E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

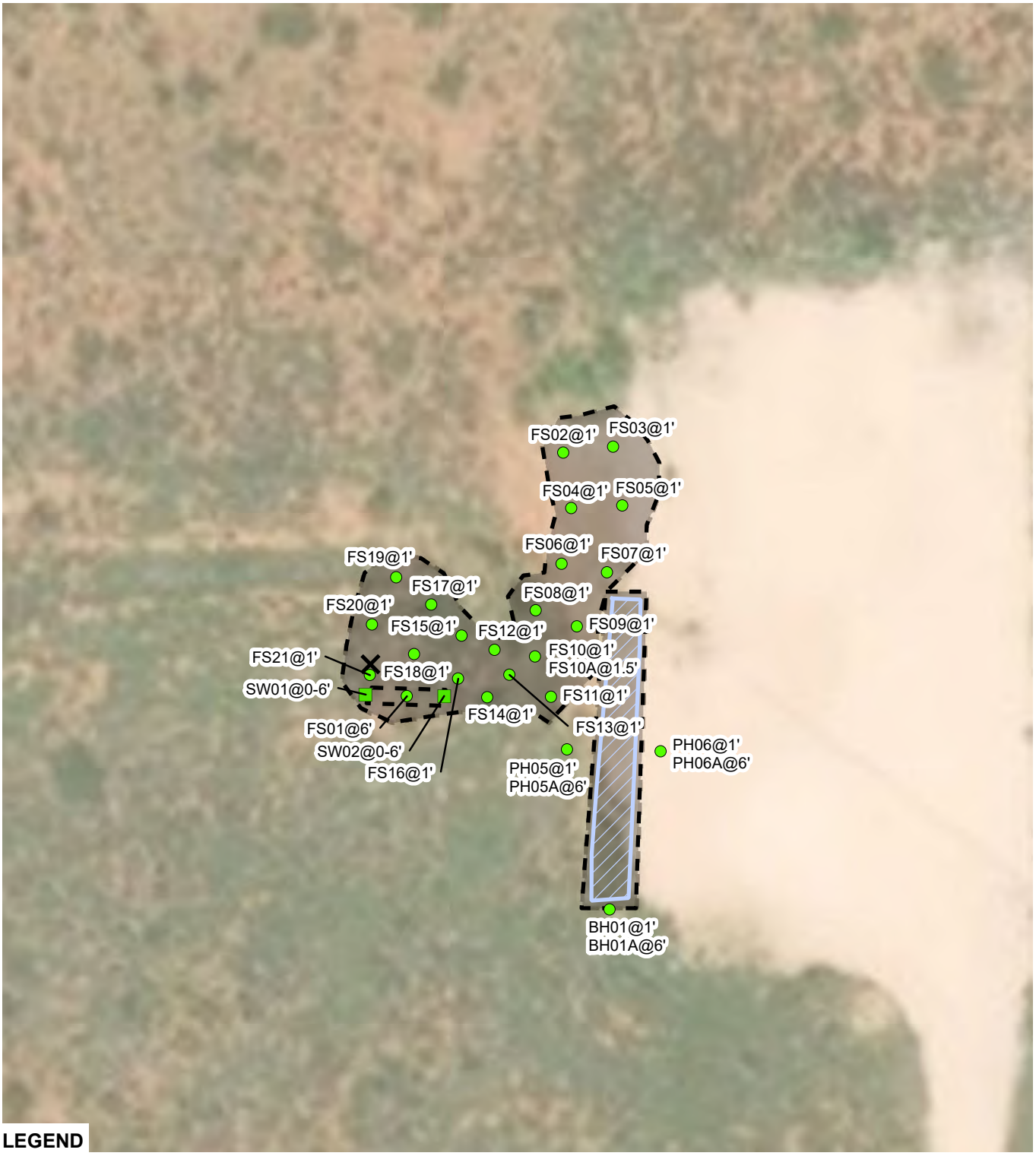
P:\XTO Energy\GIS\MXD\012919067_EUNICE MONUMENT SOUTH UNIT 254\012919067_FIG01_POTENTIAL RECEPTOR_2019_5434.mxd



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-5434

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

P:\XTO Energy\GIS\MXD\012919067_EUNICE MONUMENT SOUTH UNIT 254\012919067_FIG02_PRELIMINARY_DSO_2019.mxd



LEGEND

- RELEASE LOCATION
- EXCAVATION SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- SIDEWALL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- EXCAVATION EXTENT
- LINER EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 1RP-5434

IMAGE COURTESY OF ESRI

0 40 80
Feet

N

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

P:\XTO Energy\GIS\MXD\012919067_EUNICE MONUMENT SOUTH UNIT 254\012919067_FIG03_EXCAVATION_NA.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

EUNICE MONUMENT SOUTH UNIT 254
REMEDIATION PERMIT NUMBER 1RP-5434
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	05/08/2019	0.123	<0.0994	0.120	0.334	0.577	357	10,900	1,280	**11,300**	**12,500**	387*
SS02	0.5	05/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	30.3	<14.9	30.3	30.3	329
SS03	0.5	05/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	376	49.3	376	425	307*
SS04	0.5	05/08/2019	0.114	0.202	0.432	0.861	1.61	286	2,900	370	**3,190**	**3,560**	576*
SS05	0.5	05/08/2019	<0.00202	<0.00202	0.00250	0.00904	0.0115	38.5	685	93.1	724	817	252*
SS06	0.5	05/08/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	59.2	<15.0	59.2	59.2	321*
PH05	1	10/03/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	12.9*
PH05A	6	10/03/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	<5.04
PH06	1	10/03/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	235
PH06A	6	10/03/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	9.23
BH01	1	10/04/2019	<0.0173	<0.0173	<0.0173	<0.0173	<0.0173	<49.8	<49.8	<49.8	<49.8	<49.8	11.9*
BH01A	6	10/04/2019	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	<50.4	<50.4	<50.4	<50.4	<50.4	484
FS01	6	10/03/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	502
FS02	1	10/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	5.89*
FS03	1	10/08/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	16.1*
FS04	1	10/08/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	135*
FS05	1	10/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	95.4*
FS06	1	10/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	37.7*
FS07	1	10/08/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	61.5*
FS08	1	10/08/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	86.7	<49.9	86.7	86.7	86.0*
FS09	1	10/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	67.7	<49.9	67.7	67.7	96.6*
FS10	1	10/08/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	1,280	195	**1,280**	1,480	100*
FS10A	1.5	10/15/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	351*
FS11	1	10/08/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	58.9	<49.8	58.9	58.9	56.5*

TABLE 1
SOIL ANALYTICAL RESULTS

EUNICE MONUMENT SOUTH UNIT 254
REMEDIATION PERMIT NUMBER 1RP-5434
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**
FS12	1	10/08/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	142	<50.0	142	142	240*
FS13	1	10/08/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	278	54.0	278	332	173*
FS14	1	10/08/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	57.8	<49.9	57.8	57.8	57.7*
FS15	1	10/08/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	341	55.9	341	397	293*
FS16	1	10/08/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	102	<49.9	102	102	399*
FS17	1	10/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	135*
FS18	1	10/08/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	700	109	700	809	416*
FS19	1	10/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	63.4	<49.9	63.4	63.4	163*
FS20	1	10/08/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	193	<50.0	193	193	86.7*
FS21	1	10/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	211	<49.8	211	211	182*
SW01	0 - 6	10/03/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	358*
SW02	0 - 6	10/03/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	333*

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

View of point of release during site assessment activities.

Project: 012919067	XTO Energy, Inc. Eunice Monument South Unit 254	LTE Advancing Opportunity
May 8, 2019	Photographic Log	

Northern view of liner area during excavation activities.

Project: 012919067	XTO Energy, Inc. Eunice Monument South Unit 254	LTE Advancing Opportunity
October 8, 2019	Photographic Log	

Western view of backfilled excavation after delineation and excavation activities.

Project: 012919067	XTO Energy, Inc. Eunice Monument South Unit 254	LTE Advancing Opportunity
December 23, 2019	Photographic Log	

Northern view of backfilled excavation and liner area after delineation and excavation activities.

Project: 012919067	XTO Energy, Inc. Eunice Monument South Unit 254	LTE Advancing Opportunity
December 23, 2019	Photographic Log	

ATTACHMENT 2: LITHOLOGIC/ SOIL SAMPLE LOGS

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

Identifier:	Date:
PH01	10/3/2019
Project Name: EMSU 254 Flowline	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	<176	14.0	N		1		S	SC, poorly graded, reddish brwn, low plasticity, cohesive, organic matter throughout, no odor
Dry	218	21.5	N		2		S	
Dry	296	44.2	N		4		S	
Dry	436	44.9	N		6		S	deepest sample @ 6'

Fath

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

Identifier: PH02	Date: 10/3/2019
Project Name: EMSU 254 Flowline	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	<176	20.9	N		0–1		S	sc, poorly graded, reddish brwn, low plasticity, cohesive, no odor
Dry		13.7	N		2		S	
Dry		19.3	N		4		S	
Dry		13.1	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: PH03	Date: 10/3/2019
Project Name: EMSU 254 Flowline	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	<176	28.9	N		0–1		S	SC, SL, SP, reddish brwn, cohesive, no odor
Dry	<176	13.8	N		1–2		S	
					2–3			
Dry	<176	27.1	N		3–4		S	
					4–5			
Dry	436	26.9	N		5–6		S	deepest sample @ 6'
					6–7			
					7–8			
					8–9			
					9–10			
					10–11			
					11–12			

LT Environmental, Inc.

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

Identifier: PH04	Date: 10/3/2019
Project Name: EMSU 254 Flowline	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	683	16.1	N		1		S	sc, poorly graded, low plasticity, reddish brown, cohesive, no odor
Dry	750	205	N		2		S	
Dry	492	24.7	N		4		S	
Dry	492	14.1	N		6		S	deepest sample @ 6'

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

Fatima

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

Identifier: PH05	Date: 10/3/2019
Project Name: EMSU 254 Flowline	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	12.8	N		1		S	sc, poorly graded, reddish brwn, low plasticity, no odor, cohesive
Dry		12.6	N		2		S	
Dry		12.9	N		4		S	
Dry	↓	13.0	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: PH06	Date: 10/3/2019
Project Name: EMSU 254 Flowline	RP Number:
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	492	21.2	N		1		S	sc, poorly graded, reddish brwn, low plasticity, no odor, cohesive
Dry	492	26.7	N		2		S	
Dry	683	20.4	N		4		S	
Dry	750	25.4	N		6		S	deepest sample @ 6'

Fatima

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

Identifier: BH01	Date: 10/4/2019
Project Name: EMSU 254 Flowline	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	9.9	N		0–1		S	SC, poorly graded, reddish brwn, low plasticity, cohesive, no odor
Dry	<179	14.7	N		1–2		S	
					2–3			– soil very compacted
Dry	386	4.9	N		3–4		S	
					4–5			
Dry	352	5.7	N		5–6		S	deepest sample @ 6'
					6–7			
					7–8			
					8–9			
					9–10			
					10–11			
					11–12			

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

Analytical Report 624041

for

LT Environmental, Inc.

Project Manager: Ashley Ager

EMSU #254

17-MAY-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)

17-MAY-19

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

Reference: XENCO Report No(s): **624041**
EMSU #254
Project Address: Delaware Basin

Ashley Ager:

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) 624041. 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. 624041 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 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	05-08-19 11:30	0.5	624041-001
SS02	S	05-08-19 11:35	0.5	624041-002
SS03	S	05-08-19 11:40	0.5	624041-003
SS04	S	05-08-19 11:43	0.5	624041-004
SS05	S	05-08-19 11:45	0.5	624041-005
SS06	S	05-08-19 11:48	0.5	624041-006

CASE NARRATIVE

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

Project ID:
Work Order Number(s): *624041*

Report Date: *17-MAY-19*
Date Received: *05/13/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3089300 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 624041-004.

Certificate of Analysis Summary 624041

LT Environmental, Inc., Arvada, CO

Project Name: EMSU #254

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Mon May-13-19 10:50 am
Report Date: 17-MAY-19
Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	624041-001		624041-002		624041-003		624041-004		624041-005		624041-006	
	Field Id:	SS01		SS02		SS03		SS04		SS05		SS06	
	Depth:	0.5-		0.5-		0.5-		0.5-		0.5-		0.5-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-08-19 11:30		May-08-19 11:35		May-08-19 11:40		May-08-19 11:43		May-08-19 11:45		May-08-19 11:48	
BTEX by EPA 8021B	*Extracted:*	May-16-19 15:00		May-16-19 15:00		May-16-19 15:00		May-16-19 15:00		May-16-19 15:00		May-16-19 15:00	
	Analyzed:	May-17-19 03:44		May-17-19 02:28		May-17-19 03:06		May-17-19 04:03		May-17-19 03:25		May-17-19 02:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.123	0.0994	<0.00200	0.00200	<0.00200	0.00200	0.114	0.100	<0.00202	0.00202	<0.00199	0.00199
Toluene		<0.0994	0.0994	<0.00200	0.00200	<0.00200	0.00200	0.202	0.100	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene		0.120	0.0994	<0.00200	0.00200	<0.00200	0.00200	0.432	0.100	0.00250	0.00202	<0.00199	0.00199
m,p-Xylenes		0.227	0.199	<0.00400	0.00400	<0.00399	0.00399	0.540	0.200	0.00674	0.00403	<0.00398	0.00398
o-Xylene		0.107	0.0994	<0.00200	0.00200	<0.00200	0.00200	0.321	0.100	0.00230	0.00202	<0.00199	0.00199
Total Xylenes		0.334	0.0994	<0.00200	0.00200	<0.00200	0.00200	0.861	0.100	0.00904	0.00202	<0.00199	0.00199
Total BTEX		0.577	0.0994	<0.00200	0.00200	<0.00200	0.00200	1.61	0.100	0.0115	0.00202	<0.00199	0.00199
Chloride by EPA 300	*Extracted:*	May-14-19 11:40		May-14-19 11:40		May-14-19 11:40		May-14-19 11:40		May-14-19 11:40		May-14-19 11:40	
	Analyzed:	May-14-19 14:21		May-14-19 14:29		May-14-19 14:51		May-14-19 14:58		May-14-19 15:05		May-14-19 15:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		387	5.02	329	4.99	307	5.01	576	4.99	252	5.04	321	5.04
TPH by SW8015 Mod	*Extracted:*	May-15-19 16:00		May-15-19 16:00		May-15-19 16:00		May-14-19 17:00		May-14-19 17:00		May-14-19 17:00	
	Analyzed:	May-16-19 02:40		May-16-19 03:00		May-16-19 03:20		May-15-19 05:51		May-15-19 06:11		May-15-19 06:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		357	74.8	<14.9	14.9	<14.9	14.9	286	74.9	38.5	14.9	<15.0	15.0
Diesel Range Organics (DRO)		10900	74.8	30.3	14.9	376	14.9	2900	74.9	685	14.9	59.2	15.0
Motor Oil Range Hydrocarbons (MRO)		1280	74.8	<14.9	14.9	49.3	14.9	370	74.9	93.1	14.9	<15.0	15.0
Total TPH		12500	74.8	30.3	14.9	425	14.9	3560	74.9	817	14.9	59.2	15.0
Total GRO-DRO		11300	74.8	30.3	14.9	376	14.9	3190	74.9	724	14.9	59.2	15.0

Jessica Kramer
Project Assistant

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-001	Date Collected:	05.08.19 11.30	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.14.19 11.40	Basis:	Wet Weight
Seq Number:	3089035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**387**	5.02	mg/kg	05.14.19 14.21		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.15.19 16.00	Basis:	Wet Weight
Seq Number:	3089221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**357**	74.8	mg/kg	05.16.19 02.40		5
Diesel Range Organics (DRO)	C10C28DRO	**10900**	74.8	mg/kg	05.16.19 02.40		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1280**	74.8	mg/kg	05.16.19 02.40		5
Total TPH	PHC635	**12500**	74.8	mg/kg	05.16.19 02.40		5
Total GRO-DRO	PHC628	**11300**	74.8	mg/kg	05.16.19 02.40		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	05.16.19 02.40	
o-Terphenyl	84-15-1	125	%	70-135	05.16.19 02.40	

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-001	Date Collected:	05.08.19 11.30	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 15.00	Basis:	Wet Weight
Seq Number:	3089300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.123**	0.0994	mg/kg	05.17.19 03.44		50
Toluene	108-88-3	<0.0994	0.0994	mg/kg	05.17.19 03.44	U	50
Ethylbenzene	100-41-4	**0.120**	0.0994	mg/kg	05.17.19 03.44		50
m,p-Xylenes	179601-23-1	**0.227**	0.199	mg/kg	05.17.19 03.44		50
o-Xylene	95-47-6	**0.107**	0.0994	mg/kg	05.17.19 03.44		50
Total Xylenes	1330-20-7	**0.334**	0.0994	mg/kg	05.17.19 03.44		50
Total BTEX		**0.577**	0.0994	mg/kg	05.17.19 03.44		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	05.17.19 03.44	
4-Bromofluorobenzene	460-00-4	117	%	70-130	05.17.19 03.44	

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-002	Date Collected:	05.08.19 11.35	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.14.19 11.40	Basis:	Wet Weight
Seq Number:	3089035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**329**	4.99	mg/kg	05.14.19 14.29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.15.19 16.00	Basis:	Wet Weight
Seq Number:	3089221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.16.19 03.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	**30.3**	14.9	mg/kg	05.16.19 03.00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.16.19 03.00	U	1
Total TPH	PHC635	**30.3**	14.9	mg/kg	05.16.19 03.00		1
Total GRO-DRO	PHC628	**30.3**	14.9	mg/kg	05.16.19 03.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.16.19 03.00	
o-Terphenyl	84-15-1	102	%	70-135	05.16.19 03.00	

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-002	Date Collected:	05.08.19 11.35	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 15.00	Basis:	Wet Weight
Seq Number:	3089300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.17.19 02.28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.17.19 02.28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.17.19 02.28	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.17.19 02.28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.17.19 02.28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.17.19 02.28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.17.19 02.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	05.17.19 02.28	
4-Bromofluorobenzene	460-00-4	107	%	70-130	05.17.19 02.28	

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-003	Date Collected:	05.08.19 11.40	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.14.19 11.40	Basis:	Wet Weight
Seq Number:	3089035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**307**	5.01	mg/kg	05.14.19 14.51		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.15.19 16.00	Basis:	Wet Weight
Seq Number:	3089221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.16.19 03.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	**376**	14.9	mg/kg	05.16.19 03.20		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**49.3**	14.9	mg/kg	05.16.19 03.20		1
Total TPH	PHC635	**425**	14.9	mg/kg	05.16.19 03.20		1
Total GRO-DRO	PHC628	**376**	14.9	mg/kg	05.16.19 03.20		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.16.19 03.20	
o-Terphenyl	84-15-1	101	%	70-135	05.16.19 03.20	

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-003	Date Collected:	05.08.19 11.40	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 15.00	Basis:	Wet Weight
Seq Number:	3089300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.17.19 03.06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.17.19 03.06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.17.19 03.06	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.17.19 03.06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.17.19 03.06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.17.19 03.06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.17.19 03.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.17.19 03.06	
4-Bromofluorobenzene	460-00-4	101	%	70-130	05.17.19 03.06	

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-004	Date Collected:	05.08.19 11.43	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.14.19 11.40	Basis:	Wet Weight
Seq Number:	3089035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**576**	4.99	mg/kg	05.14.19 14.58		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.14.19 17.00	Basis:	Wet Weight
Seq Number:	3089071				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**286**	74.9	mg/kg	05.15.19 05.51		5
Diesel Range Organics (DRO)	C10C28DRO	**2900**	74.9	mg/kg	05.15.19 05.51		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**370**	74.9	mg/kg	05.15.19 05.51		5
Total TPH	PHC635	**3560**	74.9	mg/kg	05.15.19 05.51		5
Total GRO-DRO	PHC628	**3190**	74.9	mg/kg	05.15.19 05.51		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.15.19 05.51	
o-Terphenyl	84-15-1	106	%	70-135	05.15.19 05.51	

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-004	Date Collected:	05.08.19 11.43	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 15.00	Basis:	Wet Weight
Seq Number:	3089300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.114**	0.100	mg/kg	05.17.19 04.03		50
Toluene	108-88-3	**0.202**	0.100	mg/kg	05.17.19 04.03		50
Ethylbenzene	100-41-4	**0.432**	0.100	mg/kg	05.17.19 04.03		50
m,p-Xylenes	179601-23-1	**0.540**	0.200	mg/kg	05.17.19 04.03		50
o-Xylene	95-47-6	**0.321**	0.100	mg/kg	05.17.19 04.03		50
Total Xylenes	1330-20-7	**0.861**	0.100	mg/kg	05.17.19 04.03		50
Total BTEX		**1.61**	0.100	mg/kg	05.17.19 04.03		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	05.17.19 04.03	
4-Bromofluorobenzene	460-00-4	144	%	70-130	05.17.19 04.03	**

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-005	Date Collected:	05.08.19 11.45	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.14.19 11.40	Basis:	Wet Weight
Seq Number:	3089035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**252**	5.04	mg/kg	05.14.19 15.05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.14.19 17.00	Basis:	Wet Weight
Seq Number:	3089071				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**38.5**	14.9	mg/kg	05.15.19 06.11		1
Diesel Range Organics (DRO)	C10C28DRO	**685**	14.9	mg/kg	05.15.19 06.11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**93.1**	14.9	mg/kg	05.15.19 06.11		1
Total TPH	PHC635	**817**	14.9	mg/kg	05.15.19 06.11		1
Total GRO-DRO	PHC628	**724**	14.9	mg/kg	05.15.19 06.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.15.19 06.11	
o-Terphenyl	84-15-1	103	%	70-135	05.15.19 06.11	

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-005	Date Collected:	05.08.19 11.45	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 15.00	Basis:	Wet Weight
Seq Number:	3089300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.17.19 03.25	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.17.19 03.25	U	1
Ethylbenzene	100-41-4	**0.00250**	0.00202	mg/kg	05.17.19 03.25		1
m,p-Xylenes	179601-23-1	**0.00674**	0.00403	mg/kg	05.17.19 03.25		1
o-Xylene	95-47-6	**0.00230**	0.00202	mg/kg	05.17.19 03.25		1
Total Xylenes	1330-20-7	**0.00904**	0.00202	mg/kg	05.17.19 03.25		1
Total BTEX		**0.0115**	0.00202	mg/kg	05.17.19 03.25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	05.17.19 03.25	
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.17.19 03.25	

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-006	Date Collected:	05.08.19 11.48	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.14.19 11.40	Basis:	Wet Weight
Seq Number:	3089035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**321**	5.04	mg/kg	05.14.19 15.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.14.19 17.00	Basis:	Wet Weight
Seq Number:	3089071				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.15.19 06.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	**59.2**	15.0	mg/kg	05.15.19 06.31		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.15.19 06.31	U	1
Total TPH	PHC635	**59.2**	15.0	mg/kg	05.15.19 06.31		1
Total GRO-DRO	PHC628	**59.2**	15.0	mg/kg	05.15.19 06.31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.15.19 06.31	
o-Terphenyl	84-15-1	100	%	70-135	05.15.19 06.31	

Certificate of Analytical Results 624041

LT Environmental, Inc., Arvada, CO

EMSU #254

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624041-006	Date Collected:	05.08.19 11.48	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 15.00	Basis:	Wet Weight
Seq Number:	3089300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.17.19 02.47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.17.19 02.47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.17.19 02.47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.17.19 02.47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.17.19 02.47	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.17.19 02.47	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.17.19 02.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.17.19 02.47	
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.17.19 02.47	

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 624041

LT Environmental, Inc.

EMSU #254

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3089035 — Matrix: Solid — Date Prep: 05.14.19
MB Sample Id: 7677803-1-BLK — LCS Sample Id: 7677803-1-BKS — LCSD Sample Id: 7677803-1-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	254	102	254	102	90-110	0	20	mg/kg	05.14.19 12:03	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3089035 — Matrix: Soil — Date Prep: 05.14.19
Parent Sample Id: 624024-005 — MS Sample Id: 624024-005 S — MSD Sample Id: 624024-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	52.9	251	304	100	302	99	90-110	1	20	mg/kg	05.14.19 12:25	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3089035 — Matrix: Soil — Date Prep: 05.14.19
Parent Sample Id: 624025-004 — MS Sample Id: 624025-004 S — MSD Sample Id: 624025-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	232	251	479	98	481	99	90-110	0	20	mg/kg	05.14.19 14:07	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3089071 — Matrix: Solid — Date Prep: 05.14.19
MB Sample Id: 7677881-1-BLK — LCS Sample Id: 7677881-1-BKS — LCSD Sample Id: 7677881-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1080	108	1110	111	70-135	3	20	mg/kg	05.14.19 22:11	
Diesel Range Organics (DRO)	<8.13	1000	1040	104	1080	108	70-135	4	20	mg/kg	05.14.19 22:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		126		127		70-135	%	05.14.19 22:11
o-Terphenyl	103		106		115		70-135	%	05.14.19 22:11

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 624041

LT Environmental, Inc.

EMSU #254

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3089221 — Matrix: Solid — Date Prep: 05.15.19
MB Sample Id: 7677991-1-BLK — LCS Sample Id: 7677991-1-BKS — LCSD Sample Id: 7677991-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1030	103	1040	104	70-135	1	20	mg/kg	05.15.19 20:02	
Diesel Range Organics (DRO)	<8.13	1000	1090	109	1090	109	70-135	0	20	mg/kg	05.15.19 20:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		125		129		70-135	%	05.15.19 20:02
o-Terphenyl	106		120		117		70-135	%	05.15.19 20:02

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3089071 — Matrix: Soil — Date Prep: 05.14.19
Parent Sample Id: 624024-001 — MS Sample Id: 624024-001 S — MSD Sample Id: 624024-001 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)	13.6	999	1000	99	996	98	70-135	0	20	mg/kg	05.14.19 23:11	
Diesel Range Organics (DRO)	263	999	1150	89	1140	88	70-135	1	20	mg/kg	05.14.19 23:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		120		70-135	%	05.14.19 23:11
o-Terphenyl	105		97		70-135	%	05.14.19 23:11

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3089221 — Matrix: Soil — Date Prep: 05.15.19
Parent Sample Id: 624316-001 — MS Sample Id: 624316-001 S — MSD Sample Id: 624316-001 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)	8.50	997	1080	107	1080	107	70-135	0	20	mg/kg	05.15.19 21:01	
Diesel Range Organics (DRO)	177	997	1240	107	1220	104	70-135	2	20	mg/kg	05.15.19 21:01	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		129		70-135	%	05.15.19 21:01
o-Terphenyl	110		111		70-135	%	05.15.19 21:01

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

QC Summary 624041

LT Environmental, Inc.

EMSU #254

Analytical Method: BTEX by EPA 8021B
Prep Method: SW5030B
Seq Number: 3089300
Matrix: Solid
Date Prep: 05.16.19
MB Sample Id: 7678051-1-BLK
LCS Sample Id: 7678051-1-BKS
LCSD Sample Id: 7678051-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.105	105	0.112	112	70-130	6	35	mg/kg	05.16.19 23:20	
Toluene	<0.000457	0.100	0.0978	98	0.103	103	70-130	5	35	mg/kg	05.16.19 23:20	
Ethylbenzene	<0.000567	0.100	0.0998	100	0.106	106	70-130	6	35	mg/kg	05.16.19 23:20	
m,p-Xylenes	<0.00102	0.201	0.206	102	0.219	110	70-130	6	35	mg/kg	05.16.19 23:20	
o-Xylene	<0.000346	0.100	0.105	105	0.110	110	70-130	5	35	mg/kg	05.16.19 23:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		101		103		70-130	%	05.16.19 23:20
4-Bromofluorobenzene	80		96		102		70-130	%	05.16.19 23:20

Analytical Method: BTEX by EPA 8021B
Prep Method: SW5030B
Seq Number: 3089300
Matrix: Soil
Date Prep: 05.16.19
Parent Sample Id: 624489-011
MS Sample Id: 624489-011 S
MSD Sample Id: 624489-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000403	0.101	0.0950	94	0.0955	96	70-130	1	35	mg/kg	05.16.19 23:58	
Toluene	0.000494	0.101	0.0840	83	0.0847	85	70-130	1	35	mg/kg	05.16.19 23:58	
Ethylbenzene	<0.000568	0.101	0.0739	73	0.0745	75	70-130	1	35	mg/kg	05.16.19 23:58	
m,p-Xylenes	<0.00102	0.201	0.141	70	0.140	71	70-130	1	35	mg/kg	05.16.19 23:58	
o-Xylene	<0.000346	0.101	0.0731	72	0.0740	74	70-130	1	35	mg/kg	05.16.19 23:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		70-130	%	05.16.19 23:58
4-Bromofluorobenzene	100		104		70-130	%	05.16.19 23:58

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

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

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

Chain of Custody

Work Order No: 624041

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:	Ashley Ager	Bill to: (if different)	Kyle Littrel
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:	Carlsbad, NM
Phone:	432.704.5178	Email:	aager@ltenv.com rmcafee@ltenv.com

Work Order Comments

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

Project Name:	EMSU #254	Turn Around	
Project Number:		Routine	☑
P.O. Number:	New Spill	Rush:	
Sampler's Name:	Robert McAfee	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	05.04	Thermometer ID		
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	05/08/19	1130	0.5	1	X	X	X
SS02			1135			X	X	X
SS03			1140			X	X	X
SS04			1143			X	X	X
SS05			1145			X	X	X
SS06			1148			X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

discrete

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		05-10-19 15:40	2		5/13/19 1000
3			4		
5			6		

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/13/2019 10:50:00 AM

Work Order #: 624041

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: 05/13/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/13/2019
Jessica Kramer

Analytical Report 639118

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 2S4 Flowline

012919067

14-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)

14-OCT-19

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

Reference: XENCO Report No(s): **639118**
EMSU 2S4 Flowline
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) 639118. 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. 639118 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 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	10-03-19 12:32	1 ft	639118-001
PH01A	S	10-03-19 12:40	6 ft	639118-002
PH02	S	10-03-19 13:04	1 ft	639118-003
PH02A	S	10-03-19 13:13	6 ft	639118-004
PH03	S	10-03-19 13:52	1 ft	639118-005
PH03A	S	10-03-19 13:58	6 ft	639118-006
PH04	S	10-03-19 14:17	1 ft	639118-007
PH04A	S	10-03-19 14:23	6 ft	639118-008
PH05	S	10-03-19 14:36	1 ft	639118-009
PH05A	S	10-03-19 14:45	6 ft	639118-010
PH06	S	10-03-19 14:56	1 ft	639118-011
PH06A	S	10-03-19 15:03	6 ft	639118-012

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: EMSU 2S4 Flowline

Project ID: *012919067*
Work Order Number(s): *639118*

Report Date: *14-OCT-19*
Date Received: *10/04/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104085 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 639118-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Benzene recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.
Samples in the analytical batch are: 639118-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012.
The Laboratory Control Sample for Benzene is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 639118

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 2S4 Flowline

Project Id: 012919067
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri Oct-04-19 04:13 pm
Report Date: 14-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	639118-001		639118-002		639118-003		639118-004		639118-005		639118-006	
	Field Id:	PH01		PH01A		PH02		PH02A		PH03		PH03A	
	Depth:	1- ft		6- ft		1- ft		6- ft		1- ft		6- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-03-19 12:32		Oct-03-19 12:40		Oct-03-19 13:04		Oct-03-19 13:13		Oct-03-19 13:52		Oct-03-19 13:58	
BTEX by EPA 8021B SUB: T104704400-19-19	*Extracted:*	Oct-09-19 15:30		Oct-09-19 15:30		Oct-09-19 15:30		Oct-09-19 15:30		Oct-09-19 15:30		Oct-09-19 15:30	
	Analyzed:	Oct-12-19 09:14		Oct-12-19 09:34		Oct-12-19 10:47		Oct-12-19 11:08		Oct-12-19 11:28		Oct-12-19 11:48	
	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	<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199
m,p-Xylenes		<0.00399	0.00399	<0.00397	0.00397	<0.00396	0.00396	<0.00398	0.00398	<0.00398	0.00398	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199
Chloride by EPA 300 SUB: T104704400-19-19	*Extracted:*	Oct-08-19 15:45		Oct-08-19 15:45		Oct-08-19 15:45		Oct-08-19 16:20		Oct-08-19 16:20		Oct-08-19 16:20	
	Analyzed:	Oct-08-19 22:37		Oct-08-19 22:44		Oct-08-19 22:51		Oct-08-19 19:58		Oct-08-19 20:13		Oct-08-19 20:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		145	5.00	602	5.00	<5.04	5.04	6.29	4.96	49.5	5.00	353	5.02
TPH by SW8015 Mod SUB: T104704400-19-19	*Extracted:*	Oct-09-19 11:00		Oct-09-19 11:00		Oct-09-19 11:00		Oct-10-19 17:00		Oct-10-19 17:00		Oct-10-19 17:00	
	Analyzed:	Oct-09-19 18:51		Oct-09-19 19:12		Oct-09-19 19:33		Oct-10-19 22:07		Oct-10-19 23:11		Oct-10-19 23:33	
	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	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9
Total GRO-DRO		<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9
Total TPH		<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 639118

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 2S4 Flowline

Project Id: 012919067
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri Oct-04-19 04:13 pm
Report Date: 14-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	639118-007		639118-008		639118-009		639118-010		639118-011		639118-012	
	Field Id:	PH04		PH04A		PH05		PH05A		PH06		PH06A	
	Depth:	1- ft		6- ft		1- ft		6- ft		1- ft		6- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-03-19 14:17		Oct-03-19 14:23		Oct-03-19 14:36		Oct-03-19 14:45		Oct-03-19 14:56		Oct-03-19 15:03	
BTEX by EPA 8021B	Extracted:	Oct-09-19 15:30		Oct-09-19 15:30		Oct-09-19 15:30		Oct-09-19 15:30		Oct-09-19 15:30		Oct-09-19 15:30	
SUB: T104704400-19-19	Analyzed:	Oct-12-19 12:08		Oct-12-19 12:28		Oct-12-19 12:48		Oct-12-19 13:08		Oct-12-19 14:27		Oct-12-19 14:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Toluene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Ethylbenzene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
m,p-Xylenes		<0.00398	0.00398	<0.00402	0.00402	<0.00400	0.00400	<0.00399	0.00399	<0.00396	0.00396	<0.00403	0.00403
o-Xylene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Total Xylenes		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Total BTEX		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Chloride by EPA 300	Extracted:	Oct-08-19 16:20		Oct-08-19 16:20		Oct-08-19 16:20		Oct-08-19 16:20		Oct-08-19 16:20		Oct-08-19 16:20	
SUB: T104704400-19-19	Analyzed:	Oct-08-19 20:24		Oct-08-19 20:29		Oct-08-19 20:45		Oct-08-19 20:50		Oct-08-19 20:56		Oct-08-19 21:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		810	5.05	446	4.98	12.9	5.00	<5.04	5.04	235	5.05	9.23	5.00
TPH by SW8015 Mod	Extracted:	Oct-10-19 17:00		Oct-10-19 17:00		Oct-10-19 17:00		Oct-10-19 17:00		Oct-10-19 17:00		Oct-10-19 17:00	
SUB: T104704400-19-19	Analyzed:	Oct-10-19 23:54		Oct-11-19 00:15		Oct-11-19 00:36		Oct-11-19 00:58		Oct-11-19 01:19		Oct-11-19 01:40	
	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	<49.8	49.8	<50.0	50.0	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Total GRO-DRO		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Total TPH		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0

Jessica Kramer
Project Assistant

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-001	Date Collected:	10.03.19 12.32	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 15.45	Basis:	Wet Weight
Seq Number:	3103710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**145**	5.00	mg/kg	10.08.19 22.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.09.19 11.00	Basis:	Wet Weight
Seq Number:	3103876			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	10.09.19 18.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.09.19 18.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.09.19 18.51	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.09.19 18.51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.09.19 18.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	10.09.19 18.51	
o-Terphenyl	84-15-1	93	%	70-135	10.09.19 18.51	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-001	Date Collected:	10.03.19 12.32	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.12.19 09.14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.12.19 09.14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.12.19 09.14	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.12.19 09.14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.12.19 09.14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.12.19 09.14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.12.19 09.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	10.12.19 09.14	
1,4-Difluorobenzene	540-36-3	85	%	70-130	10.12.19 09.14	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-002	Date Collected:	10.03.19 12.40	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 15.45	Basis:	Wet Weight
Seq Number:	3103710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**602**	5.00	mg/kg	10.08.19 22.44		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.09.19 11.00	Basis:	Wet Weight
Seq Number:	3103876			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	10.09.19 19.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.09.19 19.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.09.19 19.12	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.09.19 19.12	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.09.19 19.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.09.19 19.12	
o-Terphenyl	84-15-1	103	%	70-135	10.09.19 19.12	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-002	Date Collected:	10.03.19 12.40	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.12.19 09.34	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.12.19 09.34	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.12.19 09.34	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.12.19 09.34	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.12.19 09.34	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.12.19 09.34	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.12.19 09.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.12.19 09.34	
4-Bromofluorobenzene	460-00-4	111	%	70-130	10.12.19 09.34	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-003	Date Collected:	10.03.19 13.04	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 15.45	Basis:	Wet Weight
Seq Number:	3103710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.04	5.04	mg/kg	10.08.19 22.51	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.09.19 11.00	Basis:	Wet Weight
Seq Number:	3103876			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	10.09.19 19.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.09.19 19.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.09.19 19.33	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.09.19 19.33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.09.19 19.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	10.09.19 19.33	
o-Terphenyl	84-15-1	90	%	70-135	10.09.19 19.33	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-003	Date Collected:	10.03.19 13.04	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.12.19 10.47	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.12.19 10.47	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.12.19 10.47	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	10.12.19 10.47	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.12.19 10.47	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.12.19 10.47	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.12.19 10.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	10.12.19 10.47	
1,4-Difluorobenzene	540-36-3	90	%	70-130	10.12.19 10.47	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-004	Date Collected:	10.03.19 13.13	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.29**	4.96	mg/kg	10.08.19 19.58		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	10.10.19 17.00	Basis:	Wet Weight
Seq Number:	3104059			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	10.10.19 22.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.10.19 22.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.10.19 22.07	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.10.19 22.07	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.10.19 22.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	10.10.19 22.07	
o-Terphenyl	84-15-1	94	%	70-135	10.10.19 22.07	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-004	Date Collected:	10.03.19 13.13	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.12.19 11.08	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.12.19 11.08	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.12.19 11.08	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.12.19 11.08	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.12.19 11.08	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.12.19 11.08	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.12.19 11.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	10.12.19 11.08	
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.12.19 11.08	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-005	Date Collected:	10.03.19 13.52	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**49.5**	5.00	mg/kg	10.08.19 20.13		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	10.10.19 17.00	Basis:	Wet Weight
Seq Number:	3104059			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	10.10.19 23.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.10.19 23.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.10.19 23.11	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.10.19 23.11	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.10.19 23.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	10.10.19 23.11	
o-Terphenyl	84-15-1	93	%	70-135	10.10.19 23.11	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-005	Date Collected:	10.03.19 13.52	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.12.19 11.28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.12.19 11.28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.12.19 11.28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.12.19 11.28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.12.19 11.28	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.12.19 11.28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.12.19 11.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	10.12.19 11.28	
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.12.19 11.28	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-006	Date Collected:	10.03.19 13.58	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**353**	5.02	mg/kg	10.08.19 20.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	10.10.19 17.00	Basis:	Wet Weight
Seq Number:	3104059			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	10.10.19 23.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.10.19 23.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.10.19 23.33	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.10.19 23.33	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.10.19 23.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	10.10.19 23.33	
o-Terphenyl	84-15-1	91	%	70-135	10.10.19 23.33	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-006	Date Collected:	10.03.19 13.58	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.12.19 11.48	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.12.19 11.48	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.12.19 11.48	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.12.19 11.48	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.12.19 11.48	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.12.19 11.48	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.12.19 11.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.12.19 11.48	
1,4-Difluorobenzene	540-36-3	85	%	70-130	10.12.19 11.48	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-007	Date Collected:	10.03.19 14.17	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**810**	5.05	mg/kg	10.08.19 20.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	10.10.19 17.00	Basis:	Wet Weight
Seq Number:	3104059			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	10.10.19 23.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.10.19 23.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.10.19 23.54	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.10.19 23.54	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.10.19 23.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	10.10.19 23.54	
o-Terphenyl	84-15-1	92	%	70-135	10.10.19 23.54	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-007	Date Collected:	10.03.19 14.17	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.12.19 12.08	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.12.19 12.08	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.12.19 12.08	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.12.19 12.08	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.12.19 12.08	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.12.19 12.08	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.12.19 12.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.12.19 12.08	
4-Bromofluorobenzene	460-00-4	114	%	70-130	10.12.19 12.08	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-008	Date Collected:	10.03.19 14.23	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**446**	4.98	mg/kg	10.08.19 20.29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	10.10.19 17.00	Basis:	Wet Weight
Seq Number:	3104059			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	10.11.19 00.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.11.19 00.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.11.19 00.15	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.11.19 00.15	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.11.19 00.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	10.11.19 00.15	
o-Terphenyl	84-15-1	98	%	70-135	10.11.19 00.15	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-008	Date Collected:	10.03.19 14.23	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.12.19 12.28	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.12.19 12.28	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.12.19 12.28	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.12.19 12.28	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.12.19 12.28	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.12.19 12.28	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.12.19 12.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.12.19 12.28	
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.12.19 12.28	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-009	Date Collected:	10.03.19 14.36	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.9**	5.00	mg/kg	10.08.19 20.45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	10.10.19 17.00	Basis:	Wet Weight
Seq Number:	3104059			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	10.11.19 00.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.11.19 00.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.11.19 00.36	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.11.19 00.36	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.11.19 00.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	10.11.19 00.36	
o-Terphenyl	84-15-1	89	%	70-135	10.11.19 00.36	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-009	Date Collected:	10.03.19 14.36	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.12.19 12.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.12.19 12.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.12.19 12.48	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.12.19 12.48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.12.19 12.48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.12.19 12.48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.12.19 12.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	70-130	10.12.19 12.48	
4-Bromofluorobenzene	460-00-4	111	%	70-130	10.12.19 12.48	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-010	Date Collected:	10.03.19 14.45	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.04	5.04	mg/kg	10.08.19 20.50	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	10.10.19 17.00	Basis:	Wet Weight
Seq Number:	3104059			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	10.11.19 00.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.11.19 00.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.11.19 00.58	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.11.19 00.58	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.11.19 00.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	10.11.19 00.58	
o-Terphenyl	84-15-1	88	%	70-135	10.11.19 00.58	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-010	Date Collected:	10.03.19 14.45	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.12.19 13.08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.12.19 13.08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.12.19 13.08	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.12.19 13.08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.12.19 13.08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.12.19 13.08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.12.19 13.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	10.12.19 13.08	
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.12.19 13.08	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-011	Date Collected:	10.03.19 14.56	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**235**	5.05	mg/kg	10.08.19 20.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	10.10.19 17.00	Basis:	Wet Weight
Seq Number:	3104059			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	10.11.19 01.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.11.19 01.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.11.19 01.19	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.11.19 01.19	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.11.19 01.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	10.11.19 01.19	
o-Terphenyl	84-15-1	91	%	70-135	10.11.19 01.19	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-011	Date Collected:	10.03.19 14.56	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.12.19 14.27	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.12.19 14.27	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.12.19 14.27	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	10.12.19 14.27	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.12.19 14.27	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.12.19 14.27	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.12.19 14.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	70-130	10.12.19 14.27	
4-Bromofluorobenzene	460-00-4	101	%	70-130	10.12.19 14.27	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-012	Date Collected:	10.03.19 15.03	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.23**	5.00	mg/kg	10.08.19 21.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	10.10.19 17.00	Basis:	Wet Weight
Seq Number:	3104059			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	10.11.19 01.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.11.19 01.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.11.19 01.40	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.11.19 01.40	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.11.19 01.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	10.11.19 01.40	
o-Terphenyl	84-15-1	89	%	70-135	10.11.19 01.40	

Certificate of Analytical Results 639118

LT Environmental, Inc., Arvada, CO

EMSU 2S4 Flowline

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639118-012	Date Collected:	10.03.19 15.03	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.12.19 14.47	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.12.19 14.47	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.12.19 14.47	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.12.19 14.47	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.12.19 14.47	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.12.19 14.47	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.12.19 14.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	70-130	10.12.19 14.47	
4-Bromofluorobenzene	460-00-4	100	%	70-130	10.12.19 14.47	

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 639118

LT Environmental, Inc.

EMSU 2S4 Flowline

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103710 — Matrix: Solid — Date Prep: 10.08.19
MB Sample Id: 7687721-1-BLK — LCS Sample Id: 7687721-1-BKS — LCSD Sample Id: 7687721-1-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	253	101	90-110	0	20	mg/kg	10.08.19 19:32	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103713 — Matrix: Solid — Date Prep: 10.08.19
MB Sample Id: 7687723-1-BLK — LCS Sample Id: 7687723-1-BKS — LCSD Sample Id: 7687723-1-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	252	101	241	96	90-110	4	20	mg/kg	10.08.19 19:47	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103710 — Matrix: Soil — Date Prep: 10.08.19
Parent Sample Id: 639115-008 — MS Sample Id: 639115-008 S — MSD Sample Id: 639115-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	372	248	595	90	607	95	90-110	2	20	mg/kg	10.08.19 21:29	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103710 — Matrix: Soil — Date Prep: 10.08.19
Parent Sample Id: 639198-002 — MS Sample Id: 639198-002 S — MSD Sample Id: 639198-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	331	250	573	97	579	99	90-110	1	20	mg/kg	10.08.19 19:53	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103713 — Matrix: Soil — Date Prep: 10.08.19
Parent Sample Id: 639118-004 — MS Sample Id: 639118-004 S — MSD Sample Id: 639118-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.29	248	248	97	250	98	90-110	1	20	mg/kg	10.08.19 20:03	

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 639118

LT Environmental, Inc.

EMSU 2S4 Flowline

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103713 — Matrix: Soil — Date Prep: 10.08.19
Parent Sample Id: 639155-002 — MS Sample Id: 639155-002 S — MSD Sample Id: 639155-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	358	249	586	92	582	90	90-110	1	20	mg/kg	10.08.19 21:17	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3103876 — Matrix: Solid — Date Prep: 10.09.19
MB Sample Id: 7687808-1-BLK — LCS Sample Id: 7687808-1-BKS — LCSD Sample Id: 7687808-1-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	967	97	965	97	70-135	0	20	mg/kg	10.09.19 12:21	
Diesel Range Organics (DRO)	<15.0	1000	896	90	902	90	70-135	1	20	mg/kg	10.09.19 12:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	79		84		86		70-135	%	10.09.19 12:21
o-Terphenyl	87		86		88		70-135	%	10.09.19 12:21

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104059 — Matrix: Solid — Date Prep: 10.10.19
MB Sample Id: 7687890-1-BLK — LCS Sample Id: 7687890-1-BKS — LCSD Sample Id: 7687890-1-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	1080	108	1100	110	70-135	2	20	mg/kg	10.10.19 21:24	
Diesel Range Organics (DRO)	<15.0	1000	1040	104	1060	106	70-135	2	20	mg/kg	10.10.19 21:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		99		115		70-135	%	10.10.19 21:24
o-Terphenyl	96		97		101		70-135	%	10.10.19 21:24

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3103876 — Matrix: Solid — Date Prep: 10.09.19
MB Sample Id: 7687808-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.09.19 12:00	

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 639118

LT Environmental, Inc.

EMSU 2S4 Flowline

Analytical Method: TPH by SW8015 Mod
Seq Number: 3104059
Matrix: Solid
MB Sample Id: 7687890-1-BLK
Prep Method: SW8015P
Date Prep: 10.10.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.10.19 21:03	

Analytical Method: TPH by SW8015 Mod
Seq Number: 3103876
Parent Sample Id: 639150-001
Matrix: Soil
MS Sample Id: 639150-001 S
Prep Method: SW8015P
Date Prep: 10.09.19
MSD Sample Id: 639150-001 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	1090	109	1090	109	70-135	0	20	mg/kg	10.09.19 13:24	
Diesel Range Organics (DRO)	<15.0	998	1040	104	1040	104	70-135	0	20	mg/kg	10.09.19 13:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		98		70-135	%	10.09.19 13:24
o-Terphenyl	96		96		70-135	%	10.09.19 13:24

Analytical Method: TPH by SW8015 Mod
Seq Number: 3104059
Parent Sample Id: 639118-004
Matrix: Soil
MS Sample Id: 639118-004 S
Prep Method: SW8015P
Date Prep: 10.10.19
MSD Sample Id: 639118-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	991	99	1000	100	70-135	1	20	mg/kg	10.10.19 22:29	
Diesel Range Organics (DRO)	<15.0	999	947	95	965	97	70-135	2	20	mg/kg	10.10.19 22:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		92		70-135	%	10.10.19 22:29
o-Terphenyl	87		90		70-135	%	10.10.19 22:29

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 639118

LT Environmental, Inc.

EMSU 2S4 Flowline

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104085 — Matrix: Solid — Date Prep: 10.09.19
MB Sample Id: 7687990-1-BLK — LCS Sample Id: 7687990-1-BKS — LCSD Sample Id: 7687990-1-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	0.0769	77	0.0752	75	70-130	2	35	mg/kg	10.12.19 07:14	
Toluene	<0.00200	0.100	0.0819	82	0.0804	80	70-130	2	35	mg/kg	10.12.19 07:14	
Ethylbenzene	<0.00200	0.100	0.0887	89	0.0871	87	70-130	2	35	mg/kg	10.12.19 07:14	
m,p-Xylenes	<0.00400	0.200	0.176	88	0.172	86	70-130	2	35	mg/kg	10.12.19 07:14	
o-Xylene	<0.00200	0.100	0.0929	93	0.0924	92	70-130	1	35	mg/kg	10.12.19 07:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		90		91		70-130	%	10.12.19 07:14
4-Bromofluorobenzene	98		103		109		70-130	%	10.12.19 07:14

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104085 — Matrix: Soil — Date Prep: 10.09.19
Parent Sample Id: 639118-001 — MS Sample Id: 639118-001 S — MSD Sample Id: 639118-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0659	66	0.0731	73	70-130	10	35	mg/kg	10.12.19 07:54	X
Toluene	<0.00198	0.0992	0.0719	72	0.0810	81	70-130	12	35	mg/kg	10.12.19 07:54	
Ethylbenzene	<0.00198	0.0992	0.0782	79	0.0876	88	70-130	11	35	mg/kg	10.12.19 07:54	
m,p-Xylenes	<0.00397	0.198	0.153	77	0.171	86	70-130	11	35	mg/kg	10.12.19 07:54	
o-Xylene	<0.00198	0.0992	0.0809	82	0.0901	90	70-130	11	35	mg/kg	10.12.19 07:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		90		70-130	%	10.12.19 07:54
4-Bromofluorobenzene	110		116		70-130	%	10.12.19 07:54

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: u39118

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 2

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 I ☐ Level II ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	EMSU 254 Flowline	Turn Around	
Project Number:	012919067	Routine	☑
P.O. Number:	IRP-5434	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.2	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:	12	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH01	S	10/3/19	1232	1'	1	X	X	X
PH01A			1240	6'				
PH02			1304	1'				
PH02A			1313	6'				
PH03			1352	1'				
PH03A			1358	6'				
PH04			1417	1'				
PH04A			1423	6'				
PH05			1436	1'				
PH05A			1445	6'				

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			10/04/19@1600	2		10/4/19 1613
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Chain of Custody

Work Order No: 639118

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 I ☐ Level II ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	EMSU 254 Flowline	Turn Around	
Project Number:	012919067	Routine	✓
P.O. Number:	IRP-5434	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):		Thermometer ID		
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
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)
PH06	S	10/3/19	1456	1'	1	X	X	X
PH06A	S	10/3/19	1503	6'	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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			10/4/19 @ 1600	2		10/4/19 16:13
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **49470**

Date/Time: 10/07/19 10:58
Lab# From: **Carlsbad**
Lab# To: **Midland**

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

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
639118-001	S	PH01	10/03/19 12:32	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-001	S	PH01	10/03/19 12:32	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639118-001	S	PH01	10/03/19 12:32	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639118-002	S	PH01A	10/03/19 12:40	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639118-002	S	PH01A	10/03/19 12:40	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639118-002	S	PH01A	10/03/19 12:40	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-003	S	PH02	10/03/19 13:04	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639118-003	S	PH02	10/03/19 13:04	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639118-003	S	PH02	10/03/19 13:04	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-004	S	PH02A	10/03/19 13:13	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639118-004	S	PH02A	10/03/19 13:13	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639118-004	S	PH02A	10/03/19 13:13	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-005	S	PH03	10/03/19 13:52	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639118-005	S	PH03	10/03/19 13:52	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639118-005	S	PH03	10/03/19 13:52	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-006	S	PH03A	10/03/19 13:58	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639118-006	S	PH03A	10/03/19 13:58	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639118-006	S	PH03A	10/03/19 13:58	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-007	S	PH04	10/03/19 14:17	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-007	S	PH04	10/03/19 14:17	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639118-007	S	PH04	10/03/19 14:17	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639118-008	S	PH04A	10/03/19 14:23	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639118-008	S	PH04A	10/03/19 14:23	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639118-008	S	PH04A	10/03/19 14:23	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-009	S	PH05	10/03/19 14:36	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	

Inter-Office Shipment

IOS Number **49470**

Date/Time: 10/07/19 10:58
Lab# From: **Carlsbad**
Lab# To: **Midland**

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

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
639118-009	S	PH05	10/03/19 14:36	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639118-009	S	PH05	10/03/19 14:36	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-010	S	PH05A	10/03/19 14:45	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639118-010	S	PH05A	10/03/19 14:45	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-010	S	PH05A	10/03/19 14:45	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639118-011	S	PH06	10/03/19 14:56	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639118-011	S	PH06	10/03/19 14:56	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-011	S	PH06	10/03/19 14:56	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639118-012	S	PH06A	10/03/19 15:03	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639118-012	S	PH06A	10/03/19 15:03	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639118-012	S	PH06A	10/03/19 15:03	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/07/2019

Received By: Brianna Teel

Date Received: 10/08/2019 13:35

Cooler Temperature: 0.4

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 49470

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

Sent By: Elizabeth McClellan **Date Sent:** 10/07/2019 10:58 AM

Received By: Brianna Teel **Date Received:** 10/08/2019 01:35 PM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.4	
#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: 10/08/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/04/2019 04:13:00 PM

Work Order #: 639118

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?	**Yes**
#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: 10/07/2019

Checklist reviewed by: Jessica Kramer Date: 10/07/2019

Jessica Kramer

Analytical Report 639155

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254 Flowline

012919067

14-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)

14-OCT-19

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

Reference: XENCO Report No(s): **639155**
EMSU 254 Flowline
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) 639155. 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. 639155 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 639155

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	10-03-19 13:27	6 ft	639155-001
SW01	S	10-03-19 13:30	0 - 6 ft	639155-002
SW02	S	10-03-19 13:35	0 - 6 ft	639155-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: EMSU 254 Flowline

Project ID: *012919067*
Work Order Number(s): *639155*

Report Date: *14-OCT-19*
Date Received: *10/04/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104085 BTEX by EPA 8021B

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

Certificate of Analysis Summary 639155

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254 Flowline

Project Id: 012919067
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri Oct-04-19 04:13 pm
Report Date: 14-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	639155-001		639155-002		639155-003							
	Field Id:	FS01		SW01		SW02							
	Depth:	6- ft		0-6 ft		0-6 ft							
	Matrix:	SOIL		SOIL		SOIL							
	Sampled:	Oct-03-19 13:27		Oct-03-19 13:30		Oct-03-19 13:35							
BTEX by EPA 8021B SUB: T104704400-19-19	*Extracted:*	Oct-09-19 15:30		Oct-09-19 15:30		Oct-09-19 15:30							
	Analyzed:	Oct-12-19 15:07		Oct-12-19 15:27		Oct-12-19 15:47							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200						
Toluene		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200						
Ethylbenzene		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200						
m,p-Xylenes		<0.00398	0.00398	<0.00396	0.00396	<0.00399	0.00399						
o-Xylene		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200						
Total Xylenes		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200						
Total BTEX		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200						
Chloride by EPA 300 SUB: T104704400-19-19	*Extracted:*	Oct-08-19 16:20		Oct-08-19 16:20		Oct-08-19 16:20							
	Analyzed:	Oct-08-19 21:06		Oct-08-19 21:12		Oct-08-19 21:27							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		502	4.97	358	4.98	333	5.04						
TPH by SW8015 Mod SUB: T104704400-19-19	*Extracted:*	Oct-09-19 11:00		Oct-09-19 11:00		Oct-09-19 11:00							
	Analyzed:	Oct-09-19 20:15		Oct-09-19 20:36		Oct-09-19 20:57							
	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						

Jessica Kramer
Project Assistant

Certificate of Analytical Results 639155

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639155-001	Date Collected:	10.03.19 13.27	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**502**	4.97	mg/kg	10.08.19 21.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.09.19 11.00	Basis:	Wet Weight
Seq Number:	3103873			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	10.09.19 20.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.09.19 20.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.09.19 20.15	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.09.19 20.15	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.09.19 20.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.09.19 20.15	
o-Terphenyl	84-15-1	105	%	70-135	10.09.19 20.15	

Certificate of Analytical Results 639155

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639155-001	Date Collected:	10.03.19 13.27	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.12.19 15.07	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.12.19 15.07	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.12.19 15.07	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.12.19 15.07	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.12.19 15.07	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.12.19 15.07	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.12.19 15.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	10.12.19 15.07	
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.12.19 15.07	

Certificate of Analytical Results 639155

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639155-002	Date Collected:	10.03.19 13.30	Sample Depth:	0 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**358**	4.98	mg/kg	10.08.19 21.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.09.19 11.00	Basis:	Wet Weight
Seq Number:	3103873			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	10.09.19 20.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.09.19 20.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.09.19 20.36	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.09.19 20.36	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.09.19 20.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	10.09.19 20.36	
o-Terphenyl	84-15-1	110	%	70-135	10.09.19 20.36	

Certificate of Analytical Results 639155

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639155-002	Date Collected:	10.03.19 13.30	Sample Depth:	0 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.12.19 15.27	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.12.19 15.27	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.12.19 15.27	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	10.12.19 15.27	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.12.19 15.27	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.12.19 15.27	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.12.19 15.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	90	%	70-130	10.12.19 15.27	
4-Bromofluorobenzene	460-00-4	100	%	70-130	10.12.19 15.27	

Certificate of Analytical Results 639155

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639155-003	Date Collected:	10.03.19 13.35	Sample Depth:	0 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.08.19 16.20	Basis:	Wet Weight
Seq Number:	3103713			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**333**	5.04	mg/kg	10.08.19 21.27		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.09.19 11.00	Basis:	Wet Weight
Seq Number:	3103873			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	10.09.19 20.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.09.19 20.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.09.19 20.57	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.09.19 20.57	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.09.19 20.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	10.09.19 20.57	
o-Terphenyl	84-15-1	110	%	70-135	10.09.19 20.57	

Certificate of Analytical Results 639155

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	10.04.19 16.13
Lab Sample Id:	639155-003	Date Collected:	10.03.19 13.35	Sample Depth:	0 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.09.19 15.30	Basis:	Wet Weight
Seq Number:	3104085			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.12.19 15.47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.12.19 15.47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.12.19 15.47	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.12.19 15.47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.12.19 15.47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.12.19 15.47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.12.19 15.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	10.12.19 15.47	
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.12.19 15.47	

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 639155

LT Environmental, Inc.

EMSU 254 Flowline

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103713 — Matrix: Solid — Date Prep: 10.08.19
MB Sample Id: 7687723-1-BLK — LCS Sample Id: 7687723-1-BKS — LCSD Sample Id: 7687723-1-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	252	101	241	96	90-110	4	20	mg/kg	10.08.19 19:47	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103713 — Matrix: Soil — Date Prep: 10.08.19
Parent Sample Id: 639118-004 — MS Sample Id: 639118-004 S — MSD Sample Id: 639118-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.29	248	248	97	250	98	90-110	1	20	mg/kg	10.08.19 20:03	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103713 — Matrix: Soil — Date Prep: 10.08.19
Parent Sample Id: 639155-002 — MS Sample Id: 639155-002 S — MSD Sample Id: 639155-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	358	249	586	92	582	90	90-110	1	20	mg/kg	10.08.19 21:17	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3103873 — Matrix: Solid — Date Prep: 10.09.19
MB Sample Id: 7687806-1-BLK — LCS Sample Id: 7687806-1-BKS — LCSD Sample Id: 7687806-1-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	1070	107	1070	107	70-135	0	20	mg/kg	10.09.19 12:21	
Diesel Range Organics (DRO)	<50.0	1000	1070	107	1080	108	70-135	1	20	mg/kg	10.09.19 12:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		96		100		70-135	%	10.09.19 12:21
o-Terphenyl	103		100		104		70-135	%	10.09.19 12:21

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3103873 — Matrix: Solid — Date Prep: 10.09.19
MB Sample Id: 7687806-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.09.19 12:00	

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 639155

LT Environmental, Inc.

EMSU 254 Flowline

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3103873 — Matrix: Soil — Date Prep: 10.09.19
Parent Sample Id: 639195-001 — MS Sample Id: 639195-001 S — MSD Sample Id: 639195-001 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)	<14.9	996	1130	113	1100	110	70-135	3	20	mg/kg	10.09.19 13:24	
Diesel Range Organics (DRO)	31.1	996	1090	106	1070	104	70-135	2	20	mg/kg	10.09.19 13:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		101		70-135	%	10.09.19 13:24
o-Terphenyl	105		101		70-135	%	10.09.19 13:24

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104085 — Matrix: Solid — Date Prep: 10.09.19
MB Sample Id: 7687990-1-BLK — LCS Sample Id: 7687990-1-BKS — LCSD Sample Id: 7687990-1-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	0.0769	77	0.0752	75	70-130	2	35	mg/kg	10.12.19 07:14	
Toluene	<0.00200	0.100	0.0819	82	0.0804	80	70-130	2	35	mg/kg	10.12.19 07:14	
Ethylbenzene	<0.00200	0.100	0.0887	89	0.0871	87	70-130	2	35	mg/kg	10.12.19 07:14	
m,p-Xylenes	<0.00400	0.200	0.176	88	0.172	86	70-130	2	35	mg/kg	10.12.19 07:14	
o-Xylene	<0.00200	0.100	0.0929	93	0.0924	92	70-130	1	35	mg/kg	10.12.19 07:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		90		91		70-130	%	10.12.19 07:14
4-Bromofluorobenzene	98		103		109		70-130	%	10.12.19 07:14

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104085 — Matrix: Soil — Date Prep: 10.09.19
Parent Sample Id: 639118-001 — MS Sample Id: 639118-001 S — MSD Sample Id: 639118-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0659	66	0.0731	73	70-130	10	35	mg/kg	10.12.19 07:54	X
Toluene	<0.00198	0.0992	0.0719	72	0.0810	81	70-130	12	35	mg/kg	10.12.19 07:54	
Ethylbenzene	<0.00198	0.0992	0.0782	79	0.0876	88	70-130	11	35	mg/kg	10.12.19 07:54	
m,p-Xylenes	<0.00397	0.198	0.153	77	0.171	86	70-130	11	35	mg/kg	10.12.19 07:54	
o-Xylene	<0.00198	0.0992	0.0809	82	0.0901	90	70-130	11	35	mg/kg	10.12.19 07:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		90		70-130	%	10.12.19 07:54
4-Bromofluorobenzene	110		116		70-130	%	10.12.19 07:54

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: 639155

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 I ☐ Level II ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	EMSU 254 Flowline	Turn Around	
Project Number:	012919067	Routine	✓
P.O. Number:	IRP-5434	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	0.2	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)
FS01	S	10/3/19	1327	6'	1	X	X	X
SW01	S	10/3/19	1330	0-6'	1	X	X	X
SW02	S	10/3/19	1335	0-6'	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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			10/04/19 @ 1600	2		10/4/19 16:13
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **49464**

Date/Time: 10/07/19 10:38

Lab# From: **Carlsbad**

Lab# To: **Midland**

Created by: Elizabeth Mcclellan

Delivery Priority:

Air Bill No.:

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
639155-001	S	FS01	10/03/19 13:27	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639155-001	S	FS01	10/03/19 13:27	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639155-001	S	FS01	10/03/19 13:27	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639155-002	S	SW01	10/03/19 13:30	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639155-002	S	SW01	10/03/19 13:30	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639155-002	S	SW01	10/03/19 13:30	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	
639155-003	S	SW02	10/03/19 13:35	SW8015MOD_NM	TPH by SW8015 Mod	10/10/19	10/17/19	JKR	GRO-DRO PHCC10C28 PH	
639155-003	S	SW02	10/03/19 13:35	SW8021B	BTEX by EPA 8021B	10/10/19	10/17/19	JKR	BR4FBZ BZ BZME EBZ X	
639155-003	S	SW02	10/03/19 13:35	E300_CL	Chloride by EPA 300	10/10/19	03/31/20	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/07/2019

Received By: Brianna Teel

Date Received: 10/08/2019 13:35

Cooler Temperature: 0.4

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 49464

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

Sent By: Elizabeth McClellan **Date Sent:** 10/07/2019 10:38 AM

Received By: Brianna Teel **Date Received:** 10/08/2019 01:35 PM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.4	
#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: 10/08/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/04/2019 04:13:00 PM

Work Order #: 639155

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: 10/07/2019

Checklist reviewed by: Jessica Kramer Date: 10/07/2019

Jessica Kramer

Analytical Report 639321

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254 Flowline

012919067

15-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)

15-OCT-19

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

Reference: XENCO Report No(s): **639321**
EMSU 254 Flowline
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) 639321. 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. 639321 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 639321

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	10-04-19 09:22	1 ft	639321-001
BH01A	S	10-04-19 10:19	6 ft	639321-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: EMSU 254 Flowline

Project ID: *012919067*
Work Order Number(s): *639321*

Report Date: *15-OCT-19*
Date Received: *10/08/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3103852 BTEX by EPA 8021B

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

Certificate of Analysis Summary 639321

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254 Flowline

Project Id: 012919067
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Oct-08-19 11:07 am
Report Date: 15-OCT-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	639321-001		639321-002					
	Field Id:	BH01		BH01A					
	Depth:	1- ft		6- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Oct-04-19 09:22		Oct-04-19 10:19					
BTEX by EPA 8021B SUB: T104704219-19-21	***Extracted:***	Oct-09-19 09:30		Oct-09-19 09:30					
	Analyzed:	Oct-09-19 19:16		Oct-09-19 20:53					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.0173	0.0173	<0.0193	0.0193				
Toluene		<0.0173	0.0173	<0.0193	0.0193				
Ethylbenzene		<0.0173	0.0173	<0.0193	0.0193				
m,p-Xylenes		<0.0346	0.0346	<0.0385	0.0385				
o-Xylene		<0.0173	0.0173	<0.0193	0.0193				
Total Xylenes		<0.0173	0.0173	<0.0193	0.0193				
Total BTEX		<0.0173	0.0173	<0.0193	0.0193				
Chloride by EPA 300 SUB: T104704215-19-30	***Extracted:***	Oct-10-19 13:00		Oct-10-19 13:00					
	Analyzed:	Oct-10-19 14:42		Oct-10-19 14:55					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		11.9	10.2	484	10.1				
TPH by SW8015 Mod SUB: T104704215-19-30	***Extracted:***	Oct-09-19 15:12		Oct-09-19 15:15					
	Analyzed:	Oct-11-19 22:34		Oct-12-19 09:13					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.4	50.4				
Diesel Range Organics (DRO)		<49.8	49.8	<50.4	50.4				
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.4	50.4				
Total GRO-DRO		<49.8	49.8	<50.4	50.4				
Total TPH		<49.8	49.8	<50.4	50.4				

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 639321

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	10.08.19 11.07
Lab Sample Id:	639321-001	Date Collected:	10.04.19 09.22	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.10.19 13.00	Basis:	Wet Weight
Seq Number:	3103941			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.9**	10.2	mg/kg	10.10.19 14.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DRU			% Moisture:	
Analyst:	ISU	Date Prep:	10.09.19 15.12	Basis:	Wet Weight
Seq Number:	3104165			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.11.19 22.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.11.19 22.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.11.19 22.34	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.11.19 22.34	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.11.19 22.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	10.11.19 22.34	
o-Terphenyl	84-15-1	98	%	70-135	10.11.19 22.34	

Certificate of Analytical Results 639321

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	10.08.19 11.07
Lab Sample Id:	639321-001	Date Collected:	10.04.19 09.22	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.09.19 09.30	Basis:	Wet Weight
Seq Number:	3103852			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0173	0.0173	mg/kg	10.09.19 19.16	U	1
Toluene	108-88-3	<0.0173	0.0173	mg/kg	10.09.19 19.16	U	1
Ethylbenzene	100-41-4	<0.0173	0.0173	mg/kg	10.09.19 19.16	U	1
m,p-Xylenes	179601-23-1	<0.0346	0.0346	mg/kg	10.09.19 19.16	U	1
o-Xylene	95-47-6	<0.0173	0.0173	mg/kg	10.09.19 19.16	U	1
Total Xylenes	1330-20-7	<0.0173	0.0173	mg/kg	10.09.19 19.16	U	1
Total BTEX		<0.0173	0.0173	mg/kg	10.09.19 19.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	68-120	10.09.19 19.16	
a,a,a-Trifluorotoluene	98-08-8	96	%	71-121	10.09.19 19.16	

Certificate of Analytical Results 639321

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	10.08.19 11.07
Lab Sample Id:	639321-002	Date Collected:	10.04.19 10.19	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.10.19 13.00	Basis:	Wet Weight
Seq Number:	3103941			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**484**	10.1	mg/kg	10.10.19 14.55		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DRU			% Moisture:	
Analyst:	ISU	Date Prep:	10.09.19 15.15	Basis:	Wet Weight
Seq Number:	3104165			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.4	50.4	mg/kg	10.12.19 09.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.4	50.4	mg/kg	10.12.19 09.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.4	50.4	mg/kg	10.12.19 09.13	U	1
Total GRO-DRO	PHC628	<50.4	50.4	mg/kg	10.12.19 09.13	U	1
Total TPH	PHC635	<50.4	50.4	mg/kg	10.12.19 09.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	10.12.19 09.13	
o-Terphenyl	84-15-1	95	%	70-135	10.12.19 09.13	

Certificate of Analytical Results 639321

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	10.08.19 11.07
Lab Sample Id:	639321-002	Date Collected:	10.04.19 10.19	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.09.19 09.30	Basis:	Wet Weight
Seq Number:	3103852			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0193	0.0193	mg/kg	10.09.19 20.53	U	1
Toluene	108-88-3	<0.0193	0.0193	mg/kg	10.09.19 20.53	U	1
Ethylbenzene	100-41-4	<0.0193	0.0193	mg/kg	10.09.19 20.53	U	1
m,p-Xylenes	179601-23-1	<0.0385	0.0385	mg/kg	10.09.19 20.53	U	1
o-Xylene	95-47-6	<0.0193	0.0193	mg/kg	10.09.19 20.53	U	1
Total Xylenes	1330-20-7	<0.0193	0.0193	mg/kg	10.09.19 20.53	U	1
Total BTEX		<0.0193	0.0193	mg/kg	10.09.19 20.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	68-120	10.09.19 20.53	
a,a,a-Trifluorotoluene	98-08-8	106	%	71-121	10.09.19 20.53	

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 639321

LT Environmental, Inc.

EMSU 254 Flowline

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103941 — Matrix: Solid — Date Prep: 10.10.19
MB Sample Id: 7687856-1-BLK — LCS Sample Id: 7687856-1-BKS — LCSD Sample Id: 7687856-1-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	100	103	103	102	102	80-120	1	20	mg/kg	10.10.19 10:44	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103941 — Matrix: Soil — Date Prep: 10.10.19
Parent Sample Id: 639323-001 — MS Sample Id: 639323-001 S — MSD Sample Id: 639323-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	65.0	99.8	158	93	159	94	80-120	1	20	mg/kg	10.10.19 15:44	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103941 — Matrix: Soil — Date Prep: 10.10.19
Parent Sample Id: 639323-002 — MS Sample Id: 639323-002 S — MSD Sample Id: 639323-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	66.4	99.4	156	90	157	91	80-120	1	20	mg/kg	10.10.19 16:22	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104165 — Matrix: Solid — Date Prep: 10.09.19
MB Sample Id: 7687800-1-BLK — LCS Sample Id: 7687800-1-BKS — LCSD Sample Id: 7687800-1-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)	<10.0	1000	1230	123	1240	124	70-135	1	35	mg/kg	10.11.19 19:10	
Diesel Range Organics (DRO)	<10.0	1000	1110	111	1120	112	70-135	1	35	mg/kg	10.11.19 19:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		105		106		70-135	%	10.11.19 19:10
o-Terphenyl	101		95		101		70-135	%	10.11.19 19:10

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104165 — Matrix: Solid — Date Prep: 10.09.19
MB Sample Id: 7687800-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.11.19 18:52	

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 639321

LT Environmental, Inc.

EMSU 254 Flowline

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104165 — Matrix: Soil — Date Prep: 10.09.19
Parent Sample Id: 639140-001 — MS Sample Id: 639140-001 S — MSD Sample Id: 639140-001 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)	11.9	999	1230	122	1180	117	70-135	4	35	mg/kg	10.11.19 20:06	
Diesel Range Organics (DRO)	792	999	2120	133	1950	116	70-135	8	35	mg/kg	10.11.19 20:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		101		70-135	%	10.11.19 20:06
o-Terphenyl	88		88		70-135	%	10.11.19 20:06

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3103852 — Matrix: Solid — Date Prep: 10.09.19
MB Sample Id: 7687753-1-BLK — LCS Sample Id: 7687753-1-BKS — LCSD Sample Id: 7687753-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.96	98	1.89	95	55-120	4	20	mg/kg	10.09.19 17:15	
Toluene	<0.0200	2.00	1.95	98	1.87	94	77-120	4	20	mg/kg	10.09.19 17:15	
Ethylbenzene	<0.0200	2.00	2.06	103	1.98	99	77-120	4	20	mg/kg	10.09.19 17:15	
m,p-Xylenes	<0.0400	4.00	4.10	103	3.94	99	78-120	4	20	mg/kg	10.09.19 17:15	
o-Xylene	<0.0200	2.00	2.05	103	1.97	99	78-120	4	20	mg/kg	10.09.19 17:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	84		86		89		68-120	%	10.09.19 17:15
a,a,a-Trifluorotoluene	95		93		97		71-121	%	10.09.19 17:15

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3103852 — Matrix: Soil — Date Prep: 10.09.19
Parent Sample Id: 639321-001 — MS Sample Id: 639321-001 S — MSD Sample Id: 639321-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0192	1.92	1.67	87	1.60	89	54-120	4	25	mg/kg	10.09.19 19:40	
Toluene	<0.0192	1.92	1.65	86	1.62	90	57-120	2	25	mg/kg	10.09.19 19:40	
Ethylbenzene	<0.0192	1.92	1.71	89	1.70	94	58-131	1	25	mg/kg	10.09.19 19:40	
m,p-Xylenes	<0.0383	3.83	3.32	87	3.37	94	62-124	1	25	mg/kg	10.09.19 19:40	
o-Xylene	<0.0192	1.92	1.66	86	1.67	93	62-124	1	25	mg/kg	10.09.19 19:40	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	74		82		68-120	%	10.09.19 19:40
a,a,a-Trifluorotoluene	92		96		71-121	%	10.09.19 19:40

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: 439321

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 I ☐ Level II ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	EMSU 254 Flowline	Turn Around	
Project Number:	012919067	Routine	☑
P.O. Number:	IRP-5434	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	1.4	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:	2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
BH01	S	10/4/19	0922	1'	1	X	X	X
BH01A	S	10/4/19	1019	6'	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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10/8/19 11:07	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **49604**

Date/Time: 10/08/19 12:41
Lab# From: **Carlsbad**
Lab# To: **Lubbock**

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

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
639321-001	S	BH01	10/04/19 09:22	SW8021B	BTEX by EPA 8021B	10/14/19	10/18/19	JKR	BR4FBZ BZ BZME EBZ X	
639321-002	S	BH01A	10/04/19 10:19	SW8021B	BTEX by EPA 8021B	10/14/19	10/18/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/08/2019

Received By: Ashley Derstine

Date Received: 10/09/2019 09:45

Cooler Temperature: 2.9

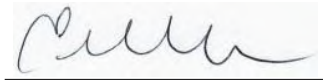
Inter-Office Shipment

IOS Number : 49605

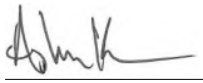
Date/Time:	10.08.2019	Created by:	Elizabeth Mcclellan	Please send report to:	Jessica Kramer
Lab# From:	**Carlsbad**	Delivery Priority:		Address:	1089 N Canal Street
Lab# To:	**Houston**	Air Bill No.:	776599755226	E-Mail:	jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
639321-001	S	BH01	10.04.2019 09:22	E300_CL	Chloride by EPA 300	10.14.2019	04.01.2020	JKR	CL	
639321-001	S	BH01	10.04.2019 09:22	SW8015MOD_NM	TPH by SW8015 Mod	10.14.2019	10.18.2019	JKR	GRO-DRO PHCC10C28	
639321-002	S	BH01A	10.04.2019 10:19	E300_CL	Chloride by EPA 300	10.14.2019	04.01.2020	JKR	CL	
639321-002	S	BH01A	10.04.2019 10:19	SW8015MOD_NM	TPH by SW8015 Mod	10.14.2019	10.18.2019	JKR	GRO-DRO PHCC10C28	

Inter Office Shipment or Sample Comments:

Relinquished By: 
Elizabeth McClellan

Date Relinquished: 10.08.2019

Received By: 
Ashly Kowalski

Date Received: 10.09.2019

Cooler Temperature: 1.5

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Lubbock

IOS #: 49604

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

Sent By: Elizabeth McClellan **Date Sent:** 10/08/2019 12:41 PM

Received By: Ashley Derstine **Date Received:** 10/09/2019 09:45 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.9	
#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: _____ Date: 10/09/2019
Ashley Derstine

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 49605

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : HOU-068

Sent By: Elizabeth McClellan **Date Sent:** 10.08.2019 12.41 PM

Received By: Ashly Kowalski **Date Received:** 10.09.2019 09.30 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.5	
#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: 10.09.2019
Ashly Kowalski

Analytical Report 639474

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254 Flowline

012919067

15-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)

15-OCT-19

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

Reference: XENCO Report No(s): **639474**
EMSU 254 Flowline
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) 639474. 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. 639474 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 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS02	S	10-08-19 12:57	1 ft	639474-001
FS03	S	10-08-19 13:08	1 ft	639474-002
FS04	S	10-08-19 13:11	1 ft	639474-003
FS05	S	10-08-19 13:28	1 ft	639474-004
FS06	S	10-08-19 13:32	1 ft	639474-005
FS07	S	10-08-19 13:36	1 ft	639474-006
FS08	S	10-08-19 13:51	1 ft	639474-007
FS09	S	10-08-19 14:02	1 ft	639474-008
FS10	S	10-08-19 14:05	1 ft	639474-009
FS11	S	10-08-19 14:08	1 ft	639474-010
FS12	S	10-08-19 14:26	1 ft	639474-011
FS13	S	10-08-19 14:29	1 ft	639474-012
FS14	S	10-08-19 14:33	1 ft	639474-013
FS15	S	10-08-19 14:56	1 ft	639474-014
FS16	S	10-08-19 14:58	1 ft	639474-015
FS17	S	10-08-19 15:16	1 ft	639474-016
FS18	S	10-08-19 15:19	1 ft	639474-017
FS19	S	10-08-19 15:28	1 ft	639474-018
FS20	S	10-08-19 15:30	1 ft	639474-019
FS21	S	10-08-19 15:33	1 ft	639474-020

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: EMSU 254 Flowline

Project ID: *012919067*
Work Order Number(s): *639474*

Report Date: *15-OCT-19*
Date Received: *10/09/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104291 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 639474-016,639474-004.

Certificate of Analysis Summary 639474

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254 Flowline

Project Id: 012919067
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Oct-09-19 01:53 pm
Report Date: 15-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	639474-001		639474-002		639474-003		639474-004		639474-005		639474-006	
	Field Id:	FS02		FS03		FS04		FS05		FS06		FS07	
	Depth:	1- ft		1- ft		1- ft		1- ft		1- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-08-19 12:57		Oct-08-19 13:08		Oct-08-19 13:11		Oct-08-19 13:28		Oct-08-19 13:32		Oct-08-19 13:36	
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00	
	Analyzed:	Oct-15-19 02:32		Oct-15-19 02:52		Oct-15-19 03:12		Oct-15-19 03:33		Oct-15-19 03:53		Oct-15-19 04:13	
	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	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
m,p-Xylenes		<0.00400	0.00400	<0.00398	0.00398	<0.00402	0.00402	<0.00399	0.00399	<0.00399	0.00399	<0.00402	0.00402
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Oct-10-19 16:30		Oct-10-19 16:30		Oct-10-19 16:30		Oct-10-19 16:30		Oct-10-19 16:30		Oct-10-19 16:45	
	Analyzed:	Oct-10-19 19:57		Oct-10-19 20:07		Oct-10-19 20:17		Oct-10-19 20:27		Oct-10-19 20:37		Oct-10-19 21:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5.89	5.05	16.1	5.00	135	5.00	95.4	5.00	37.7	5.04	61.5	5.03
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00	
	Analyzed:	Oct-12-19 12:01		Oct-12-19 13:04		Oct-12-19 13:25		Oct-12-19 13:47		Oct-12-19 14:08		Oct-12-19 14:29	
	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	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0
Total GRO-DRO		<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0
Total TPH		<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 639474

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254 Flowline

Project Id: 012919067
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Oct-09-19 01:53 pm
Report Date: 15-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	639474-007		639474-008		639474-009		639474-010		639474-011		639474-012	
	Field Id:	FS08		FS09		FS10		FS11		FS12		FS13	
	Depth:	1- ft		1- ft		1- ft		1- ft		1- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-08-19 13:51		Oct-08-19 14:02		Oct-08-19 14:05		Oct-08-19 14:08		Oct-08-19 14:26		Oct-08-19 14:29	
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00	
	Analyzed:	Oct-15-19 04:33		Oct-15-19 04:53		Oct-15-19 05:13		Oct-15-19 05:33		Oct-15-19 06:52		Oct-15-19 07:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00202	0.00202
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00202	0.00202
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00202	0.00202
m,p-Xylenes		<0.00397	0.00397	<0.00400	0.00400	<0.00398	0.00398	<0.00397	0.00397	<0.00397	0.00397	<0.00404	0.00404
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00202	0.00202
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00202	0.00202
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00202	0.00202
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Oct-10-19 16:45		Oct-10-19 16:45		Oct-10-19 16:45		Oct-10-19 16:45		Oct-10-19 16:45		Oct-10-19 16:45	
	Analyzed:	Oct-10-19 22:07		Oct-10-19 22:17		Oct-10-19 22:27		Oct-10-19 22:37		Oct-10-19 23:07		Oct-10-19 23:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		86.0	4.96	96.6	5.00	100	5.00	56.5	5.00	240	5.03	173	5.05
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00	
	Analyzed:	Oct-12-19 14:49		Oct-12-19 15:10		Oct-12-19 16:05		Oct-12-19 16:26		Oct-12-19 17:07		Oct-12-19 17:28	
	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	<49.9	49.9	<50.0	50.0	<49.8	49.8	<50.0	50.0	<50.0	50.0
Diesel Range Organics (DRO)		86.7	49.9	67.7	49.9	1280	50.0	58.9	49.8	142	50.0	278	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.9	49.9	195	50.0	<49.8	49.8	<50.0	50.0	54.0	50.0
Total GRO-DRO		86.7	49.9	67.7	49.9	1280	50.0	58.9	49.8	142	50.0	278	50.0
Total TPH		86.7	49.9	67.7	49.9	1480	50.0	58.9	49.8	142	50.0	332	50.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 639474

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254 Flowline

Project Id: 012919067
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Oct-09-19 01:53 pm
Report Date: 15-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	639474-013		639474-014		639474-015		639474-016		639474-017		639474-018	
	Field Id:	FS14		FS15		FS16		FS17		FS18		FS19	
	Depth:	1- ft		1- ft		1- ft		1- ft		1- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-08-19 14:33		Oct-08-19 14:56		Oct-08-19 14:58		Oct-08-19 15:16		Oct-08-19 15:19		Oct-08-19 15:28	
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00		Oct-14-19 09:00	
	Analyzed:	Oct-15-19 07:32		Oct-15-19 07:52		Oct-15-19 08:12		Oct-15-19 08:32		Oct-15-19 08:52		Oct-15-19 09:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Toluene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
m,p-Xylenes		<0.00403	0.00403	<0.00398	0.00398	<0.00398	0.00398	<0.00401	0.00401	<0.00397	0.00397	<0.00399	0.00399
o-Xylene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Total Xylenes		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Total BTEX		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Oct-10-19 16:45		Oct-10-19 16:45		Oct-10-19 16:45		Oct-10-19 16:45		Oct-10-19 16:45		Oct-10-19 16:45	
	Analyzed:	Oct-10-19 23:27		Oct-10-19 23:37		Oct-10-19 23:47		Oct-10-19 23:57		Oct-11-19 00:27		Oct-11-19 00:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		57.7	4.98	293	25.1	399	5.00	135	5.00	416	4.99	163	4.97
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00		Oct-12-19 10:00	
	Analyzed:	Oct-12-19 17:48		Oct-12-19 18:09		Oct-12-19 18:30		Oct-12-19 18:50		Oct-12-19 19:11		Oct-12-19 19:32	
	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	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9
Diesel Range Organics (DRO)		57.8	49.9	341	50.0	102	49.9	<50.0	50.0	700	49.9	63.4	49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	55.9	50.0	<49.9	49.9	<50.0	50.0	109	49.9	<49.9	49.9
Total GRO-DRO		57.8	49.9	341	50.0	102	49.9	<50.0	50.0	700	49.9	63.4	49.9
Total TPH		57.8	49.9	397	50.0	102	49.9	<50.0	50.0	809	49.9	63.4	49.9

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 639474

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254 Flowline

Project Id: 012919067
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Oct-09-19 01:53 pm
Report Date: 15-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	639474-019		639474-020									
	Field Id:	FS20		FS21									
	Depth:	1- ft		1- ft									
	Matrix:	SOIL		SOIL									
	Sampled:	Oct-08-19 15:30		Oct-08-19 15:33									
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Oct-14-19 09:00		Oct-14-19 09:00									
	Analyzed:	Oct-15-19 09:33		Oct-15-19 09:53									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		<0.00199	0.00199	<0.00200	0.00200								
Toluene		<0.00199	0.00199	<0.00200	0.00200								
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200								
m,p-Xylenes		<0.00398	0.00398	<0.00399	0.00399								
o-Xylene		<0.00199	0.00199	<0.00200	0.00200								
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200								
Total BTEX		<0.00199	0.00199	<0.00200	0.00200								
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Oct-10-19 16:45		Oct-10-19 16:45									
	Analyzed:	Oct-11-19 01:07		Oct-11-19 01:17									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Chloride		86.7	5.04	182	4.96								
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Oct-12-19 10:00		Oct-12-19 10:00									
	Analyzed:	Oct-12-19 19:53		Oct-12-19 20:14									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.8	49.8								
Diesel Range Organics (DRO)		193	50.0	211	49.8								
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8								
Total GRO-DRO		193	50.0	211	49.8								
Total TPH		193	50.0	211	49.8								

Jessica Kramer
Project Assistant

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-001	Date Collected:	10.08.19 12.57	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.30	Basis:	Wet Weight
Seq Number:	3103968			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.89**	5.05	mg/kg	10.10.19 19.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 12.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.12.19 12.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.12.19 12.01	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.12.19 12.01	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.12.19 12.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	10.12.19 12.01	
o-Terphenyl	84-15-1	81	%	70-135	10.12.19 12.01	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-001	Date Collected:	10.08.19 12.57	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.19 02.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.19 02.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.19 02.32	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.15.19 02.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.19 02.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.19 02.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.19 02.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	70-130	10.15.19 02.32	
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.15.19 02.32	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-002	Date Collected:	10.08.19 13.08	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.30	Basis:	Wet Weight
Seq Number:	3103968			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.1**	5.00	mg/kg	10.10.19 20.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 13.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.12.19 13.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.12.19 13.04	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.12.19 13.04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.12.19 13.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	10.12.19 13.04	
o-Terphenyl	84-15-1	80	%	70-135	10.12.19 13.04	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-002	Date Collected:	10.08.19 13.08	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.15.19 02.52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.15.19 02.52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.15.19 02.52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.15.19 02.52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.15.19 02.52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.15.19 02.52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.15.19 02.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	75	%	70-130	10.15.19 02.52	
4-Bromofluorobenzene	460-00-4	111	%	70-130	10.15.19 02.52	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-003	Date Collected:	10.08.19 13.11	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.30	Basis:	Wet Weight
Seq Number:	3103968			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**135**	5.00	mg/kg	10.10.19 20.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 13.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.12.19 13.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.12.19 13.25	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.12.19 13.25	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.12.19 13.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	10.12.19 13.25	
o-Terphenyl	84-15-1	81	%	70-135	10.12.19 13.25	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-003	Date Collected:	10.08.19 13.11	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.15.19 03.12	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.15.19 03.12	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.15.19 03.12	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.15.19 03.12	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.15.19 03.12	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.15.19 03.12	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.15.19 03.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	85	%	70-130	10.15.19 03.12	
4-Bromofluorobenzene	460-00-4	111	%	70-130	10.15.19 03.12	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-004	Date Collected:	10.08.19 13.28	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.30	Basis:	Wet Weight
Seq Number:	3103968			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**95.4**	5.00	mg/kg	10.10.19 20.27		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 13.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.12.19 13.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.12.19 13.47	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.12.19 13.47	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.12.19 13.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	10.12.19 13.47	
o-Terphenyl	84-15-1	83	%	70-135	10.12.19 13.47	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-004	Date Collected:	10.08.19 13.28	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.19 03.33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.19 03.33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.19 03.33	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.15.19 03.33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.19 03.33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.19 03.33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.19 03.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	157	%	70-130	10.15.19 03.33	**
1,4-Difluorobenzene	540-36-3	81	%	70-130	10.15.19 03.33	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-005	Date Collected:	10.08.19 13.32	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.30	Basis:	Wet Weight
Seq Number:	3103968			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**37.7**	5.04	mg/kg	10.10.19 20.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 14.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.12.19 14.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.12.19 14.08	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.12.19 14.08	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.12.19 14.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	10.12.19 14.08	
o-Terphenyl	84-15-1	85	%	70-135	10.12.19 14.08	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-005	Date Collected:	10.08.19 13.32	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.19 03.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.19 03.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.19 03.53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.15.19 03.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.19 03.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.19 03.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.19 03.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	10.15.19 03.53	
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.15.19 03.53	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-006	Date Collected:	10.08.19 13.36	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**61.5**	5.03	mg/kg	10.10.19 21.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 14.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.12.19 14.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.12.19 14.29	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.12.19 14.29	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.12.19 14.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	10.12.19 14.29	
o-Terphenyl	84-15-1	81	%	70-135	10.12.19 14.29	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-006	Date Collected:	10.08.19 13.36	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.15.19 04.13	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.15.19 04.13	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.15.19 04.13	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.15.19 04.13	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.15.19 04.13	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.15.19 04.13	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.15.19 04.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	125	%	70-130	10.15.19 04.13	
1,4-Difluorobenzene	540-36-3	85	%	70-130	10.15.19 04.13	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-007	Date Collected:	10.08.19 13.51	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**86.0**	4.96	mg/kg	10.10.19 22.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 14.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	**86.7**	49.9	mg/kg	10.12.19 14.49		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.12.19 14.49	U	1
Total GRO-DRO	PHC628	**86.7**	49.9	mg/kg	10.12.19 14.49		1
Total TPH	PHC635	**86.7**	49.9	mg/kg	10.12.19 14.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	10.12.19 14.49	
o-Terphenyl	84-15-1	80	%	70-135	10.12.19 14.49	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-007	Date Collected:	10.08.19 13.51	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.15.19 04.33	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.15.19 04.33	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.15.19 04.33	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.15.19 04.33	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.15.19 04.33	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.15.19 04.33	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.15.19 04.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	70-130	10.15.19 04.33	
4-Bromofluorobenzene	460-00-4	89	%	70-130	10.15.19 04.33	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-008	Date Collected:	10.08.19 14.02	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**96.6**	5.00	mg/kg	10.10.19 22.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 15.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	**67.7**	49.9	mg/kg	10.12.19 15.10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.12.19 15.10	U	1
Total GRO-DRO	PHC628	**67.7**	49.9	mg/kg	10.12.19 15.10		1
Total TPH	PHC635	**67.7**	49.9	mg/kg	10.12.19 15.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	10.12.19 15.10	
o-Terphenyl	84-15-1	81	%	70-135	10.12.19 15.10	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-008	Date Collected:	10.08.19 14.02	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.19 04.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.19 04.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.19 04.53	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.15.19 04.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.19 04.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.19 04.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.19 04.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	10.15.19 04.53	
1,4-Difluorobenzene	540-36-3	92	%	70-130	10.15.19 04.53	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-009	Date Collected:	10.08.19 14.05	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**100**	5.00	mg/kg	10.10.19 22.27		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 16.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1280**	50.0	mg/kg	10.12.19 16.05		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**195**	50.0	mg/kg	10.12.19 16.05		1
Total GRO-DRO	PHC628	**1280**	50.0	mg/kg	10.12.19 16.05		1
Total TPH	PHC635	**1480**	50.0	mg/kg	10.12.19 16.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	10.12.19 16.05	
o-Terphenyl	84-15-1	79	%	70-135	10.12.19 16.05	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-009	Date Collected:	10.08.19 14.05	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.15.19 05.13	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.15.19 05.13	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.15.19 05.13	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.15.19 05.13	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.15.19 05.13	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.15.19 05.13	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.15.19 05.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	10.15.19 05.13	
1,4-Difluorobenzene	540-36-3	85	%	70-130	10.15.19 05.13	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-010	Date Collected:	10.08.19 14.08	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**56.5**	5.00	mg/kg	10.10.19 22.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 16.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	**58.9**	49.8	mg/kg	10.12.19 16.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.12.19 16.26	U	1
Total GRO-DRO	PHC628	**58.9**	49.8	mg/kg	10.12.19 16.26		1
Total TPH	PHC635	**58.9**	49.8	mg/kg	10.12.19 16.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	10.12.19 16.26	
o-Terphenyl	84-15-1	79	%	70-135	10.12.19 16.26	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-010	Date Collected:	10.08.19 14.08	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.15.19 05.33	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.15.19 05.33	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.15.19 05.33	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.15.19 05.33	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.15.19 05.33	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.15.19 05.33	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.15.19 05.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	90	%	70-130	10.15.19 05.33	
4-Bromofluorobenzene	460-00-4	123	%	70-130	10.15.19 05.33	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS12**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-011	Date Collected:	10.08.19 14.26	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**240**	5.03	mg/kg	10.10.19 23.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 17.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	**142**	50.0	mg/kg	10.12.19 17.07		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.12.19 17.07	U	1
Total GRO-DRO	PHC628	**142**	50.0	mg/kg	10.12.19 17.07		1
Total TPH	PHC635	**142**	50.0	mg/kg	10.12.19 17.07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	10.12.19 17.07	
o-Terphenyl	84-15-1	80	%	70-135	10.12.19 17.07	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS12**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-011	Date Collected:	10.08.19 14.26	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.15.19 06.52	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.15.19 06.52	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.15.19 06.52	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.15.19 06.52	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.15.19 06.52	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.15.19 06.52	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.15.19 06.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	10.15.19 06.52	
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.15.19 06.52	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS13**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-012	Date Collected:	10.08.19 14.29	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**173**	5.05	mg/kg	10.10.19 23.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 17.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	**278**	50.0	mg/kg	10.12.19 17.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**54.0**	50.0	mg/kg	10.12.19 17.28		1
Total GRO-DRO	PHC628	**278**	50.0	mg/kg	10.12.19 17.28		1
Total TPH	PHC635	**332**	50.0	mg/kg	10.12.19 17.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	10.12.19 17.28	
o-Terphenyl	84-15-1	79	%	70-135	10.12.19 17.28	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS13**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-012	Date Collected:	10.08.19 14.29	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.15.19 07.12	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.15.19 07.12	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.15.19 07.12	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	10.15.19 07.12	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.15.19 07.12	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.15.19 07.12	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.15.19 07.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.15.19 07.12	
4-Bromofluorobenzene	460-00-4	110	%	70-130	10.15.19 07.12	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS14**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-013	Date Collected:	10.08.19 14.33	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**57.7**	4.98	mg/kg	10.10.19 23.27		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 17.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**57.8**	49.9	mg/kg	10.12.19 17.48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.12.19 17.48	U	1
Total GRO-DRO	PHC628	**57.8**	49.9	mg/kg	10.12.19 17.48		1
Total TPH	PHC635	**57.8**	49.9	mg/kg	10.12.19 17.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	10.12.19 17.48	
o-Terphenyl	84-15-1	79	%	70-135	10.12.19 17.48	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS14**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-013	Date Collected:	10.08.19 14.33	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.15.19 07.32	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.15.19 07.32	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.15.19 07.32	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.15.19 07.32	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.15.19 07.32	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.15.19 07.32	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.15.19 07.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	10.15.19 07.32	
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.15.19 07.32	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS15**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-014	Date Collected:	10.08.19 14.56	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**293**	25.1	mg/kg	10.10.19 23.37		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 18.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	**341**	50.0	mg/kg	10.12.19 18.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**55.9**	50.0	mg/kg	10.12.19 18.09		1
Total GRO-DRO	PHC628	**341**	50.0	mg/kg	10.12.19 18.09		1
Total TPH	PHC635	**397**	50.0	mg/kg	10.12.19 18.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	10.12.19 18.09	
o-Terphenyl	84-15-1	82	%	70-135	10.12.19 18.09	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS15**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-014	Date Collected:	10.08.19 14.56	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.15.19 07.52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.15.19 07.52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.15.19 07.52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.15.19 07.52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.15.19 07.52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.15.19 07.52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.15.19 07.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.15.19 07.52	
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.15.19 07.52	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS16**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-015	Date Collected:	10.08.19 14.58	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**399**	5.00	mg/kg	10.10.19 23.47		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 18.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	**102**	49.9	mg/kg	10.12.19 18.30		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.12.19 18.30	U	1
Total GRO-DRO	PHC628	**102**	49.9	mg/kg	10.12.19 18.30		1
Total TPH	PHC635	**102**	49.9	mg/kg	10.12.19 18.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	10.12.19 18.30	
o-Terphenyl	84-15-1	78	%	70-135	10.12.19 18.30	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS16**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-015	Date Collected:	10.08.19 14.58	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.15.19 08.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.15.19 08.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.15.19 08.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.15.19 08.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.15.19 08.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.15.19 08.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.15.19 08.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	10.15.19 08.12	
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.15.19 08.12	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS17**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-016	Date Collected:	10.08.19 15.16	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**135**	5.00	mg/kg	10.10.19 23.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 18.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.12.19 18.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.12.19 18.50	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.12.19 18.50	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.12.19 18.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	10.12.19 18.50	
o-Terphenyl	84-15-1	80	%	70-135	10.12.19 18.50	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS17**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-016	Date Collected:	10.08.19 15.16	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.19 08.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.19 08.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.19 08.32	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.15.19 08.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.19 08.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.19 08.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.19 08.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	131	%	70-130	10.15.19 08.32	**
1,4-Difluorobenzene	540-36-3	78	%	70-130	10.15.19 08.32	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS18**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-017	Date Collected:	10.08.19 15.19	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**416**	4.99	mg/kg	10.11.19 00.27		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 19.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	**700**	49.9	mg/kg	10.12.19 19.11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**109**	49.9	mg/kg	10.12.19 19.11		1
Total GRO-DRO	PHC628	**700**	49.9	mg/kg	10.12.19 19.11		1
Total TPH	PHC635	**809**	49.9	mg/kg	10.12.19 19.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	10.12.19 19.11	
o-Terphenyl	84-15-1	80	%	70-135	10.12.19 19.11	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS18**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-017	Date Collected:	10.08.19 15.19	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.15.19 08.52	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.15.19 08.52	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.15.19 08.52	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.15.19 08.52	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.15.19 08.52	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.15.19 08.52	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.15.19 08.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.15.19 08.52	
4-Bromofluorobenzene	460-00-4	117	%	70-130	10.15.19 08.52	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS19**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-018	Date Collected:	10.08.19 15.28	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**163**	4.97	mg/kg	10.11.19 00.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 19.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	**63.4**	49.9	mg/kg	10.12.19 19.32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.12.19 19.32	U	1
Total GRO-DRO	PHC628	**63.4**	49.9	mg/kg	10.12.19 19.32		1
Total TPH	PHC635	**63.4**	49.9	mg/kg	10.12.19 19.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	10.12.19 19.32	
o-Terphenyl	84-15-1	80	%	70-135	10.12.19 19.32	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS19**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-018	Date Collected:	10.08.19 15.28	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.19 09.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.19 09.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.19 09.13	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.15.19 09.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.19 09.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.19 09.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.19 09.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	10.15.19 09.13	
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.15.19 09.13	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS20**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-019	Date Collected:	10.08.19 15.30	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**86.7**	5.04	mg/kg	10.11.19 01.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 19.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	**193**	50.0	mg/kg	10.12.19 19.53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.12.19 19.53	U	1
Total GRO-DRO	PHC628	**193**	50.0	mg/kg	10.12.19 19.53		1
Total TPH	PHC635	**193**	50.0	mg/kg	10.12.19 19.53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	10.12.19 19.53	
o-Terphenyl	84-15-1	90	%	70-135	10.12.19 19.53	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS20**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-019	Date Collected:	10.08.19 15.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.15.19 09.33	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.15.19 09.33	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.15.19 09.33	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.15.19 09.33	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.15.19 09.33	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.15.19 09.33	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.15.19 09.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	10.15.19 09.33	
1,4-Difluorobenzene	540-36-3	91	%	70-130	10.15.19 09.33	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS21**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-020	Date Collected:	10.08.19 15.33	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.10.19 16.45	Basis:	Wet Weight
Seq Number:	3103973			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**182**	4.96	mg/kg	10.11.19 01.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.19 10.00	Basis:	Wet Weight
Seq Number:	3104219			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	10.12.19 20.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	**211**	49.8	mg/kg	10.12.19 20.14		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.12.19 20.14	U	1
Total GRO-DRO	PHC628	**211**	49.8	mg/kg	10.12.19 20.14		1
Total TPH	PHC635	**211**	49.8	mg/kg	10.12.19 20.14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	10.12.19 20.14	
o-Terphenyl	84-15-1	77	%	70-135	10.12.19 20.14	

Certificate of Analytical Results 639474

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS21**	Matrix:	Soil	Date Received:	10.09.19 13.53
Lab Sample Id:	639474-020	Date Collected:	10.08.19 15.33	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.14.19 09.00	Basis:	Wet Weight
Seq Number:	3104291			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.19 09.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.19 09.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.19 09.53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.15.19 09.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.19 09.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.19 09.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.19 09.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	70-130	10.15.19 09.53	
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.15.19 09.53	

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 639474

LT Environmental, Inc.

EMSU 254 Flowline

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103968 — Matrix: Solid — Date Prep: 10.10.19
MB Sample Id: 7687884-1-BLK — LCS Sample Id: 7687884-1-BKS — LCSD Sample Id: 7687884-1-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	231	92	231	92	90-110	0	20	mg/kg	10.10.19 15:47	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103973 — Matrix: Solid — Date Prep: 10.10.19
MB Sample Id: 7687886-1-BLK — LCS Sample Id: 7687886-1-BKS — LCSD Sample Id: 7687886-1-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	239	96	236	94	90-110	1	20	mg/kg	10.10.19 21:17	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103968 — Matrix: Soil — Date Prep: 10.10.19
Parent Sample Id: 639542-011 — MS Sample Id: 639542-011 S — MSD Sample Id: 639542-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	810	252	1010	79	1010	80	90-110	0	20	mg/kg	10.11.19 11:24	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103968 — Matrix: Soil — Date Prep: 10.10.19
Parent Sample Id: 639542-014 — MS Sample Id: 639542-014 S — MSD Sample Id: 639542-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	343	252	589	98	588	97	90-110	0	20	mg/kg	10.10.19 16:17	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3103973 — Matrix: Soil — Date Prep: 10.10.19
Parent Sample Id: 639474-006 — MS Sample Id: 639474-006 S — MSD Sample Id: 639474-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	61.5	252	311	99	313	100	90-110	1	20	mg/kg	10.10.19 21:47	

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 639474

LT Environmental, Inc.

EMSU 254 Flowline

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3103973 Matrix: Soil Date Prep: 10.10.19
Parent Sample Id: 639474-016 MS Sample Id: 639474-016 S MSD Sample Id: 639474-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	135	250	376	96	377	97	90-110	0	20	mg/kg	10.11.19 00:07	

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Seq Number: 3104219 Matrix: Solid Date Prep: 10.12.19
MB Sample Id: 7688019-1-BLK LCS Sample Id: 7688019-1-BKS LCSD Sample Id: 7688019-1-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	1030	103	1010	101	70-135	2	20	mg/kg	10.12.19 11:19	
Diesel Range Organics (DRO)	<15.0	1000	936	94	904	90	70-135	3	20	mg/kg	10.12.19 11:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	82		92		91		70-135	%	10.12.19 11:19
o-Terphenyl	87		86		86		70-135	%	10.12.19 11:19

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Seq Number: 3104219 Matrix: Solid Date Prep: 10.12.19
MB Sample Id: 7688019-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.12.19 10:58	

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Seq Number: 3104219 Matrix: Soil Date Prep: 10.12.19
Parent Sample Id: 639474-001 MS Sample Id: 639474-001 S MSD Sample Id: 639474-001 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	999	100	1020	102	70-135	2	20	mg/kg	10.12.19 12:22	
Diesel Range Organics (DRO)	<15.0	998	901	90	925	93	70-135	3	20	mg/kg	10.12.19 12:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		91		70-135	%	10.12.19 12:22
o-Terphenyl	84		86		70-135	%	10.12.19 12:22

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 639474

LT Environmental, Inc.

EMSU 254 Flowline

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3104291 | Matrix: Solid | Date Prep: 10.14.19
MB Sample Id: 7688092-1-BLK | LCS Sample Id: 7688092-1-BKS | LCSD Sample Id: 7688092-1-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	0.0990	99	0.0926	93	70-130	7	35	mg/kg	10.15.19 00:33	
Toluene	<0.00200	0.100	0.0942	94	0.0927	93	70-130	2	35	mg/kg	10.15.19 00:33	
Ethylbenzene	<0.00200	0.100	0.0993	99	0.101	101	70-130	2	35	mg/kg	10.15.19 00:33	
m,p-Xylenes	<0.00400	0.200	0.193	97	0.200	100	70-130	4	35	mg/kg	10.15.19 00:33	
o-Xylene	<0.00200	0.100	0.100	100	0.105	105	70-130	5	35	mg/kg	10.15.19 00:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		91		89		70-130	%	10.15.19 00:33
4-Bromofluorobenzene	104		99		108		70-130	%	10.15.19 00:33

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3104291 | Matrix: Soil | Date Prep: 10.14.19
Parent Sample Id: 639474-001 | MS Sample Id: 639474-001 S | MSD Sample Id: 639474-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0723	72	0.0742	75	70-130	3	35	mg/kg	10.15.19 01:13	
Toluene	<0.00200	0.100	0.0768	77	0.0793	80	70-130	3	35	mg/kg	10.15.19 01:13	
Ethylbenzene	<0.00200	0.100	0.0846	85	0.0867	87	70-130	2	35	mg/kg	10.15.19 01:13	
m,p-Xylenes	<0.00401	0.200	0.164	82	0.167	84	70-130	2	35	mg/kg	10.15.19 01:13	
o-Xylene	<0.00200	0.100	0.0885	89	0.0908	92	70-130	3	35	mg/kg	10.15.19 01:13	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		90		70-130	%	10.15.19 01:13
4-Bromofluorobenzene	116		120		70-130	%	10.15.19 01:13

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: 639474

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 I ☐ Level II ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	EMSU 254 Flowline	Turn Around	
Project Number:	012919067	Routine	☑
P.O. Number:	IRP-5434	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	1.4	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:	20

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS02	S	10/8/19	1257	1'	1	X	X	X
FS03			1308					
FS04			1311					
FS05			1328					
FS06			1332					
FS07			1336					
FS08			1351					
FS09			1402					
FS10			1405					
FS11	↓	↓	1408	↓	↓	↓	↓	↓

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		10/9/19 13:53	2		
3				4		
5				6		

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: 639474

www.xenco.com Page 2 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian Office	Company Name:	XTO 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 Flowline	Turn Around	
Project Number:	012919067	Routine	☑
P.O. Number:	IRP-5434	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	1.4	Thermometer ID		
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
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)
FS12	S	10/8/19	1426	1'	1	X	X	X
FS13			1429					
FS14			1433					
FS15			1456					
FS16			1458					
FS17			1516					
FS18			1519					
FS19			1528					
FS20			1530					
FS21	↓	↓	1533	↓	↓	↓	↓	↓

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		10/9/19 13:53	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **49765**

Date/Time: 10/09/19 15:11
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776647248020

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
639474-001	S	FS02	10/08/19 12:57	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-001	S	FS02	10/08/19 12:57	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-001	S	FS02	10/08/19 12:57	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-002	S	FS03	10/08/19 13:08	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-002	S	FS03	10/08/19 13:08	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-002	S	FS03	10/08/19 13:08	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-003	S	FS04	10/08/19 13:11	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-003	S	FS04	10/08/19 13:11	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-003	S	FS04	10/08/19 13:11	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-004	S	FS05	10/08/19 13:28	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-004	S	FS05	10/08/19 13:28	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-004	S	FS05	10/08/19 13:28	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-005	S	FS06	10/08/19 13:32	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-005	S	FS06	10/08/19 13:32	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-005	S	FS06	10/08/19 13:32	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-006	S	FS07	10/08/19 13:36	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-006	S	FS07	10/08/19 13:36	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-006	S	FS07	10/08/19 13:36	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-007	S	FS08	10/08/19 13:51	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-007	S	FS08	10/08/19 13:51	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-007	S	FS08	10/08/19 13:51	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-008	S	FS09	10/08/19 14:02	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-008	S	FS09	10/08/19 14:02	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-008	S	FS09	10/08/19 14:02	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-009	S	FS10	10/08/19 14:05	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	

Inter-Office Shipment

IOS Number **49765**

Date/Time: 10/09/19 15:11

Lab# From: **Carlsbad**

Lab# To: **Midland**

Created by: Elizabeth Mcclellan

Delivery Priority:

Air Bill No.: 776647248020

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
639474-009	S	FS10	10/08/19 14:05	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-009	S	FS10	10/08/19 14:05	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-010	S	FS11	10/08/19 14:08	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-010	S	FS11	10/08/19 14:08	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-010	S	FS11	10/08/19 14:08	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-011	S	FS12	10/08/19 14:26	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-011	S	FS12	10/08/19 14:26	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-011	S	FS12	10/08/19 14:26	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-012	S	FS13	10/08/19 14:29	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-012	S	FS13	10/08/19 14:29	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-012	S	FS13	10/08/19 14:29	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-013	S	FS14	10/08/19 14:33	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-013	S	FS14	10/08/19 14:33	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-013	S	FS14	10/08/19 14:33	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-014	S	FS15	10/08/19 14:56	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-014	S	FS15	10/08/19 14:56	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-014	S	FS15	10/08/19 14:56	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-015	S	FS16	10/08/19 14:58	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-015	S	FS16	10/08/19 14:58	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-015	S	FS16	10/08/19 14:58	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-016	S	FS17	10/08/19 15:16	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-016	S	FS17	10/08/19 15:16	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-016	S	FS17	10/08/19 15:16	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	
639474-017	S	FS18	10/08/19 15:19	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-017	S	FS18	10/08/19 15:19	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PI	

Inter Office Shipment or Sample Comments:

Inter-Office Shipment

IOS Number **49765**

Date/Time: 10/09/19 15:11
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776647248020

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
639474-017	S	FS18	10/08/19 15:19	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-018	S	FS19	10/08/19 15:28	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-018	S	FS19	10/08/19 15:28	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-018	S	FS19	10/08/19 15:28	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PH	
639474-019	S	FS20	10/08/19 15:30	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	
639474-019	S	FS20	10/08/19 15:30	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PH	
639474-019	S	FS20	10/08/19 15:30	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-020	S	FS21	10/08/19 15:33	SW8021B	BTEX by EPA 8021B	10/15/19	10/22/19	JKR	BR4FBZ BZ BZME EBZ X	
639474-020	S	FS21	10/08/19 15:33	SW8015MOD_NM	TPH by SW8015 Mod	10/15/19	10/22/19	JKR	GRO-DRO PHCC10C28 PH	
639474-020	S	FS21	10/08/19 15:33	E300_CL	Chloride by EPA 300	10/15/19	04/05/20	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/09/2019

Received By: Brianna Teel

Date Received: 10/10/2019 11:13

Cooler Temperature: 0.4

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 49765

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

Sent By: Elizabeth McClellan **Date Sent:** 10/09/2019 03:11 PM

Received By: Brianna Teel **Date Received:** 10/10/2019 11:13 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.4	
#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: 10/10/2019

Brianna Teel

Analytical Report 640116

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 254 Flowline

012919067

17-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)

17-OCT-19

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

Reference: XENCO Report No(s): **640116**
EMSU 254 Flowline
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) 640116. 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. 640116 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 640116

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS10A	S	10-15-19 13:53	1.5 ft	640116-001

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: EMSU 254 Flowline

Project ID: *012919067*
Work Order Number(s): *640116*

Report Date: *17-OCT-19*
Date Received: *10/16/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104603 BTEX by EPA 8021B

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

Certificate of Analysis Summary 640116

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 254 Flowline

Project Id: 012919067
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Oct-16-19 09:53 am
Report Date: 17-OCT-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	640116-001					
	Field Id:	FS10A					
	Depth:	1.5- ft					
	Matrix:	SOIL					
	Sampled:	Oct-15-19 13:53					
BTEX by EPA 8021B	***Extracted:***	Oct-16-19 11:10					
	Analyzed:	Oct-16-19 16:29					
	Units/RL:	mg/kg	RL				
Benzene		<0.00101	0.00101				
Toluene		<0.00101	0.00101				
Ethylbenzene		<0.00101	0.00101				
m,p-Xylenes		<0.00202	0.00202				
o-Xylene		<0.00101	0.00101				
Total Xylenes		<0.00101	0.00101				
Total BTEX		<0.00101	0.00101				
Chloride by EPA 300	***Extracted:***	Oct-16-19 14:10					
	Analyzed:	Oct-16-19 15:36					
	Units/RL:	mg/kg	RL				
Chloride		351	9.94				
TPH by SW8015 Mod	***Extracted:***	Oct-16-19 11:20					
	Analyzed:	Oct-17-19 11:08					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2				
Diesel Range Organics (DRO)		<50.2	50.2				
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2				
Total GRO-DRO		<50.2	50.2				
Total TPH		<50.2	50.2				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 640116

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS10A**	Matrix:	Soil	Date Received:	10.16.19 09.53
Lab Sample Id:	640116-001	Date Collected:	10.15.19 13.53	Sample Depth:	1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.16.19 14.10	Basis:	Wet Weight
Seq Number:	3104507				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**351**	9.94	mg/kg	10.16.19 15.36		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	ELM			% Moisture:	
Analyst:	DTH	Date Prep:	10.16.19 11.20	Basis:	Wet Weight
Seq Number:	3104625				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.17.19 11.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.17.19 11.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.17.19 11.08	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	10.17.19 11.08	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.17.19 11.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	10.17.19 11.08	
o-Terphenyl	84-15-1	90	%	70-135	10.17.19 11.08	

Certificate of Analytical Results 640116

LT Environmental, Inc., Arvada, CO

EMSU 254 Flowline

Sample Id:	**FS10A**	Matrix:	Soil	Date Received:	10.16.19 09.53
Lab Sample Id:	640116-001	Date Collected:	10.15.19 13.53	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.16.19 11.10	Basis:	Wet Weight
Seq Number:	3104603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	10.16.19 16.29	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	10.16.19 16.29	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	10.16.19 16.29	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	10.16.19 16.29	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	10.16.19 16.29	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	10.16.19 16.29	U	1
Total BTEX		<0.00101	0.00101	mg/kg	10.16.19 16.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	10.16.19 16.29	
4-Bromofluorobenzene	460-00-4	117	%	70-130	10.16.19 16.29	

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 640116

LT Environmental, Inc.

EMSU 254 Flowline

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104507 — Matrix: Solid — Date Prep: 10.16.19
MB Sample Id: 7688273-1-BLK — LCS Sample Id: 7688273-1-BKS — LCSD Sample Id: 7688273-1-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	262	105	90-110	0	20	mg/kg	10.16.19 14:31	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104507 — Matrix: Soil — Date Prep: 10.16.19
Parent Sample Id: 640122-001 — MS Sample Id: 640122-001 S — MSD Sample Id: 640122-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	233	1000	1350	112	1300	107	90-110	4	20	mg/kg	10.16.19 14:53	X

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104625 — Matrix: Solid — Date Prep: 10.16.19
MB Sample Id: 7688283-1-BLK — LCS Sample Id: 7688283-1-BKS — LCSD Sample Id: 7688283-1-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	1000	100	1100	110	70-135	10	35	mg/kg	10.17.19 10:48	
Diesel Range Organics (DRO)	<50.0	1000	910	91	954	95	70-135	5	35	mg/kg	10.17.19 10:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		115		123		70-135	%	10.17.19 10:48
o-Terphenyl	98		110		121		70-135	%	10.17.19 10:48

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104625 — Matrix: Solid — Date Prep: 10.16.19
MB Sample Id: 7688283-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.17.19 10:28	

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 640116

LT Environmental, Inc.

EMSU 254 Flowline

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104625 — Matrix: Soil — Date Prep: 10.16.19
Parent Sample Id: 640116-001 — MS Sample Id: 640116-001 S — MSD Sample Id: 640116-001 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	1080	108	995	100	70-135	8	35	mg/kg	10.17.19 12:16	
Diesel Range Organics (DRO)	<50.2	1000	1000	100	848	85	70-135	16	35	mg/kg	10.17.19 12:16	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		112		70-135	%	10.17.19 12:16
o-Terphenyl	109		105		70-135	%	10.17.19 12:16

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104603 — Matrix: Solid — Date Prep: 10.16.19
MB Sample Id: 7688285-1-BLK — LCS Sample Id: 7688285-1-BKS — LCSD Sample Id: 7688285-1-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	0.106	106	0.109	109	70-130	3	35	mg/kg	10.16.19 14:46	
Toluene	<0.00100	0.100	0.100	100	0.104	104	70-130	4	35	mg/kg	10.16.19 14:46	
Ethylbenzene	<0.00100	0.100	0.100	100	0.104	104	71-129	4	35	mg/kg	10.16.19 14:46	
m,p-Xylenes	<0.00200	0.200	0.213	107	0.224	112	70-135	5	35	mg/kg	10.16.19 14:46	
o-Xylene	<0.00100	0.100	0.105	105	0.111	111	71-133	6	35	mg/kg	10.16.19 14:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		107		107		70-130	%	10.16.19 14:46
4-Bromofluorobenzene	112		110		117		70-130	%	10.16.19 14:46

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104603 — Matrix: Soil — Date Prep: 10.16.19
Parent Sample Id: 640116-001 — MS Sample Id: 640116-001 S — MSD Sample Id: 640116-001 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	0.100	99	0.0982	99	70-130	2	35	mg/kg	10.16.19 15:24	
Toluene	<0.00101	0.101	0.0964	95	0.0941	95	70-130	2	35	mg/kg	10.16.19 15:24	
Ethylbenzene	<0.00101	0.101	0.0957	95	0.0929	93	71-129	3	35	mg/kg	10.16.19 15:24	
m,p-Xylenes	<0.00201	0.201	0.204	101	0.197	99	70-135	3	35	mg/kg	10.16.19 15:24	
o-Xylene	<0.00101	0.101	0.101	100	0.0976	98	71-133	3	35	mg/kg	10.16.19 15:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		106		70-130	%	10.16.19 15:24
4-Bromofluorobenzene	120		118		70-130	%	10.16.19 15:24

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: 640116

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 Flowline	Turn Around	
Project Number:	012919067	Routine ☐	
P.O. Number:	IRP-5434	Rush: 2 days	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	1.4	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:	1	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS10A	S	10/15/19	1353	1.5'	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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Fatima Smith	Anna Byers	10/16/19 @ 0935	2 Anna Byers		10/16/19 9:53
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: 10/16/2019 09:53:00 AM

Work Order #: 640116

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)?	1.4
#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: 10/16/2019

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

Jessica Kramer