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

December 5, 2019

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

RE: Deferral Request
Eunice Monument South Unit #306
Remediation Permit Number 1RP-5457
Lea County, New Mexico

To Whom It May Concern:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing site assessment, excavation, and soil sampling activities at the Eunice Monument South Unit #306 (Site) located in Unit E, Section 11, 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 for Remediation Permit (RP) Number 1RP-5457.

RELEASE BACKGROUND

On April 13, 2019, a hole developed from corrosion in a connection between a flow line and the wellhead, which resulted in the release of approximately 0.3 barrels (bbls) of crude oil and 7.07 bbls of produced water onto the caliche well pad, across the road, and into the pasture area to the north of the point of release. A vacuum truck was dispatched to the Site to recover free-standing fluid; approximately 0.2 bbls of crude oil and 4.8 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 25, 2019, and was subsequently assigned RP Number 1RP-5457 (Attachment 1).

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 water well data. The closest permitted water well with depth to water data is United States Geological Survey (USGS) 323000103142301, located

approximately 1,778 feet north of the Site. The water well has a depth to groundwater of approximately 129 feet bgs. The total depth of the well is not reported. Ground surface elevation at the water well location is 3,550 feet above mean sea level (AMSL), which is approximately 24 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is a freshwater pond located approximately 2.21 miles south-southeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low potential karst area.

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; and
- 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 that were reclaimed following remediation.

PRELIMINARY SITE ASSESSMENT

On April 15, 2019, LTE personnel was at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected four preliminary soil samples (SS01 through SS04) 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.

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 (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0.

Laboratory analytical results for preliminary soil samples SS01 through SS04 indicated that GRO/DRO and TPH concentrations exceeded the Closure Criteria. Based on the laboratory analytical results for the preliminary soil samples and field observations, delineation and excavation of impacted soil was scheduled, which occurred simultaneously. Laboratory analytical results for the preliminary soil samples are presented on Figure 2 and summarized in Table 1.

EXCAVATION

On October 28 through November 5, 2019, LTE personnel oversaw excavation of impacted soil. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW06 were collected from the sidewalls of the excavations at depths ranging from ground surface to 1 foot bgs. Composite soil samples FS01 through FS10 were collected from the floor of the excavations at depths of 1 foot bgs. The excavation soil samples were collected, handled, and analyzed as described above at Xenco in Midland, Texas. The excavation extent and soil sample locations are depicted on Figure 3. Photographic documentation was conducted during excavation activities. Photographs are included in Attachment 2.

The final excavation extent measured approximately 2,680 square feet in area. A total of approximately 100 cubic yards of impacted soil were removed from the excavation. The impacted soil will be transported and properly disposed of at the R360 landfill facility located in Hobbs, New Mexico.

DELINEATION

On October 30, 2019, LTE collected soil samples in the areas of the release extent that were not excavated. Potholes PH01 through PH06 were advanced via track-mounted backhoe to a depth of approximately 2 feet bgs. Two soil samples were collected from each pothole at depths of approximately 1 foot and 2 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole were logged on lithologic/soil sampling logs, which are included in Attachment 3. The delineation soil samples were collected, handled, and analyzed as described above. The

potholes were backfilled with the soil removed. The release extent and the pothole and delineation soil sample locations are depicted on Figure 4.

ANALYTICAL RESULTS

Laboratory analytical results for preliminary soil samples SS01 through SS04 indicated that GRO/DRO and TPH concentrations exceeded the Closure Criteria and the reclamation standards required for off-pad areas to be reclaimed immediately. Based on the laboratory analytical results and field observations, excavation of impacted soil was conducted in the areas of preliminary soil samples SS02 through SS04. Further excavation of impacted soil in the area of preliminary soil sample SS01 was limited due to the presence of the wellhead. XTO safety policy restricts soil disturbing activities to a 10-foot radius of active wellheads. This XTO safety policy is established to protect workers and reduce the likelihood of compromising the foundation of active wellheads. The impacted soil remaining in place in this area is delineated vertically and laterally by delineation soil samples PH01/PH01A through PH06/PH06.

Laboratory analytical results indicated that benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in delineation soil samples PH01/PH01A through PH06/PH06A and in excavation soil samples SW01 through SW06 and FS01 through FS10. Impacted soil containing elevated GRO + DRO and TPH remains at the wellhead. Laboratory analytical results are presented on Figure 2, Figure 3, and Figure 4, and summarized in Table 1. The complete laboratory analytical reports are included as Attachment 4.

CONCLUSIONS

A total of approximately 100 cubic yards of impacted soil were excavated from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth moving activities within 10 feet of active wellheads.

Laboratory analytical results for preliminary soil sample SS01 indicated that soil with GRO/DRO and TPH concentrations exceeding the Closure Criteria was left in place within 10 feet of an active wellhead. The impacted soil remaining in place in these areas is delineated vertically and laterally by delineation soil samples PH01/PH01A through PH06/PH06A. An estimated 75 cubic yards of impacted soil remains in place surrounding preliminary soil sample SS01, assuming a maximum 2-foot depth based on samples PH01A through PH06A, collected at depths of 2 feet bgs that were compliant with the Closure Criteria.

XTO requests to backfill the existing excavation and complete remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first. LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. No saturated soil remains in place. XTO requests deferral of final remediation for RP Number 1RP-5457. Upon approval of this deferral request, XTO will backfill the excavation

with material purchased locally and recontour the Site to match pre-existing site conditions. An updated Form C-141 is included as Attachment 1.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Carol Ann Whaley
Staff Geologist

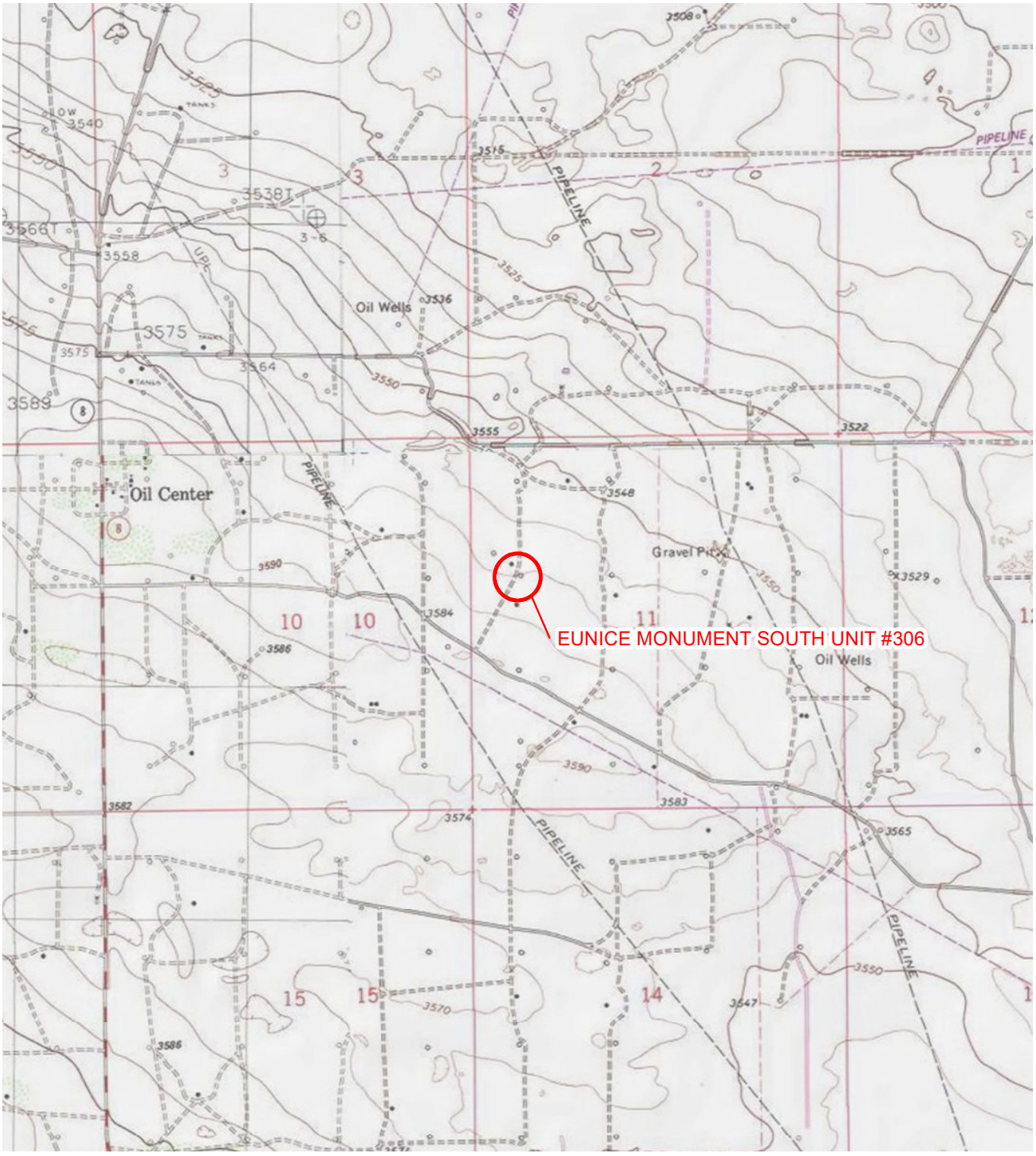
Ashley L. Ager, P.G.
Senior Geologist

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

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Figure 4	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (1RP-5457)
Attachment 2	Photographic Log
Attachment 3	Lithologic / Soil Sampling Logs
Attachment 4	Laboratory Analytical Reports

FIGURES



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 1RP-5457

FIGURE 1
SITE LOCATION MAP
EUNICE MONUMENT SOUTH UNIT #306
UNIT E SEC 11 T21S R36E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

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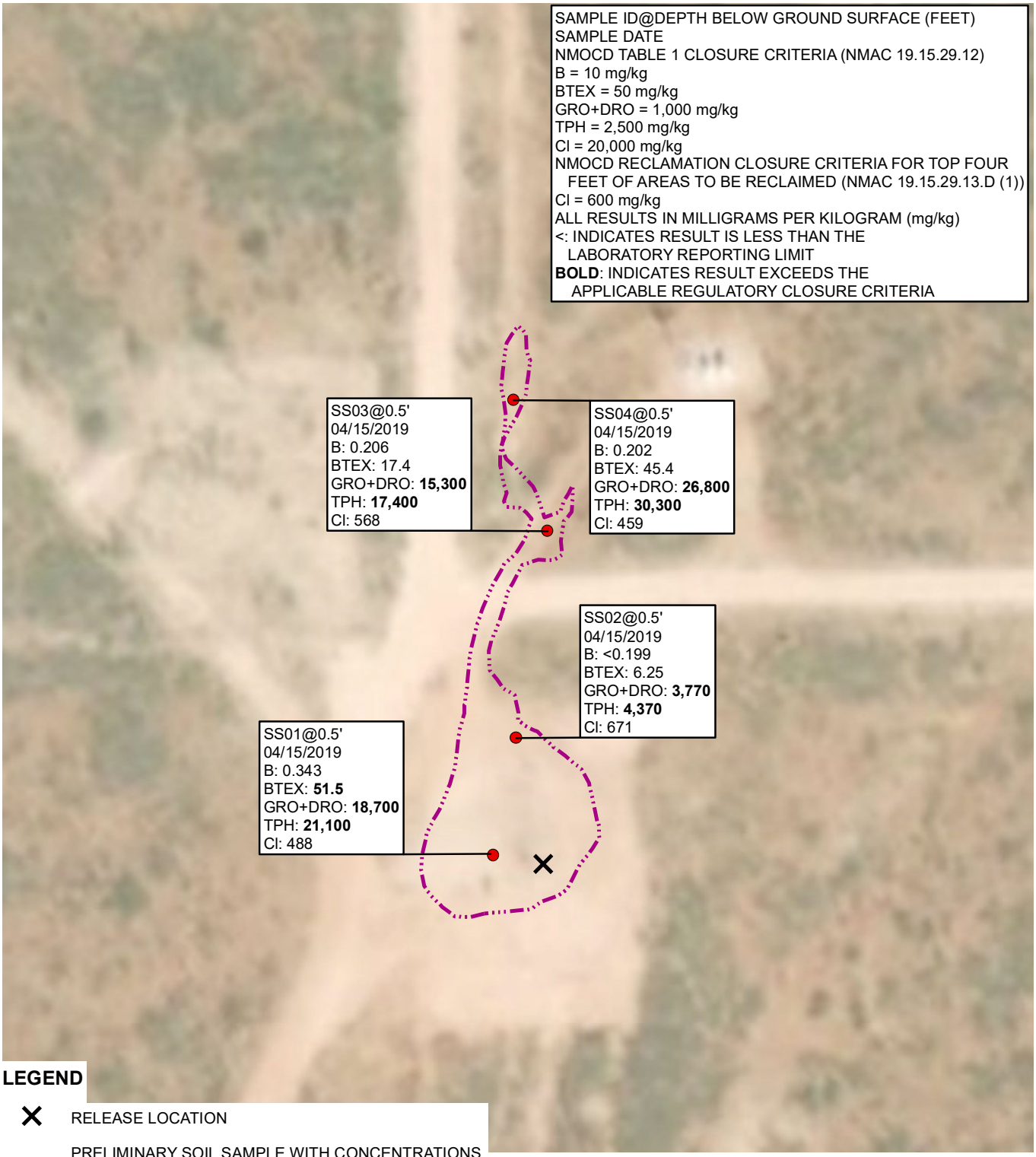

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
EUNICE MONUMENT SOUTH UNIT #306
UNIT E SEC 11 T21S R36E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

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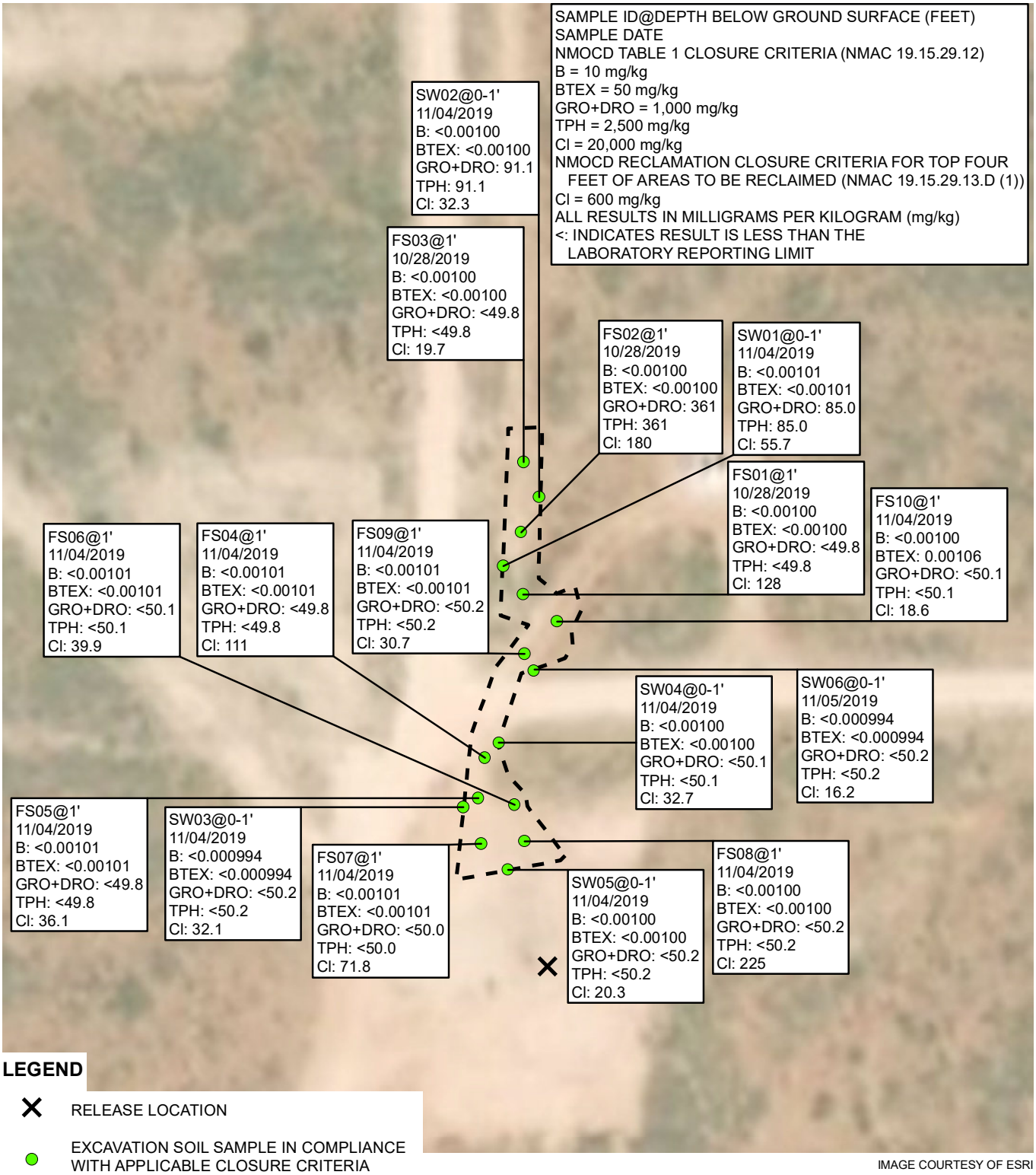

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 1RP-5457

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
EUNICE MONUMENT SOUTH UNIT #306
UNIT E SEC 11 T21S R36E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

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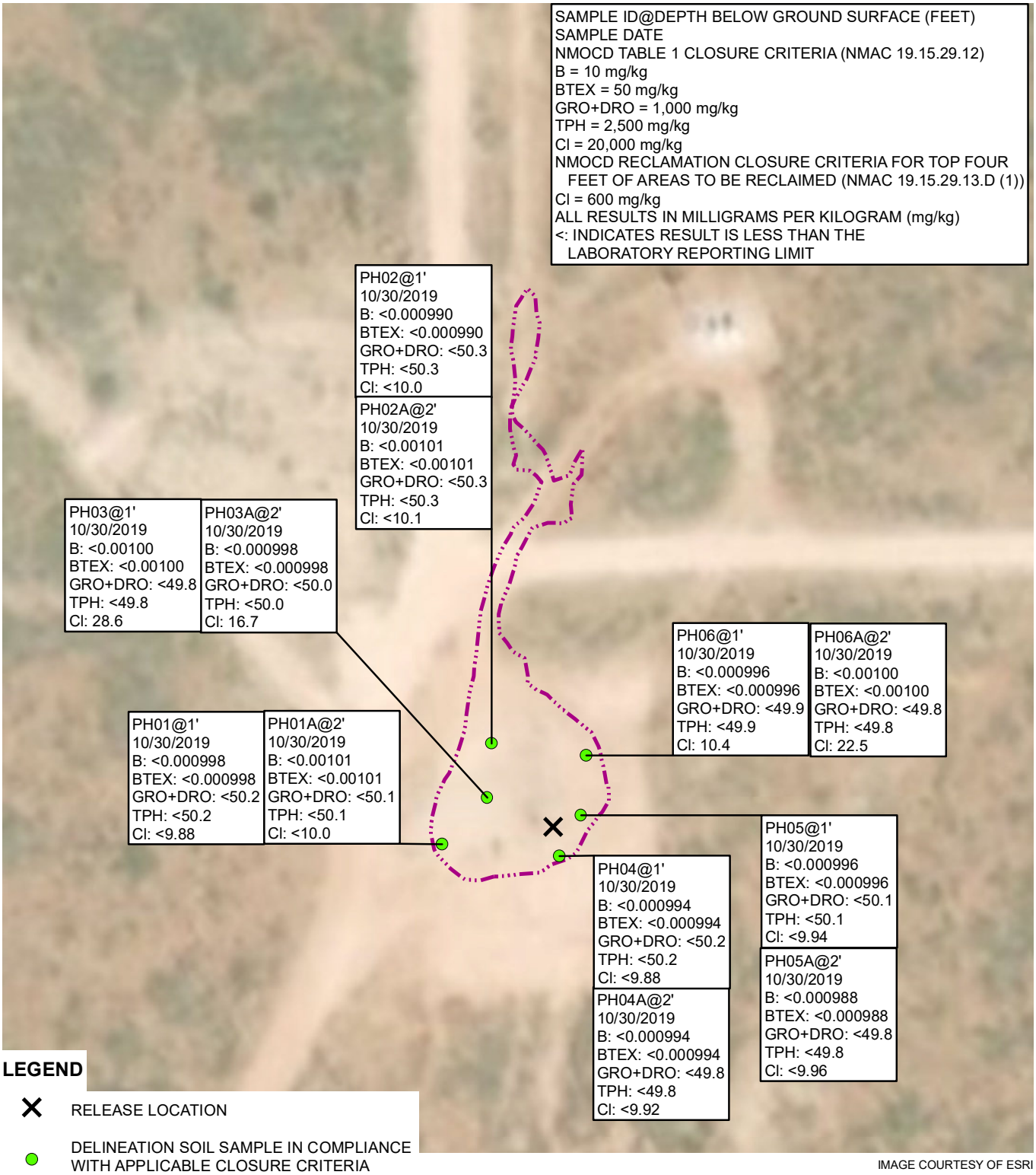

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 1RP-5457

FIGURE 4
DELINEATION SOIL SAMPLE LOCATIONS
EUNICE MONUMENT SOUTH UNIT #306
UNIT E SEC 11 T21S R36E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

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TABLE

TABLE 1
SOIL ANALYTICAL RESULTS

EUNICE MONUMENT SOUTH UNIT #306
REMEDIATION PERMIT NUMBER 1RP-5457
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)
SS01	0.5	04/15/2019	0.343	2.93	10.1	38.2	**51.5**	2,240	16,500	2,350	**18,700**	**21,100**	488
SS02	0.5	04/15/2019	<0.199	0.224	0.924	5.10	6.25	199	3,570	599	**3,770**	**4,370**	671
SS03	0.5	04/15/2019	0.206	0.413	2.74	14.1	17.4	1,210	14,100	2,110	**15,300**	**17,400**	568*
SS04	0.5	04/15/2019	0.202	0.745	7.97	36.5	45.4	2,880	23,900	3,480	**26,800**	**30,300**	459*
PH01	1	10/30/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<50.2	<50.2	<50.2	<50.2	<50.2	<9.88
PH01A	2	10/30/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.1	<50.1	<50.1	<50.1	<50.1	<10.0
PH02	1	10/30/2019	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<50.3	<50.3	<50.3	<50.3	<50.3	<10.0
PH02A	2	10/30/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.3	<50.3	<50.3	<50.3	<50.3	<10.1
PH03	1	10/30/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.8	<49.8	<49.8	<49.8	<49.8	28.6
PH03A	2	10/30/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<50.0	<50.0	<50.0	<50.0	<50.0	16.7
PH04	1	10/30/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<50.2	<50.2	<50.2	<50.2	<50.2	<9.88
PH04A	2	10/30/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<49.8	<49.8	<49.8	<49.8	<49.8	<9.92
PH05	1	10/30/2019	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<50.1	<50.1	<50.1	<50.1	<50.1	<9.94
PH05A	2	10/30/2019	<0.000988	<0.000988	<0.000988	<0.000988	<0.000988	<49.8	<49.8	<49.8	<49.8	<49.8	<9.96
PH06	1	10/30/2019	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<49.9	<49.9	<49.9	<49.9	<49.9	10.4
PH06A	2	10/30/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.8	<49.8	<49.8	<49.8	<49.8	22.5
SW01	0 - 1	11/04/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.0	85.0	<50.0	85.0	85.0	55.7*
SW02	0 - 1	11/04/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.8	91.1	<49.8	91.1	91.1	32.3*
SW03	0 - 1	11/04/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<50.2	<50.2	<50.2	<50.2	<50.2	32.1
SW04	0 - 1	11/04/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.1	<50.1	<50.1	<50.1	<50.1	32.7
SW05	0 - 1	11/04/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.2	<50.2	<50.2	<50.2	<50.2	20.3
SW06	0 - 1	11/05/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<50.2	<50.2	<50.2	<50.2	<50.2	16.2*
FS01	1	10/28/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.8	<49.8	<49.8	<49.8	<49.8	128*
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**

TABLE 1
SOIL ANALYTICAL RESULTS

EUNICE MONUMENT SOUTH UNIT #306
REMEDIATION PERMIT NUMBER 1RP-5457
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)
FS02	1	10/28/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.0	361	<50.0	361	361	180*
FS03	1	10/28/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.8	<49.8	<49.8	<49.8	<49.8	19.7
FS04	1	11/04/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<49.8	<49.8	<49.8	<49.8	<49.8	111
FS05	1	11/04/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<49.8	<49.8	<49.8	<49.8	<49.8	36.1
FS06	1	11/04/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.1	<50.1	<50.1	<50.1	<50.1	39.9
FS07	1	11/04/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.0	<50.0	<50.0	<50.0	<50.0	71.8
FS08	1	11/04/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.2	<50.2	<50.2	<50.2	<50.2	225
FS09	1	11/04/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	30.7*
FS10	1	11/04/2019	<0.00100	<0.00100	0.00106	<0.00100	0.00106	<50.1	<50.1	<50.1	<50.1	<50.1	18.6*
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**

Notes:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
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 remedation is complete; closure criteria for chloride concentration in the top 4 feet of soil is 600 mg/kg

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (1RP-5457)

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	nDHR1912738190
District RP	1RP-5457
Facility ID	
Application ID	pDHR1912734262

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 32.495273° Longitude -103.242508°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Eunice Monument South Unit #306	Site Type Production Well Facility
Date Release Discovered 4/13/2019	API# *(if applicable)* 30-025-04604

Unit Letter	Section	Township	Range	County
E	11	21S	36E	Lea

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 0.3	Volume Recovered (bbls) 0.2
☒ Produced Water	Volume Released (bbls) 7.07	Volume Recovered (bbls) 4.8
	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

Fluids were released to the well pad and extended into the north pasture across the lease road. The release was due to a hole developed by corrosion in a connection tying into the flow line at the wellhead. Free fluids were recovered. 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	nDHR1912738190
District RP	1RP-5457
Facility ID	
Application ID	pDHR1912734262

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

Initial Response

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 4/25/2019

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

OCD Only

Received by: Dylan Rose-Coss Date: 05/06/2019

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5457
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5457
Facility ID	
Application ID	

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ Date: ___12/05/2019_____

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

OCD Only

Received by: Cristina Eads Date: 02/13/2020

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5457
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12/05/2019

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

OCD Only

Received by: Cristina Eads Date: 02/13/2020

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: Cristina Eads Date: 02/17/2020

Printed Name: Cristina Eads Title: Environmental Specialist

ATTACHMENT 2: PHOTOGRAPHIC LOG

Northern view of final excavation extent on caliche well pad during confirmation soil sampling activities.

Project: 012919066	XTO Energy, Inc. Eunice Monument South Unit #306	LTE Advancing Opportunity
November 4, 2019	Photographic Log	

Northern view of final excavation extent in the pasture area during confirmation soil sampling activities.

Project: 012919066	XTO Energy, Inc. Eunice Monument South Unit #306	LTE Advancing Opportunity
November 4, 2019	Photographic Log	

ATTACHMENT 3: LITHOLOGIC / SOIL SMAPLING LOGS

LT Environmental, Inc.

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:	Date:
PH01	10/30/2019
Project Name: EMSU 306	RP Number:
Logged By: Fatima Smith	Method:
Hole Diameter:	Total Depth: 2'

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	0.2	N		0–1		S	earthy brwn, SC, SL, SP, no odor
Dry	<179	0.3	N		1–2		S	tan, caliche, GP, no odor
								deepest sample @ 2'

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:	Date:
PH02	10/30/2019
Project Name: EMSU 306	RP Number:
Logged By: Fatima Smith	Method:
Hole Diameter:	Total Depth: 2'

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	218	0.2	N		0–1		S	earthy brwn, SC, SL, SP, no odor
Dry	179	0.4	N		1–2		S	tan, caliche, GP, no odor
								deepest sample @ 2'

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

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

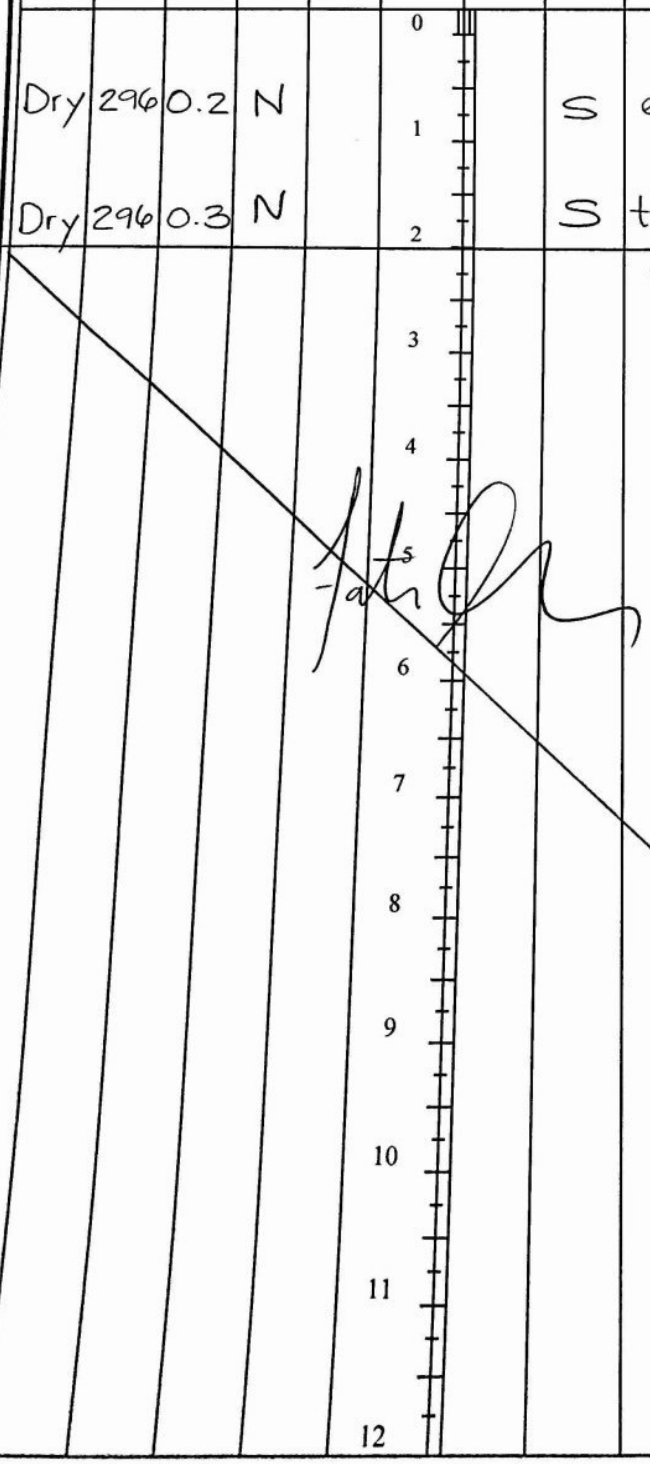
Identifier:	Date:
PH03	10/30/2019
Project Name:	**RP Number:**
EMSU 306	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Fatima Smith	Method:
Lat/Long:	Field Screening:
Hole Diameter:	Total Depth: 2'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	296	0.2	N		0–1		S	earthy brwn, SC, SL, SP, no odor
Dry	296	0.3	N		1–2		S	tan, caliche, GP, no odor
								deepest sample @ 2'



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

Identifier:	Date:
PH04	10/30/2019
Project Name:	**RP Number:**
EMSU 306	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Fatima Smith / Method:
Lat/Long: / Field Screening:	Hole Diameter: / Total Depth: 2'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	<179	0.2	N		0–1		S	earthy brwn, SC, SL, SP, no odor – mainly sandy clay, trace
Dry	<179	0.4	N		1–2		S	tan, caliche, GP, no odor deepest sample @ 2'

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

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

Identifier:	Date:
PH05	10/30/2019
Project Name: EMSU 306	RP Number:
Logged By: Fatima Smith	Method:
Hole Diameter:	Total Depth: 2'

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	0.3	N		0–1		S	earthy brwn, SC, SL, SP, no odor
Dry	<179	0.3	N		1–2		S	tan, caliche, GP, no odor
								deepest sample @ 2'

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

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

Identifier:	Date:
PH06	10/30/2019
Project Name: EMSU 306	RP Number:
Logged By: Fatima Smith	Method:
Hole Diameter:	Total Depth: 21

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	0.3	N		0–1		S	earthy brwn, SC, SL, SP, no odor
Dry	<179	0.4	N		1–2		S	tan, caliche, GP, no odor
								deepest sample @ 21'

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

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 621788

for

LT Environmental, Inc.

Project Manager: Adrian Baker

EMSU 306

012919066

27-APR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

27-APR-19

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

Reference: XENCO Report No(s): **621788**
EMSU 306
Project Address: NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 621788. 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. 621788 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,

Mike Kimmel
Client Services Manager

Sample Cross Reference 621788

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	04-15-19 15:20	0.5 ft	621788-001
SS02	S	04-15-19 15:30	0.5 ft	621788-002
SS03	S	04-15-19 15:45	0.5 ft	621788-003
SS04	S	04-15-19 16:00	0.5 ft	621788-004

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 306

Project ID: *012919066*
Work Order Number(s): *621788*

Report Date: *27-APR-19*
Date Received: *04/19/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3087042 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 621788-001,621788-004,621788-003.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 621788

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 306

Project Id: 012919066
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Fri Apr-19-19 01:00 pm
Report Date: 27-APR-19
Project Manager: Kalei Stout

Analysis Requested											
	Lab Id:	621788-001		621788-002		621788-003		621788-004			
	Field Id:	SS01		SS02		SS03		SS04			
	Depth:	0.5- ft		0.5- ft		0.5- ft		0.5- ft			
	Matrix:	SOIL		SOIL		SOIL		SOIL			
	Sampled:	Apr-15-19 15:20		Apr-15-19 15:30		Apr-15-19 15:45		Apr-15-19 16:00			
BTEX by EPA 8021B	***Extracted:***	Apr-25-19 13:00		Apr-25-19 13:00		Apr-25-19 13:00		Apr-25-19 13:00			
	Analyzed:	Apr-26-19 13:24		Apr-26-19 13:43		Apr-26-19 14:02		Apr-26-19 14:21			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		0.343	0.202	<0.199	0.199	0.206	0.198	0.202	0.202		
Toluene		2.93	0.202	0.224	0.199	0.413	0.198	0.745	0.202		
Ethylbenzene		10.1	0.202	0.924	0.199	2.74	0.198	7.97	0.202		
m,p-Xylenes		28.8	0.403	3.72	0.398	10.3	0.397	27.2	0.404		
o-Xylene		9.37	0.202	1.38	0.199	3.77	0.198	9.32	0.202		
Total Xylenes		38.2	0.202	5.10	0.199	14.1	0.198	36.5	0.202		
Total BTEX		51.5	0.202	6.25	0.199	17.4	0.198	45.4	0.202		
Chloride by EPA 300	***Extracted:***	Apr-25-19 14:16		Apr-25-19 14:16		Apr-25-19 14:16		Apr-25-19 14:16			
	Analyzed:	Apr-25-19 19:43		Apr-25-19 19:50		Apr-25-19 19:57		Apr-25-19 20:19			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		488	5.00	671	5.00	568	5.00	459	5.00		
TPH by SW8015 Mod	***Extracted:***	Apr-25-19 13:00		Apr-25-19 13:00		Apr-25-19 13:00		Apr-25-19 13:00			
	Analyzed:	Apr-25-19 23:55		Apr-26-19 00:17		Apr-26-19 00:38		Apr-26-19 00:59			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		2240	149	199	74.8	1210	150	2880	150		
Diesel Range Organics (DRO)		16500	149	3570	74.8	14100	150	23900	150		
Motor Oil Range Hydrocarbons (MRO)		2350	149	599	74.8	2110	150	3480	150		
Total TPH		21100	149	4370	74.8	17400	150	30300	150		
Total GRO-DRO		18700	149	3770	74.8	15300	150	26800	150		

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

Version: 1.%

Mike Kimmel
Client Services Manager

Certificate of Analytical Results 621788

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	04.19.19 13.00
Lab Sample Id:	621788-001	Date Collected:	04.15.19 15.20	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.25.19 14.16	Basis:	Wet Weight
Seq Number:	3086965				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**488**	5.00	mg/kg	04.25.19 19.43		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.25.19 13.00	Basis:	Wet Weight
Seq Number:	3087040				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**2240**	149	mg/kg	04.25.19 23.55		10
Diesel Range Organics (DRO)	C10C28DRO	**16500**	149	mg/kg	04.25.19 23.55		10
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**2350**	149	mg/kg	04.25.19 23.55		10
Total TPH	PHC635	**21100**	149	mg/kg	04.25.19 23.55		10
Total GRO-DRO	PHC628	**18700**	149	mg/kg	04.25.19 23.55		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	04.25.19 23.55	
o-Terphenyl	84-15-1	85	%	70-135	04.25.19 23.55	

Certificate of Analytical Results 621788

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	04.19.19 13.00
Lab Sample Id:	621788-001	Date Collected:	04.15.19 15.20	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.25.19 13.00	Basis:	Wet Weight
Seq Number:	3087042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.343**	0.202	mg/kg	04.26.19 13.24		100
Toluene	108-88-3	**2.93**	0.202	mg/kg	04.26.19 13.24		100
Ethylbenzene	100-41-4	**10.1**	0.202	mg/kg	04.26.19 13.24		100
m,p-Xylenes	179601-23-1	**28.8**	0.403	mg/kg	04.26.19 13.24		100
o-Xylene	95-47-6	**9.37**	0.202	mg/kg	04.26.19 13.24		100
Total Xylenes	1330-20-7	**38.2**	0.202	mg/kg	04.26.19 13.24		100
Total BTEX		**51.5**	0.202	mg/kg	04.26.19 13.24		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	04.26.19 13.24	
4-Bromofluorobenzene	460-00-4	195	%	70-130	04.26.19 13.24	**

Certificate of Analytical Results 621788

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	04.19.19 13.00
Lab Sample Id:	621788-002	Date Collected:	04.15.19 15.30	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.25.19 14.16	Basis:	Wet Weight
Seq Number:	3086965				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**671**	5.00	mg/kg	04.25.19 19.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.25.19 13.00	Basis:	Wet Weight
Seq Number:	3087040				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**199**	74.8	mg/kg	04.26.19 00.17		5
Diesel Range Organics (DRO)	C10C28DRO	**3570**	74.8	mg/kg	04.26.19 00.17		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**599**	74.8	mg/kg	04.26.19 00.17		5
Total TPH	PHC635	**4370**	74.8	mg/kg	04.26.19 00.17		5
Total GRO-DRO	PHC628	**3770**	74.8	mg/kg	04.26.19 00.17		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	04.26.19 00.17	
o-Terphenyl	84-15-1	118	%	70-135	04.26.19 00.17	

Certificate of Analytical Results 621788

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	04.19.19 13.00
Lab Sample Id:	621788-002	Date Collected:	04.15.19 15.30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.25.19 13.00	Basis:	Wet Weight
Seq Number:	3087042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.199	0.199	mg/kg	04.26.19 13.43	U	100
Toluene	108-88-3	**0.224**	0.199	mg/kg	04.26.19 13.43		100
Ethylbenzene	100-41-4	**0.924**	0.199	mg/kg	04.26.19 13.43		100
m,p-Xylenes	179601-23-1	**3.72**	0.398	mg/kg	04.26.19 13.43		100
o-Xylene	95-47-6	**1.38**	0.199	mg/kg	04.26.19 13.43		100
Total Xylenes	1330-20-7	**5.10**	0.199	mg/kg	04.26.19 13.43		100
Total BTEX		**6.25**	0.199	mg/kg	04.26.19 13.43		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	04.26.19 13.43	
1,4-Difluorobenzene	540-36-3	95	%	70-130	04.26.19 13.43	

Certificate of Analytical Results 621788

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	04.19.19 13.00
Lab Sample Id:	621788-003	Date Collected:	04.15.19 15.45	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.25.19 14.16	Basis:	Wet Weight
Seq Number:	3086965				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**568**	5.00	mg/kg	04.25.19 19.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.25.19 13.00	Basis:	Wet Weight
Seq Number:	3087040				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1210**	150	mg/kg	04.26.19 00.38		10
Diesel Range Organics (DRO)	C10C28DRO	**14100**	150	mg/kg	04.26.19 00.38		10
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**2110**	150	mg/kg	04.26.19 00.38		10
Total TPH	PHC635	**17400**	150	mg/kg	04.26.19 00.38		10
Total GRO-DRO	PHC628	**15300**	150	mg/kg	04.26.19 00.38		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	04.26.19 00.38	
o-Terphenyl	84-15-1	75	%	70-135	04.26.19 00.38	

Certificate of Analytical Results 621788

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	04.19.19 13.00
Lab Sample Id:	621788-003	Date Collected:	04.15.19 15.45	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.25.19 13.00	Basis:	Wet Weight
Seq Number:	3087042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.206**	0.198	mg/kg	04.26.19 14.02		100
Toluene	108-88-3	**0.413**	0.198	mg/kg	04.26.19 14.02		100
Ethylbenzene	100-41-4	**2.74**	0.198	mg/kg	04.26.19 14.02		100
m,p-Xylenes	179601-23-1	**10.3**	0.397	mg/kg	04.26.19 14.02		100
o-Xylene	95-47-6	**3.77**	0.198	mg/kg	04.26.19 14.02		100
Total Xylenes	1330-20-7	**14.1**	0.198	mg/kg	04.26.19 14.02		100
Total BTEX		**17.4**	0.198	mg/kg	04.26.19 14.02		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.26.19 14.02	
4-Bromofluorobenzene	460-00-4	154	%	70-130	04.26.19 14.02	**

Certificate of Analytical Results 621788

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	04.19.19 13.00
Lab Sample Id:	621788-004	Date Collected:	04.15.19 16.00	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.25.19 14.16	Basis:	Wet Weight
Seq Number:	3086965				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**459**	5.00	mg/kg	04.25.19 20.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.25.19 13.00	Basis:	Wet Weight
Seq Number:	3087040				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**2880**	150	mg/kg	04.26.19 00.59		10
Diesel Range Organics (DRO)	C10C28DRO	**23900**	150	mg/kg	04.26.19 00.59		10
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**3480**	150	mg/kg	04.26.19 00.59		10
Total TPH	PHC635	**30300**	150	mg/kg	04.26.19 00.59		10
Total GRO-DRO	PHC628	**26800**	150	mg/kg	04.26.19 00.59		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	04.26.19 00.59	
o-Terphenyl	84-15-1	120	%	70-135	04.26.19 00.59	

Certificate of Analytical Results 621788

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	04.19.19 13.00
Lab Sample Id:	621788-004	Date Collected:	04.15.19 16.00	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.25.19 13.00	Basis:	Wet Weight
Seq Number:	3087042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.202**	0.202	mg/kg	04.26.19 14.21		100
Toluene	108-88-3	**0.745**	0.202	mg/kg	04.26.19 14.21		100
Ethylbenzene	100-41-4	**7.97**	0.202	mg/kg	04.26.19 14.21		100
m,p-Xylenes	179601-23-1	**27.2**	0.404	mg/kg	04.26.19 14.21		100
o-Xylene	95-47-6	**9.32**	0.202	mg/kg	04.26.19 14.21		100
Total Xylenes	1330-20-7	**36.5**	0.202	mg/kg	04.26.19 14.21		100
Total BTEX		**45.4**	0.202	mg/kg	04.26.19 14.21		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	204	%	70-130	04.26.19 14.21	**
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.26.19 14.21	

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 621788

LT Environmental, Inc.

EMSU 306

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3086965 — Matrix: Solid — Date Prep: 04.25.19
MB Sample Id: 7676541-1-BLK — LCS Sample Id: 7676541-1-BKS — LCSD Sample Id: 7676541-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	255	102	257	103	90-110	1	20	mg/kg	04.25.19 18:22	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3086965 — Matrix: Soil — Date Prep: 04.25.19
Parent Sample Id: 621768-003 — MS Sample Id: 621768-003 S — MSD Sample Id: 621768-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.30	250	269	106	272	107	90-110	1	20	mg/kg	04.25.19 18:44	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3086965 — Matrix: Soil — Date Prep: 04.25.19
Parent Sample Id: 621788-004 — MS Sample Id: 621788-004 S — MSD Sample Id: 621788-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	459	250	696	95	688	92	90-110	1	20	mg/kg	04.25.19 20:26	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3087040 — Matrix: Solid — Date Prep: 04.25.19
MB Sample Id: 7676611-1-BLK — LCS Sample Id: 7676611-1-BKS — LCSD Sample Id: 7676611-1-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	917	92	906	91	70-135	1	20	mg/kg	04.25.19 17:03	
Diesel Range Organics (DRO)	<8.13	1000	930	93	928	93	70-135	0	20	mg/kg	04.25.19 17:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		115		116		70-135	%	04.25.19 17:03
o-Terphenyl	100		111		111		70-135	%	04.25.19 17:03

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 621788

LT Environmental, Inc.

EMSU 306

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3087040 | Matrix: Soil | Date Prep: 04.25.19
Parent Sample Id: 622228-001 | MS Sample Id: 622228-001 S | MSD Sample Id: 622228-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	811	81	828	83	70-135	2	20	mg/kg	04.25.19 18:09	
Diesel Range Organics (DRO)	<8.11	998	828	83	850	85	70-135	3	20	mg/kg	04.25.19 18:09	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		104		70-135	%	04.25.19 18:09
o-Terphenyl	99		96		70-135	%	04.25.19 18:09

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3087042 | Matrix: Solid | Date Prep: 04.25.19
MB Sample Id: 7676617-1-BLK | LCS Sample Id: 7676617-1-BKS | LCSD Sample Id: 7676617-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0994	0.114	115	0.0970	96	70-130	16	35	mg/kg	04.25.19 15:43	
Toluene	<0.000453	0.0994	0.109	110	0.0907	90	70-130	18	35	mg/kg	04.25.19 15:43	
Ethylbenzene	<0.000561	0.0994	0.117	118	0.0940	93	70-130	22	35	mg/kg	04.25.19 15:43	
m,p-Xylenes	<0.00101	0.199	0.242	122	0.196	97	70-130	21	35	mg/kg	04.25.19 15:43	
o-Xylene	<0.000342	0.0994	0.116	117	0.0968	96	70-130	18	35	mg/kg	04.25.19 15:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		98		95		70-130	%	04.25.19 15:43
4-Bromofluorobenzene	88		97		89		70-130	%	04.25.19 15:43

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3087042 | Matrix: Soil | Date Prep: 04.25.19
Parent Sample Id: 622228-001 | MS Sample Id: 622228-001 S | MSD Sample Id: 622228-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0890	89	0.0720	71	70-130	21	35	mg/kg	04.25.19 16:21	
Toluene	0.000519	0.100	0.0829	82	0.0637	63	70-130	26	35	mg/kg	04.25.19 16:21	X
Ethylbenzene	<0.000567	0.100	0.0866	87	0.0616	61	70-130	34	35	mg/kg	04.25.19 16:21	X
m,p-Xylenes	<0.00102	0.201	0.180	90	0.126	63	70-130	35	35	mg/kg	04.25.19 16:21	X
o-Xylene	<0.000346	0.100	0.0864	86	0.0621	61	70-130	33	35	mg/kg	04.25.19 16:21	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		100		70-130	%	04.25.19 16:21
4-Bromofluorobenzene	103		105		70-130	%	04.25.19 16:21

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

621788 MC 04/16/19

Work Order No: 621111

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:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	Ggreen@LTenv.com/JHernandez@LTenv

Work Order Comments

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

Project Name:	EMSU 306	Turn Around	
Project Number:	01291966	Routine	☑
P.O. Number:	Spill date: 4/15/2019	Rush:	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	4°	Thermometer ID:	T-N-M 004	
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:		

ANALYSIS REQUEST

Work Order Notes

32.49525,
-103.24248

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
SS01	S	4/15/19	1520	.5'	1	X	X	X	
SS02	S	4/15/19	1530		1				
SS03	S		1545		1				
SS04	S		1600		1				

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			04/16/19 1720	2		4/16/19 17:20
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: 04/19/2019 01:00:00 PM

Work Order #: 621788

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)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 04/19/2019

Checklist reviewed by: Kalei Stout Date: 04/19/2019

Analytical Report 641347

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 306

012919066

30-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)

30-OCT-19

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

Reference: XENCO Report No(s): **641347**
EMSU 306
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) 641347. 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. 641347 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 641347

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	10-28-19 10:22	1 ft	641347-001
FS02	S	10-28-19 10:32	1 ft	641347-002
FS03	S	10-28-19 10:45	1 ft	641347-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 306

Project ID: *012919066*
Work Order Number(s): *641347*

Report Date: *30-OCT-19*
Date Received: *10/29/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3105806 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3105880 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 641345-010 S.

Certificate of Analysis Summary 641347

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 306

Project Id: 012919066
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Oct-29-19 09:30 am
Report Date: 30-OCT-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	641347-001		641347-002		641347-003					
	Field Id:	FS01		FS02		FS03					
	Depth:	1- ft		1- ft		1- ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Oct-28-19 10:22		Oct-28-19 10:32		Oct-28-19 10:45					
BTEX by EPA 8021B	***Extracted:***	Oct-29-19 11:10		Oct-29-19 11:10		Oct-29-19 11:10					
	Analyzed:	Oct-29-19 22:09		Oct-29-19 22:28		Oct-29-19 22:47					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00100	0.00100	<0.00100	0.00100	<0.00100	0.00100				
Toluene		<0.00100	0.00100	<0.00100	0.00100	<0.00100	0.00100				
Ethylbenzene		<0.00100	0.00100	<0.00100	0.00100	<0.00100	0.00100				
m,p-Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200				
o-Xylene		<0.00100	0.00100	<0.00100	0.00100	<0.00100	0.00100				
Total Xylenes		<0.00100	0.00100	<0.00100	0.00100	<0.00100	0.00100				
Total BTEX		<0.00100	0.00100	<0.00100	0.00100	<0.00100	0.00100				
Chloride by EPA 300	***Extracted:***	Oct-29-19 12:10		Oct-29-19 12:10		Oct-29-19 12:10					
	Analyzed:	Oct-29-19 19:32		Oct-29-19 19:38		Oct-29-19 19:45					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		128	10.1	180	10.0	19.7	10.0				
TPH by SW8015 Mod	***Extracted:***	Oct-29-19 16:30		Oct-29-19 16:30		Oct-29-19 16:30					
	Analyzed:	Oct-29-19 20:09		Oct-29-19 20:09		Oct-29-19 20:29					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.0	50.0	<49.8	49.8				
Diesel Range Organics (DRO)		<49.8	49.8	361	50.0	<49.8	49.8				
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.0	50.0	<49.8	49.8				
Total GRO-DRO		<49.8	49.8	361	50.0	<49.8	49.8				
Total TPH		<49.8	49.8	361	50.0	<49.8	49.8				

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 641347

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	10.29.19 09.30
Lab Sample Id:	641347-001	Date Collected:	10.28.19 10.22	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.29.19 12.10	Basis:	Wet Weight
Seq Number:	3105795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**128**	10.1	mg/kg	10.29.19 19.32		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.29.19 16.30	Basis:	Wet Weight
Seq Number:	3105880				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.29.19 20.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.29.19 20.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.29.19 20.09	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.29.19 20.09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.29.19 20.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	10.29.19 20.09	
o-Terphenyl	84-15-1	127	%	70-135	10.29.19 20.09	

Certificate of Analytical Results 641347

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	10.29.19 09.30
Lab Sample Id:	641347-001	Date Collected:	10.28.19 10.22	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.29.19 11.10	Basis:	Wet Weight
Seq Number:	3105806				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	10.29.19 22.09	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	10.29.19 22.09	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	10.29.19 22.09	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	10.29.19 22.09	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	10.29.19 22.09	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	10.29.19 22.09	U	1
Total BTEX		<0.00100	0.00100	mg/kg	10.29.19 22.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	10.29.19 22.09	
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.29.19 22.09	

Certificate of Analytical Results 641347

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	10.29.19 09.30
Lab Sample Id:	641347-002	Date Collected:	10.28.19 10.32	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.29.19 12.10	Basis:	Wet Weight
Seq Number:	3105795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**180**	10.0	mg/kg	10.29.19 19.38		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.29.19 16.30	Basis:	Wet Weight
Seq Number:	3105880				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.29.19 20.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	**361**	50.0	mg/kg	10.29.19 20.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.29.19 20.09	U	1
Total GRO-DRO	PHC628	**361**	50.0	mg/kg	10.29.19 20.09		1
Total TPH	PHC635	**361**	50.0	mg/kg	10.29.19 20.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	10.29.19 20.09	
o-Terphenyl	84-15-1	114	%	70-135	10.29.19 20.09	

Certificate of Analytical Results 641347

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	10.29.19 09.30
Lab Sample Id:	641347-002	Date Collected:	10.28.19 10.32	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.29.19 11.10	Basis:	Wet Weight
Seq Number:	3105806				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	10.29.19 22.28	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	10.29.19 22.28	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	10.29.19 22.28	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	10.29.19 22.28	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	10.29.19 22.28	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	10.29.19 22.28	U	1
Total BTEX		<0.00100	0.00100	mg/kg	10.29.19 22.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	10.29.19 22.28	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.29.19 22.28	

Certificate of Analytical Results 641347

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	10.29.19 09.30
Lab Sample Id:	641347-003	Date Collected:	10.28.19 10.45	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.29.19 12.10	Basis:	Wet Weight
Seq Number:	3105795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.7**	10.0	mg/kg	10.29.19 19.45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.29.19 16.30	Basis:	Wet Weight
Seq Number:	3105880				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.29.19 20.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.29.19 20.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.29.19 20.29	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.29.19 20.29	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.29.19 20.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	10.29.19 20.29	
o-Terphenyl	84-15-1	124	%	70-135	10.29.19 20.29	

Certificate of Analytical Results 641347

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	10.29.19 09.30
Lab Sample Id:	641347-003	Date Collected:	10.28.19 10.45	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.29.19 11.10	Basis:	Wet Weight
Seq Number:	3105806				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	10.29.19 22.47	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	10.29.19 22.47	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	10.29.19 22.47	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	10.29.19 22.47	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	10.29.19 22.47	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	10.29.19 22.47	U	1
Total BTEX		<0.00100	0.00100	mg/kg	10.29.19 22.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	10.29.19 22.47	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.29.19 22.47	

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 641347

LT Environmental, Inc.

EMSU 306

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105795 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689124-1-BLK — LCS Sample Id: 7689124-1-BKS — LCSD Sample Id: 7689124-1-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	300	305	102	306	102	90-110	0	20	mg/kg	10.29.19 18:17	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105795 — Matrix: Soil — Date Prep: 10.29.19
Parent Sample Id: 641345-007 — MS Sample Id: 641345-007 S — MSD Sample Id: 641345-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.83	247	236	94	240	94	90-110	2	20	mg/kg	10.29.19 18:36	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105795 — Matrix: Solid — Date Prep: 10.29.19
Parent Sample Id: 641443-005 — MS Sample Id: 641443-005 S — MSD Sample Id: 641443-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	205	252	484	111	482	110	90-110	0	20	mg/kg	10.29.19 22:09	X

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105880 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689206-1-BLK — LCS Sample Id: 7689206-1-BKS — LCSD Sample Id: 7689206-1-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)	<13.9	1000	887	89	895	90	70-135	1	35	mg/kg	10.29.19 16:30	
Diesel Range Organics (DRO)	<11.5	1000	762	76	752	75	70-135	1	35	mg/kg	10.29.19 16:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		134		123		70-135	%	10.29.19 16:30
o-Terphenyl	105		120		122		70-135	%	10.29.19 16:30

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105880 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689206-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.29.19 16:30	

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 641347

LT Environmental, Inc.

EMSU 306

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105880 — Matrix: Soil — Date Prep: 10.29.19
Parent Sample Id: 641345-010 — MS Sample Id: 641345-010 S — MSD Sample Id: 641345-010 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)	<13.8	995	903	91	870	87	70-135	4	35	mg/kg	10.29.19 17:10	
Diesel Range Organics (DRO)	15.8	995	746	73	741	73	70-135	1	35	mg/kg	10.29.19 17:10	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	144	**	131		70-135	%	10.29.19 17:10
o-Terphenyl	128		125		70-135	%	10.29.19 17:10

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3105806 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689196-1-BLK — LCS Sample Id: 7689196-1-BKS — LCSD Sample Id: 7689196-1-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	0.104	104	0.0989	99	70-130	5	35	mg/kg	10.29.19 14:36	
Toluene	<0.00100	0.100	0.105	105	0.0994	99	70-130	5	35	mg/kg	10.29.19 14:36	
Ethylbenzene	<0.00100	0.100	0.105	105	0.0990	99	71-129	6	35	mg/kg	10.29.19 14:36	
m,p-Xylenes	<0.00200	0.200	0.225	113	0.212	106	70-135	6	35	mg/kg	10.29.19 14:36	
o-Xylene	<0.00100	0.100	0.112	112	0.106	106	71-133	6	35	mg/kg	10.29.19 14:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		100		101		70-130	%	10.29.19 14:36
4-Bromofluorobenzene	107		109		109		70-130	%	10.29.19 14:36

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3105806 — Matrix: Soil — Date Prep: 10.29.19
Parent Sample Id: 641339-010 — MS Sample Id: 641339-010 S — MSD Sample Id: 641339-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0719	72	0.0993	99	70-130	32	35	mg/kg	10.29.19 15:14	
Toluene	<0.00100	0.100	0.0790	79	0.0971	97	70-130	21	35	mg/kg	10.29.19 15:14	
Ethylbenzene	0.000820	0.100	0.0749	74	0.0950	94	71-129	24	35	mg/kg	10.29.19 15:14	
m,p-Xylenes	<0.00100	0.200	0.138	69	0.201	101	70-135	37	35	mg/kg	10.29.19 15:14	XF
o-Xylene	<0.00100	0.100	0.0702	70	0.102	102	71-133	37	35	mg/kg	10.29.19 15:14	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		105		70-130	%	10.29.19 15:14
4-Bromofluorobenzene	121		120		70-130	%	10.29.19 15:14

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

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: 641347

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 306	Turn Around	
Project Number:	012919066	Routine	✓
P.O. Number:	IRP-5457	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	2.2	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	10/28/19	1022	1'	1	X	X	X
FS02	S	10/28/19	1032	1'	1	X	X	X
FS03	S	10/28/19	1045	1'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Fatima		10/29/19 @0930	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/29/2019 09:30:00 AM

Work Order #: 641347

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
#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: 10/29/2019

Checklist reviewed by: Jessica Kramer Date: 10/30/2019

Jessica Kramer

Analytical Report 641772

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 306

012919066

05-NOV-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

05-NOV-19

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

Reference: XENCO Report No(s): **641772**
EMSU 306
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) 641772. 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. 641772 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 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	10-30-19 11:18	1 ft	641772-001
PH01A	S	10-30-19 11:16	2 ft	641772-002
PH02	S	10-30-19 11:26	1 ft	641772-003
PH02A	S	10-30-19 11:24	2 ft	641772-004
PH03	S	10-30-19 11:32	1 ft	641772-005
PH03A	S	10-30-19 11:30	2 ft	641772-006
PH04	S	10-30-19 11:37	1 ft	641772-007
PH04A	S	10-30-19 11:35	2 ft	641772-008
PH05	S	10-30-19 11:41	1 ft	641772-009
PH05A	S	10-30-19 11:40	2 ft	641772-010
PH06	S	10-30-19 11:46	1 ft	641772-011
PH06A	S	10-30-19 11:44	2 ft	641772-012

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 306

Project ID: *012919066*
Work Order Number(s): *641772*

Report Date: *05-NOV-19*
Date Received: *10/31/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3106119 Chloride by EPA 300
Lab Sample ID 641772-012 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 641772-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3106176 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3106187 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 641772-007.
Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7689424-1-BKS,641772-007.

Lab Sample ID 641772-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Motor Oil Range Hydrocarbons (MRO) Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.
Samples in the analytical batch are: 641772-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012

Outlier/s are due to possible matrix interference.

Certificate of Analysis Summary 641772

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 306

Project Id: 012919066
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu Oct-31-19 04:48 pm
Report Date: 05-NOV-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	641772-001		641772-002		641772-003		641772-004		641772-005		641772-006	
	Field Id:	PH01		PH01A		PH02		PH02A		PH03		PH03A	
	Depth:	1- ft		2- ft		1- ft		2- ft		1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-30-19 11:18		Oct-30-19 11:16		Oct-30-19 11:26		Oct-30-19 11:24		Oct-30-19 11:32		Oct-30-19 11:30	
BTEX by EPA 8021B	Extracted:	Oct-31-19 18:00		Oct-31-19 18:00		Oct-31-19 18:00		Oct-31-19 18:00		Oct-31-19 18:00		Oct-31-19 18:00	
	Analyzed:	Oct-31-19 21:29		Oct-31-19 21:49		Oct-31-19 22:09		Oct-31-19 22:30		Oct-31-19 22:50		Oct-31-19 23:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.000998	0.000998	<0.00101	0.00101	<0.000990	0.000990	<0.00101	0.00101	<0.00100	0.00100	<0.000998	0.000998
Toluene		<0.000998	0.000998	<0.00101	0.00101	<0.000990	0.000990	<0.00101	0.00101	<0.00100	0.00100	<0.000998	0.000998
Ethylbenzene		<0.000998	0.000998	<0.00101	0.00101	<0.000990	0.000990	<0.00101	0.00101	<0.00100	0.00100	<0.000998	0.000998
m,p-Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
o-Xylene		<0.000998	0.000998	<0.00101	0.00101	<0.000990	0.000990	<0.00101	0.00101	<0.00100	0.00100	<0.000998	0.000998
Total Xylenes		<0.000998	0.000998	<0.00101	0.00101	<0.000990	0.000990	<0.00101	0.00101	<0.00100	0.00100	<0.000998	0.000998
Total BTEX		<0.000998	0.000998	<0.00101	0.00101	<0.000990	0.000990	<0.00101	0.00101	<0.00100	0.00100	<0.000998	0.000998
Chloride by EPA 300	Extracted:	Oct-31-19 18:10		Oct-31-19 18:10		Oct-31-19 18:10		Oct-31-19 18:10		Oct-31-19 18:10		Oct-31-19 18:10	
	Analyzed:	Oct-31-19 18:42		Oct-31-19 19:01		Oct-31-19 19:08		Oct-31-19 19:14		Oct-31-19 19:20		Oct-31-19 19:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<9.88	9.88	<10.0	10.0	<10.0	10.0	<10.1	10.1	28.6	9.94	16.7	10.0
TPH by SW8015 Mod	Extracted:	Oct-31-19 17:00		Oct-31-19 17:00		Oct-31-19 17:00		Oct-31-19 17:00		Oct-31-19 17:00		Oct-31-19 17:00	
	Analyzed:	Nov-01-19 09:41		Nov-01-19 09:41		Nov-01-19 10:01		Nov-01-19 10:01		Nov-01-19 10:21		Nov-01-19 09:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<50.1	50.1	<50.3	50.3	<50.3	50.3	<49.8	49.8	<50.0	50.0
Diesel Range Organics (DRO)		<50.2	50.2	<50.1	50.1	<50.3	50.3	<50.3	50.3	<49.8	49.8	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<50.1	50.1	<50.3	50.3	<50.3	50.3	<49.8	49.8	<50.0	50.0
Total GRO-DRO		<50.2	50.2	<50.1	50.1	<50.3	50.3	<50.3	50.3	<49.8	49.8	<50.0	50.0
Total TPH		<50.2	50.2	<50.1	50.1	<50.3	50.3	<50.3	50.3	<49.8	49.8	<50.0	50.0

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 641772

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 306

Project Id: 012919066
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu Oct-31-19 04:48 pm
Report Date: 05-NOV-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	641772-007		641772-008		641772-009		641772-010		641772-011		641772-012	
	Field Id:	PH04		PH04A		PH05		PH05A		PH06		PH06A	
	Depth:	1- ft		2- ft		1- ft		2- ft		1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-30-19 11:37		Oct-30-19 11:35		Oct-30-19 11:41		Oct-30-19 11:40		Oct-30-19 11:46		Oct-30-19 11:44	
BTEX by EPA 8021B	Extracted:	Oct-31-19 18:00		Oct-31-19 18:00		Oct-31-19 18:00		Oct-31-19 18:00		Oct-31-19 18:00		Oct-31-19 18:00	
	Analyzed:	Oct-31-19 23:31		Oct-31-19 23:51		Nov-01-19 00:12		Nov-01-19 00:32		Nov-01-19 01:48		Nov-01-19 02:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.000994	0.000994	<0.000994	0.000994	<0.000996	0.000996	<0.000988	0.000988	<0.000996	0.000996	<0.00100	0.00100
Toluene		<0.000994	0.000994	<0.000994	0.000994	<0.000996	0.000996	<0.000988	0.000988	<0.000996	0.000996	<0.00100	0.00100
Ethylbenzene		<0.000994	0.000994	<0.000994	0.000994	<0.000996	0.000996	<0.000988	0.000988	<0.000996	0.000996	<0.00100	0.00100
m,p-Xylenes		<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200
o-Xylene		<0.000994	0.000994	<0.000994	0.000994	<0.000996	0.000996	<0.000988	0.000988	<0.000996	0.000996	<0.00100	0.00100
Total Xylenes		<0.000994	0.000994	<0.000994	0.000994	<0.000996	0.000996	<0.000988	0.000988	<0.000996	0.000996	<0.00100	0.00100
Total BTEX		<0.000994	0.000994	<0.000994	0.000994	<0.000996	0.000996	<0.000988	0.000988	<0.000996	0.000996	<0.00100	0.00100
Chloride by EPA 300	Extracted:	Oct-31-19 18:10		Oct-31-19 18:10		Oct-31-19 18:10		Oct-31-19 18:10		Oct-31-19 18:10		Oct-31-19 18:10	
	Analyzed:	Oct-31-19 19:45		Oct-31-19 19:52		Oct-31-19 19:59		Oct-31-19 20:06		Oct-31-19 20:12		Oct-31-19 20:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<9.88	9.88	<9.92	9.92	<9.94	9.94	<9.96	9.96	10.4	9.88	22.5	9.90
TPH by SW8015 Mod	Extracted:	Oct-31-19 17:00		Oct-31-19 17:00		Oct-31-19 17:00		Oct-31-19 17:00		Oct-31-19 17:00		Oct-31-19 17:00	
	Analyzed:	Nov-01-19 10:41		Nov-01-19 10:41		Nov-01-19 11:01		Nov-01-19 11:21		Nov-01-19 11:21		Nov-01-19 11:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<49.8	49.8	<50.1	50.1	<49.8	49.8	<49.9	49.9	<49.8	49.8
Diesel Range Organics (DRO)		<50.2	50.2	<49.8	49.8	<50.1	50.1	<49.8	49.8	<49.9	49.9	<49.8	49.8
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<49.8	49.8	<50.1	50.1	<49.8	49.8	<49.9	49.9	<49.8	49.8
Total GRO-DRO		<50.2	50.2	<49.8	49.8	<50.1	50.1	<49.8	49.8	<49.9	49.9	<49.8	49.8
Total TPH		<50.2	50.2	<49.8	49.8	<50.1	50.1	<49.8	49.8	<49.9	49.9	<49.8	49.8

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-001	Date Collected:	10.30.19 11.18	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.88	9.88	mg/kg	10.31.19 18.42	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.01.19 09.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.01.19 09.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.01.19 09.41	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.01.19 09.41	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.01.19 09.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	11.01.19 09.41	
o-Terphenyl	84-15-1	112	%	70-135	11.01.19 09.41	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-001	Date Collected:	10.30.19 11.18	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	10.31.19 21.29	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	10.31.19 21.29	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	10.31.19 21.29	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	10.31.19 21.29	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	10.31.19 21.29	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	10.31.19 21.29	U	1
Total BTEX		<0.000998	0.000998	mg/kg	10.31.19 21.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.31.19 21.29	
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.31.19 21.29	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-002	Date Collected:	10.30.19 11.16	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	10.31.19 19.01	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.01.19 09.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.01.19 09.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.01.19 09.41	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.01.19 09.41	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.01.19 09.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	11.01.19 09.41	
o-Terphenyl	84-15-1	106	%	70-135	11.01.19 09.41	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-002	Date Collected:	10.30.19 11.16	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	10.31.19 21.49	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	10.31.19 21.49	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	10.31.19 21.49	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	10.31.19 21.49	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	10.31.19 21.49	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	10.31.19 21.49	U	1
Total BTEX		<0.00101	0.00101	mg/kg	10.31.19 21.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.31.19 21.49	
4-Bromofluorobenzene	460-00-4	110	%	70-130	10.31.19 21.49	

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EMSU 306

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-003	Date Collected:	10.30.19 11.26	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	10.31.19 19.08	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.01.19 10.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.01.19 10.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.01.19 10.01	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.01.19 10.01	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.01.19 10.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	11.01.19 10.01	
o-Terphenyl	84-15-1	110	%	70-135	11.01.19 10.01	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-003	Date Collected:	10.30.19 11.26	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	10.31.19 22.09	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	10.31.19 22.09	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	10.31.19 22.09	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	10.31.19 22.09	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	10.31.19 22.09	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	10.31.19 22.09	U	1
Total BTEX		<0.000990	0.000990	mg/kg	10.31.19 22.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	10.31.19 22.09	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.31.19 22.09	

Certificate of Analytical Results 641772

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EMSU 306

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-004	Date Collected:	10.30.19 11.24	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	10.31.19 19.14	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.01.19 10.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.01.19 10.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.01.19 10.01	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.01.19 10.01	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.01.19 10.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	11.01.19 10.01	
o-Terphenyl	84-15-1	87	%	70-135	11.01.19 10.01	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-004	Date Collected:	10.30.19 11.24	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	10.31.19 22.30	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	10.31.19 22.30	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	10.31.19 22.30	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	10.31.19 22.30	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	10.31.19 22.30	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	10.31.19 22.30	U	1
Total BTEX		<0.00101	0.00101	mg/kg	10.31.19 22.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.31.19 22.30	
4-Bromofluorobenzene	460-00-4	117	%	70-130	10.31.19 22.30	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-005	Date Collected:	10.30.19 11.32	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**28.6**	9.94	mg/kg	10.31.19 19.20		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.01.19 10.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.01.19 10.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.01.19 10.21	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.01.19 10.21	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.01.19 10.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	11.01.19 10.21	
o-Terphenyl	84-15-1	122	%	70-135	11.01.19 10.21	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-005	Date Collected:	10.30.19 11.32	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	10.31.19 22.50	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	10.31.19 22.50	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	10.31.19 22.50	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	10.31.19 22.50	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	10.31.19 22.50	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	10.31.19 22.50	U	1
Total BTEX		<0.00100	0.00100	mg/kg	10.31.19 22.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.31.19 22.50	
4-Bromofluorobenzene	460-00-4	110	%	70-130	10.31.19 22.50	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-006	Date Collected:	10.30.19 11.30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.7**	10.0	mg/kg	10.31.19 19.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.01.19 09.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.01.19 09.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.01.19 09.01	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.01.19 09.01	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.01.19 09.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	11.01.19 09.01	
o-Terphenyl	84-15-1	99	%	70-135	11.01.19 09.01	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-006	Date Collected:	10.30.19 11.30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	10.31.19 23.11	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	10.31.19 23.11	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	10.31.19 23.11	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	10.31.19 23.11	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	10.31.19 23.11	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	10.31.19 23.11	U	1
Total BTEX		<0.000998	0.000998	mg/kg	10.31.19 23.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.31.19 23.11	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.31.19 23.11	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-007	Date Collected:	10.30.19 11.37	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.88	9.88	mg/kg	10.31.19 19.45	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.01.19 10.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.01.19 10.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.01.19 10.41	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.01.19 10.41	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.01.19 10.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	174	%	70-135	11.01.19 10.41	**
o-Terphenyl	84-15-1	183	%	70-135	11.01.19 10.41	**

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-007	Date Collected:	10.30.19 11.37	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	10.31.19 23.31	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	10.31.19 23.31	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	10.31.19 23.31	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	10.31.19 23.31	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	10.31.19 23.31	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	10.31.19 23.31	U	1
Total BTEX		<0.000994	0.000994	mg/kg	10.31.19 23.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.31.19 23.31	
4-Bromofluorobenzene	460-00-4	114	%	70-130	10.31.19 23.31	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-008	Date Collected:	10.30.19 11.35	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	10.31.19 19.52	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.01.19 10.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.01.19 10.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.01.19 10.41	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.01.19 10.41	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.01.19 10.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	11.01.19 10.41	
o-Terphenyl	84-15-1	112	%	70-135	11.01.19 10.41	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-008	Date Collected:	10.30.19 11.35	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	10.31.19 23.51	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	10.31.19 23.51	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	10.31.19 23.51	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	10.31.19 23.51	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	10.31.19 23.51	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	10.31.19 23.51	U	1
Total BTEX		<0.000994	0.000994	mg/kg	10.31.19 23.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	10.31.19 23.51	
1,4-Difluorobenzene	540-36-3	93	%	70-130	10.31.19 23.51	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-009	Date Collected:	10.30.19 11.41	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	10.31.19 19.59	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.01.19 11.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.01.19 11.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.01.19 11.01	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.01.19 11.01	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.01.19 11.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	11.01.19 11.01	
o-Terphenyl	84-15-1	117	%	70-135	11.01.19 11.01	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-009	Date Collected:	10.30.19 11.41	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	11.01.19 00.12	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	11.01.19 00.12	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	11.01.19 00.12	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	11.01.19 00.12	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	11.01.19 00.12	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	11.01.19 00.12	U	1
Total BTEX		<0.000996	0.000996	mg/kg	11.01.19 00.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.01.19 00.12	
4-Bromofluorobenzene	460-00-4	120	%	70-130	11.01.19 00.12	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-010	Date Collected:	10.30.19 11.40	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	10.31.19 20.06	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.01.19 11.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.01.19 11.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.01.19 11.21	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.01.19 11.21	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.01.19 11.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	11.01.19 11.21	
o-Terphenyl	84-15-1	121	%	70-135	11.01.19 11.21	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-010	Date Collected:	10.30.19 11.40	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000988	0.000988	mg/kg	11.01.19 00.32	U	1
Toluene	108-88-3	<0.000988	0.000988	mg/kg	11.01.19 00.32	U	1
Ethylbenzene	100-41-4	<0.000988	0.000988	mg/kg	11.01.19 00.32	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	11.01.19 00.32	U	1
o-Xylene	95-47-6	<0.000988	0.000988	mg/kg	11.01.19 00.32	U	1
Total Xylenes	1330-20-7	<0.000988	0.000988	mg/kg	11.01.19 00.32	U	1
Total BTEX		<0.000988	0.000988	mg/kg	11.01.19 00.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.01.19 00.32	
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.01.19 00.32	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-011	Date Collected:	10.30.19 11.46	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.4**	9.88	mg/kg	10.31.19 20.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.01.19 11.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.01.19 11.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.01.19 11.21	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.01.19 11.21	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.01.19 11.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	11.01.19 11.21	
o-Terphenyl	84-15-1	110	%	70-135	11.01.19 11.21	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-011	Date Collected:	10.30.19 11.46	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	11.01.19 01.48	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	11.01.19 01.48	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	11.01.19 01.48	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	11.01.19 01.48	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	11.01.19 01.48	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	11.01.19 01.48	U	1
Total BTEX		<0.000996	0.000996	mg/kg	11.01.19 01.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	11.01.19 01.48	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.01.19 01.48	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-012	Date Collected:	10.30.19 11.44	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MRB	Date Prep:	10.31.19 18.10	Basis:	Wet Weight
Seq Number:	3106119				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**22.5**	9.90	mg/kg	10.31.19 20.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.31.19 17.00	Basis:	Wet Weight
Seq Number:	3106187				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.01.19 11.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.01.19 11.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.01.19 11.41	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.01.19 11.41	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.01.19 11.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	11.01.19 11.41	
o-Terphenyl	84-15-1	116	%	70-135	11.01.19 11.41	

Certificate of Analytical Results 641772

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	10.31.19 16.48
Lab Sample Id:	641772-012	Date Collected:	10.30.19 11.44	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	10.31.19 18.00	Basis:	Wet Weight
Seq Number:	3106176				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.01.19 02.08	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.01.19 02.08	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.01.19 02.08	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.01.19 02.08	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.01.19 02.08	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.01.19 02.08	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.01.19 02.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.01.19 02.08	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.01.19 02.08	

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 641772

LT Environmental, Inc.

EMSU 306

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106119 — Matrix: Solid — Date Prep: 10.31.19
MB Sample Id: 7689355-1-BLK — LCS Sample Id: 7689355-1-BKS — LCSD Sample Id: 7689355-1-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	257	103	257	103	90-110	0	20	mg/kg	10.31.19 18:29	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106119 — Matrix: Soil — Date Prep: 10.31.19
Parent Sample Id: 641772-001 — MS Sample Id: 641772-001 S — MSD Sample Id: 641772-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5.31	200	221	108	220	108	90-110	0	20	mg/kg	10.31.19 18:48	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106119 — Matrix: Soil — Date Prep: 10.31.19
Parent Sample Id: 641772-012 — MS Sample Id: 641772-012 S — MSD Sample Id: 641772-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	22.5	198	245	112	247	113	90-110	1	20	mg/kg	10.31.19 20:26	X

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106187 — Matrix: Solid — Date Prep: 10.31.19
MB Sample Id: 7689424-1-BLK — LCS Sample Id: 7689424-1-BKS — LCSD Sample Id: 7689424-1-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	904	90	865	87	70-135	4	35	mg/kg	11.01.19 08:42	
Diesel Range Organics (DRO)	<50.0	1000	870	87	761	76	70-135	13	35	mg/kg	11.01.19 08:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	133		142	**	134		70-135	%	11.01.19 08:42
o-Terphenyl	134		134		134		70-135	%	11.01.19 08:42

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106187 — Matrix: Solid — Date Prep: 10.31.19
MB Sample Id: 7689424-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.01.19 12:47	

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

QC Summary 641772

LT Environmental, Inc.

EMSU 306

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106187 — Matrix: Soil — Date Prep: 10.31.19
Parent Sample Id: 641772-006 — MS Sample Id: 641772-006 S — MSD Sample Id: 641772-006 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	1040	104	865	86	70-135	18	35	mg/kg	11.05.19 10:05	
Diesel Range Organics (DRO)	<50.2	1000	1140	114	968	96	70-135	16	35	mg/kg	11.05.19 10:05	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		100		70-135	%	11.05.19 10:05
o-Terphenyl	121		103		70-135	%	11.05.19 10:05

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106176 — Matrix: Solid — Date Prep: 10.31.19
MB Sample Id: 7689421-1-BLK — LCS Sample Id: 7689421-1-BKS — LCSD Sample Id: 7689421-1-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	0.0936	94	0.100	100	70-130	7	35	mg/kg	10.31.19 10:21	
Toluene	<0.00100	0.100	0.0940	94	0.100	100	70-130	6	35	mg/kg	10.31.19 10:21	
Ethylbenzene	<0.00100	0.100	0.0980	98	0.105	105	71-129	7	35	mg/kg	10.31.19 10:21	
m,p-Xylenes	<0.00200	0.200	0.199	100	0.213	107	70-135	7	35	mg/kg	10.31.19 10:21	
o-Xylene	<0.00100	0.100	0.0982	98	0.106	106	71-133	8	35	mg/kg	10.31.19 10:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		102		70-130	%	10.31.19 10:21
4-Bromofluorobenzene	109		106		112		70-130	%	10.31.19 10:21

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106176 — Matrix: Soil — Date Prep: 10.31.19
Parent Sample Id: 641772-001 — MS Sample Id: 641772-001 S — MSD Sample Id: 641772-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0990	99	0.101	100	70-130	2	35	mg/kg	10.31.19 20:13	
Toluene	<0.00100	0.100	0.0979	98	0.101	100	70-130	3	35	mg/kg	10.31.19 20:13	
Ethylbenzene	<0.00100	0.100	0.0994	99	0.104	103	71-129	5	35	mg/kg	10.31.19 20:13	
m,p-Xylenes	<0.00200	0.200	0.201	101	0.210	104	70-135	4	35	mg/kg	10.31.19 20:13	
o-Xylene	<0.00100	0.100	0.100	100	0.105	104	71-133	5	35	mg/kg	10.31.19 20:13	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	10.31.19 20:13
4-Bromofluorobenzene	109		111		70-130	%	10.31.19 20:13

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

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: 641772

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 306	Turn Around	
Project Number:	012919066	Routine	✓
P.O. Number:	IRP-5457	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	0.6	Thermometer ID	
Received Intact:	(Yes) No	T-N	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	
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	10/30/19	1118	1'	1	X	X	X
PH01A			1116	2'				
PH02			1126	1'				
PH02A			1124	2'				
PH03			1132	1'				
PH03A			1130	2'				
PH04			1137	1'				
PH04A			1135	2'				
PH05			1141	1'				
PH05A	↓	↓	1140	2'	↓	↓	↓	↓

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Fatima		10/31/19 1640	2			10/31/19 1640
3				4			
5				6			

Revised Date 051418 Rev. 2018.1

Chain of Custody

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

Work Order No: 441772

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

Project Name:	EMSU 306	Turn Around	
Project Number:	012919066	Routine	✓
P.O. Number:	IRP-5457	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	10/30/19	1146	1'	1	X	X	X
PH06A	S	10/30/19	1144	2'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			10/31/19 1640	2		10/31/19 1648
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: 10/31/2019 04:48:00 PM

Work Order #: 641772

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

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 10/31/2019

Checklist reviewed by: Jessica Kramer Date: 11/04/2019

Analytical Report 642106

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 306

012919066

06-NOV-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

06-NOV-19

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

Reference: XENCO Report No(s): **642106**
EMSU 306
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) 642106. 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. 642106 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 642106

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS05	S	11-04-19 13:10	0.5 ft	642106-001

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 306

Project ID: *012919066*
Work Order Number(s): *642106*

Report Date: *06-NOV-19*
Date Received: *11/05/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3106557 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 642106-001 S.

Motor Oil Range Hydrocarbons (MRO) RPD was outside laboratory control limits.
Samples in the analytical batch are: 642106-001

Lab Sample ID 642106-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Diesel Range Organics (DRO) recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 642106-001.
The Laboratory Control Sample for Diesel Range Organics (DRO) is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3106576 BTEX by EPA 8021B
Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.
Samples in the analytical batch are: 642106-001
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 642106-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike.
Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 642106-001.
The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 642106

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 306

Project Id: 012919066
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Nov-05-19 01:53 pm
Report Date: 06-NOV-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	642106-001					
	Field Id:	SS05					
	Depth:	0.5- ft					
	Matrix:	SOIL					
	Sampled:	Nov-04-19 13:10					
BTEX by EPA 8021B	***Extracted:***	Nov-05-19 16:11					
	Analyzed:	Nov-05-19 18:00					
	Units/RL:	mg/kg	RL				
Benzene		<0.00101	0.00101				
Toluene		<0.00101	0.00101				
Ethylbenzene		<0.00101	0.00101				
m,p-Xylenes		<0.00201	0.00201				
o-Xylene		<0.00101	0.00101				
Total Xylenes		<0.00101	0.00101				
Total BTEX		<0.00101	0.00101				
Chloride by EPA 300	***Extracted:***	Nov-05-19 15:11					
	Analyzed:	Nov-05-19 18:19					
	Units/RL:	mg/kg	RL				
Chloride		<9.88	9.88				
TPH by SW8015 Mod	***Extracted:***	Nov-05-19 17:00					
	Analyzed:	Nov-05-19 19:35					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0				
Diesel Range Organics (DRO)		83.3	50.0				
Motor Oil Range Hydrocarbons (MRO)		81.2	50.0				
Total GRO-DRO		83.3	50.0				
Total TPH		165	50.0				

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

Jessica Kramer
Project Assistant

Certificate of Analytical Results 642106

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642106-001	Date Collected:	11.04.19 13.10	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.88	9.88	mg/kg	11.05.19 18.19	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.05.19 19.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	**83.3**	50.0	mg/kg	11.05.19 19.35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**81.2**	50.0	mg/kg	11.05.19 19.35		1
Total GRO-DRO	PHC628	**83.3**	50.0	mg/kg	11.05.19 19.35		1
Total TPH	PHC635	**165**	50.0	mg/kg	11.05.19 19.35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	11.05.19 19.35	
o-Terphenyl	84-15-1	108	%	70-135	11.05.19 19.35	

Certificate of Analytical Results 642106

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642106-001	Date Collected:	11.04.19 13.10	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 18.00	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 18.00	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 18.00	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.05.19 18.00	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 18.00	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 18.00	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 18.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.05.19 18.00	
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.05.19 18.00	

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 642106

LT Environmental, Inc.

EMSU 306

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106586 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689648-1-BLK — LCS Sample Id: 7689648-1-BKS — LCSD Sample Id: 7689648-1-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	234	94	238	95	90-110	2	20	mg/kg	11.05.19 18:07	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106586 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642106-001 — MS Sample Id: 642106-001 S — MSD Sample Id: 642106-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.55	199	216	105	218	106	90-110	1	20	mg/kg	11.05.19 18:26	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106586 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642108-010 — MS Sample Id: 642108-010 S — MSD Sample Id: 642108-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	20.3	200	231	105	235	107	90-110	2	20	mg/kg	11.05.19 20:03	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106557 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689689-1-BLK — LCS Sample Id: 7689689-1-BKS — LCSD Sample Id: 7689689-1-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	952	95	932	93	70-135	2	35	mg/kg	11.05.19 18:37	
Diesel Range Organics (DRO)	<11.5	1000	1060	106	1020	102	70-135	4	35	mg/kg	11.05.19 18:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		124		133		70-135	%	11.05.19 18:37
o-Terphenyl	117		124		123		70-135	%	11.05.19 18:37

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106557 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689689-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.05.19 18:17	

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 642106

LT Environmental, Inc.

EMSU 306

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106557 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642106-001 — MS Sample Id: 642106-001 S — MSD Sample Id: 642106-001 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	939	94	70-135	14	35	mg/kg	11.05.19 19:55	
Diesel Range Organics (DRO)	83.3	1000	1560	148	1400	132	70-135	11	35	mg/kg	11.05.19 19:55	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	156	**	133		70-135	%	11.05.19 19:55
o-Terphenyl	134		115		70-135	%	11.05.19 19:55

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106576 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689666-1-BLK — LCS Sample Id: 7689666-1-BKS — LCSD Sample Id: 7689666-1-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	0.0965	97	0.0867	87	70-130	11	35	mg/kg	11.05.19 16:04	
Toluene	<0.00100	0.100	0.0967	97	0.0873	87	70-130	10	35	mg/kg	11.05.19 16:04	
Ethylbenzene	<0.00100	0.100	0.0999	100	0.0897	90	71-129	11	35	mg/kg	11.05.19 16:04	
m,p-Xylenes	<0.00200	0.200	0.202	101	0.183	92	70-135	10	35	mg/kg	11.05.19 16:04	
o-Xylene	<0.00100	0.100	0.101	101	0.0924	92	71-133	9	35	mg/kg	11.05.19 16:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		100		99		70-130	%	11.05.19 16:04
4-Bromofluorobenzene	106		105		106		70-130	%	11.05.19 16:04

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106576 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642106-001 — MS Sample Id: 642106-001 S — MSD Sample Id: 642106-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0665	67	0.100	100	70-130	40	35	mg/kg	11.05.19 16:45	XF
Toluene	<0.00100	0.100	0.0568	57	0.0953	95	70-130	51	35	mg/kg	11.05.19 16:45	XF
Ethylbenzene	<0.00100	0.100	0.0493	49	0.0893	89	71-129	58	35	mg/kg	11.05.19 16:45	XF
m,p-Xylenes	<0.00200	0.200	0.0987	49	0.179	90	70-135	58	35	mg/kg	11.05.19 16:45	XF
o-Xylene	<0.00100	0.100	0.0496	50	0.0889	89	71-133	57	35	mg/kg	11.05.19 16:45	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		70-130	%	11.05.19 16:45
4-Bromofluorobenzene	104		102		70-130	%	11.05.19 16:45

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: 6042106

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 306	Turn Around	
Project Number:	012919066	Routine ☐	
P.O. Number:	IRP - 5457	Rush: 2 days	
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:	1

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS05	S	11/4/19	1310	0.5'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11/5/19 1353	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/05/2019 01:53:00 PM

Work Order #: 642106

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)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 11/05/2019

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

Jessica Kramer

Analytical Report 642108

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 306

012919066

06-NOV-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

06-NOV-19

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

Reference: XENCO Report No(s): **642108**
EMSU 306
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) 642108. 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. 642108 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 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	11-04-19 09:22	0 - 1 ft	642108-001
SW02	S	11-04-19 09:27	0 - 1 ft	642108-002
FS04	S	11-04-19 10:02	0 - 1 ft	642108-003
FS05	S	11-04-19 10:10	0 - 1 ft	642108-004
FS06	S	11-04-19 10:13	0 - 1 ft	642108-005
FS07	S	11-04-19 11:08	0 - 1 ft	642108-006
FS08	S	11-04-19 11:12	0 - 1 ft	642108-007
SW03	S	11-04-19 11:27	0 - 1 ft	642108-008
SW04	S	11-04-19 11:30	0 - 1 ft	642108-009
SW05	S	11-04-19 11:33	0 - 1 ft	642108-010
FS09	S	11-04-19 16:06	1 ft	642108-011
FS10	S	11-04-19 16:08	1 ft	642108-012
SW06	S	11-05-19 09:53	0 - 1 ft	642108-013

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 306

Project ID: *012919066*
Work Order Number(s): *642108*

Report Date: *06-NOV-19*
Date Received: *11/05/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3106557 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 642106-001 S.

Motor Oil Range Hydrocarbons (MRO) RPD was outside laboratory control limits.
Samples in the analytical batch are: 642108-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013

Batch: LBA-3106576 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 642108

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 306

Project Id: 012919066
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Nov-05-19 01:53 pm
Report Date: 06-NOV-19
Project Manager: Jessica Kramer

Analysis Requested		642108-001		642108-002		642108-003		642108-004		642108-005		642108-006	
	Lab Id:	642108-001		642108-002		642108-003		642108-004		642108-005		642108-006	
	Field Id:	SW01		SW02		FS04		FS05		FS06		FS07	
	Depth:	0-1 ft		0-1 ft		0-1 ft		0-1 ft		0-1 ft		0-1 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-04-19 09:22		Nov-04-19 09:27		Nov-04-19 10:02		Nov-04-19 10:10		Nov-04-19 10:13		Nov-04-19 11:08	
BTEX by EPA 8021B	*Extracted:*	Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11	
	Analyzed:	Nov-05-19 18:21		Nov-05-19 18:41		Nov-05-19 19:01		Nov-05-19 19:22		Nov-05-19 19:42		Nov-05-19 20:03	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Toluene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Ethylbenzene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
m,p-Xylenes		<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00202	0.00202	<0.00202	0.00202
o-Xylene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Total Xylenes		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Total BTEX		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Chloride by EPA 300	*Extracted:*	Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11	
	Analyzed:	Nov-05-19 18:40		Nov-05-19 18:47		Nov-05-19 18:54		Nov-05-19 19:01		Nov-05-19 19:21		Nov-05-19 19:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		55.7	10.0	32.3	10.1	111	9.92	36.1	9.86	39.9	10.0	71.8	10.0
TPH by SW8015 Mod	*Extracted:*	Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00	
	Analyzed:	Nov-05-19 20:34		Nov-05-19 20:54		Nov-05-19 21:13		Nov-05-19 21:33		Nov-05-19 21:53		Nov-05-19 22:12	
	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	<49.8	49.8	<49.8	49.8	<49.8	49.8	<50.1	50.1	<50.0	50.0
Diesel Range Organics (DRO)		85.0	50.0	91.1	49.8	<49.8	49.8	<49.8	49.8	<50.1	50.1	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	<49.8	49.8	<49.8	49.8	<50.1	50.1	<50.0	50.0
Total GRO-DRO		85.0	50.0	91.1	49.8	<49.8	49.8	<49.8	49.8	<50.1	50.1	<50.0	50.0
Total TPH		85.0	50.0	91.1	49.8	<49.8	49.8	<49.8	49.8	<50.1	50.1	<50.0	50.0

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 642108

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 306

Project Id: 012919066
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Nov-05-19 01:53 pm
Report Date: 06-NOV-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	642108-007		642108-008		642108-009		642108-010		642108-011		642108-012	
	Field Id:	FS08		SW03		SW04		SW05		FS09		FS10	
	Depth:	0-1 ft		0-1 ft		0-1 ft		0-1 ft		1- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-04-19 11:12		Nov-04-19 11:27		Nov-04-19 11:30		Nov-04-19 11:33		Nov-04-19 16:06		Nov-04-19 16:08	
BTEX by EPA 8021B	*Extracted:*	Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11	
	Analyzed:	Nov-05-19 20:23		Nov-05-19 20:43		Nov-05-19 21:04		Nov-05-19 22:19		Nov-05-19 22:39		Nov-06-19 12:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Toluene		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Ethylbenzene		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	0.00106	0.00100
m,p-Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200
o-Xylene		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Total Xylenes		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Total BTEX		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	0.00106	0.00100
Chloride by EPA 300	*Extracted:*	Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11	
	Analyzed:	Nov-05-19 19:35		Nov-05-19 19:42		Nov-05-19 19:49		Nov-05-19 19:56		Nov-05-19 20:17		Nov-05-19 20:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		225	10.1	32.1	10.1	32.7	9.98	20.3	9.94	30.7	9.94	18.6	10.0
TPH by SW8015 Mod	*Extracted:*	Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00	
	Analyzed:	Nov-05-19 22:32		Nov-05-19 22:51		Nov-05-19 23:11		Nov-05-19 23:50		Nov-06-19 00:10		Nov-06-19 00:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.1	50.1
Diesel Range Organics (DRO)		<50.2	50.2	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.1	50.1
Total GRO-DRO		<50.2	50.2	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.1	50.1
Total TPH		<50.2	50.2	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.1	50.1

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 642108

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 306

Project Id: 012919066
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Nov-05-19 01:53 pm
Report Date: 06-NOV-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	642108-013					
	Field Id:	SW06					
	Depth:	0-1 ft					
	Matrix:	SOIL					
	Sampled:	Nov-05-19 09:53					
BTEX by EPA 8021B	***Extracted:***	Nov-05-19 16:11					
	Analyzed:	Nov-06-19 12:22					
	Units/RL:	mg/kg RL					
Benzene		<0.000994 0.000994					
Toluene		<0.000994 0.000994					
Ethylbenzene		<0.000994 0.000994					
m,p-Xylenes		<0.00199 0.00199					
o-Xylene		<0.000994 0.000994					
Total Xylenes		<0.000994 0.000994					
Total BTEX		<0.000994 0.000994					
Chloride by EPA 300	***Extracted:***	Nov-05-19 15:11					
	Analyzed:	Nov-05-19 20:44					
	Units/RL:	mg/kg RL					
Chloride		16.2 10.1					
TPH by SW8015 Mod	***Extracted:***	Nov-05-19 17:00					
	Analyzed:	Nov-06-19 00:49					
	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					

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-001	Date Collected:	11.04.19 09.22	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**55.7**	10.0	mg/kg	11.05.19 18.40		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.05.19 20.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	**85.0**	50.0	mg/kg	11.05.19 20.34		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.05.19 20.34	U	1
Total GRO-DRO	PHC628	**85.0**	50.0	mg/kg	11.05.19 20.34		1
Total TPH	PHC635	**85.0**	50.0	mg/kg	11.05.19 20.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	11.05.19 20.34	
o-Terphenyl	84-15-1	109	%	70-135	11.05.19 20.34	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-001	Date Collected:	11.04.19 09.22	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 18.21	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.05.19 18.21	
4-Bromofluorobenzene	460-00-4	108	%	70-130	11.05.19 18.21	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-002	Date Collected:	11.04.19 09.27	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**32.3**	10.1	mg/kg	11.05.19 18.47		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.05.19 20.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	**91.1**	49.8	mg/kg	11.05.19 20.54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.05.19 20.54	U	1
Total GRO-DRO	PHC628	**91.1**	49.8	mg/kg	11.05.19 20.54		1
Total TPH	PHC635	**91.1**	49.8	mg/kg	11.05.19 20.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	11.05.19 20.54	
o-Terphenyl	84-15-1	109	%	70-135	11.05.19 20.54	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-002	Date Collected:	11.04.19 09.27	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.05.19 18.41	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	11.05.19 18.41	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.05.19 18.41	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-003	Date Collected:	11.04.19 10.02	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**111**	9.92	mg/kg	11.05.19 18.54		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.05.19 21.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.05.19 21.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.05.19 21.13	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.05.19 21.13	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.05.19 21.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	11.05.19 21.13	
o-Terphenyl	84-15-1	108	%	70-135	11.05.19 21.13	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-003	Date Collected:	11.04.19 10.02	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 19.01	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.05.19 19.01	
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.05.19 19.01	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-004	Date Collected:	11.04.19 10.10	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**36.1**	9.86	mg/kg	11.05.19 19.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.05.19 21.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.05.19 21.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.05.19 21.33	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.05.19 21.33	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.05.19 21.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	11.05.19 21.33	
o-Terphenyl	84-15-1	108	%	70-135	11.05.19 21.33	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-004	Date Collected:	11.04.19 10.10	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 19.22	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.05.19 19.22	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.05.19 19.22	

Certificate of Analytical Results 642108

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EMSU 306

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-005	Date Collected:	11.04.19 10.13	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.9**	10.0	mg/kg	11.05.19 19.21		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.05.19 21.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.05.19 21.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.05.19 21.53	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.05.19 21.53	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.05.19 21.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	11.05.19 21.53	
o-Terphenyl	84-15-1	109	%	70-135	11.05.19 21.53	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-005	Date Collected:	11.04.19 10.13	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 19.42	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.05.19 19.42	
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.05.19 19.42	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-006	Date Collected:	11.04.19 11.08	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**71.8**	10.0	mg/kg	11.05.19 19.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.05.19 22.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.05.19 22.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.05.19 22.12	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.05.19 22.12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.05.19 22.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	11.05.19 22.12	
o-Terphenyl	84-15-1	115	%	70-135	11.05.19 22.12	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-006	Date Collected:	11.04.19 11.08	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 20.03	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.05.19 20.03	
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.05.19 20.03	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-007	Date Collected:	11.04.19 11.12	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**225**	10.1	mg/kg	11.05.19 19.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.05.19 22.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.05.19 22.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.05.19 22.32	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.05.19 22.32	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.05.19 22.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	11.05.19 22.32	
o-Terphenyl	84-15-1	116	%	70-135	11.05.19 22.32	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-007	Date Collected:	11.04.19 11.12	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.05.19 20.23	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.05.19 20.23	
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.05.19 20.23	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-008	Date Collected:	11.04.19 11.27	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**32.1**	10.1	mg/kg	11.05.19 19.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.05.19 22.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.05.19 22.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.05.19 22.51	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.05.19 22.51	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.05.19 22.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	11.05.19 22.51	
o-Terphenyl	84-15-1	113	%	70-135	11.05.19 22.51	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-008	Date Collected:	11.04.19 11.27	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	11.05.19 20.43	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1
Total BTEX		<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	11.05.19 20.43	
1,4-Difluorobenzene	540-36-3	96	%	70-130	11.05.19 20.43	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-009	Date Collected:	11.04.19 11.30	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**32.7**	9.98	mg/kg	11.05.19 19.49		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.05.19 23.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.05.19 23.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.05.19 23.11	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.05.19 23.11	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.05.19 23.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	11.05.19 23.11	
o-Terphenyl	84-15-1	110	%	70-135	11.05.19 23.11	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-009	Date Collected:	11.04.19 11.30	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.05.19 21.04	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.05.19 21.04	
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.05.19 21.04	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-010	Date Collected:	11.04.19 11.33	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.3**	9.94	mg/kg	11.05.19 19.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.05.19 23.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.05.19 23.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.05.19 23.50	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.05.19 23.50	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.05.19 23.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	11.05.19 23.50	
o-Terphenyl	84-15-1	112	%	70-135	11.05.19 23.50	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-010	Date Collected:	11.04.19 11.33	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.05.19 22.19	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.05.19 22.19	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.05.19 22.19	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-011	Date Collected:	11.04.19 16.06	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**30.7**	9.94	mg/kg	11.05.19 20.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.06.19 00.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.06.19 00.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.06.19 00.10	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.06.19 00.10	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.06.19 00.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	11.06.19 00.10	
o-Terphenyl	84-15-1	109	%	70-135	11.06.19 00.10	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-011	Date Collected:	11.04.19 16.06	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 22.39	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.05.19 22.39	
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.05.19 22.39	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-012	Date Collected:	11.04.19 16.08	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.6**	10.0	mg/kg	11.05.19 20.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.06.19 00.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.06.19 00.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.06.19 00.29	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.06.19 00.29	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.06.19 00.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	11.06.19 00.29	
o-Terphenyl	84-15-1	108	%	70-135	11.06.19 00.29	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-012	Date Collected:	11.04.19 16.08	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.06.19 12.02	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.06.19 12.02	U	1
Ethylbenzene	100-41-4	**0.00106**	0.00100	mg/kg	11.06.19 12.02		1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.06.19 12.02	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.06.19 12.02	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.06.19 12.02	U	1
Total BTEX		**0.00106**	0.00100	mg/kg	11.06.19 12.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.06.19 12.02	
4-Bromofluorobenzene	460-00-4	108	%	70-130	11.06.19 12.02	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-013	Date Collected:	11.05.19 09.53	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.2**	10.1	mg/kg	11.05.19 20.44		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.06.19 00.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.06.19 00.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.06.19 00.49	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.06.19 00.49	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.06.19 00.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	11.06.19 00.49	
o-Terphenyl	84-15-1	111	%	70-135	11.06.19 00.49	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-013	Date Collected:	11.05.19 09.53	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	11.06.19 12.22	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1
Total BTEX		<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	11.06.19 12.22	
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.06.19 12.22	

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 642108

LT Environmental, Inc.

EMSU 306

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106586 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689648-1-BLK — LCS Sample Id: 7689648-1-BKS — LCSD Sample Id: 7689648-1-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	234	94	238	95	90-110	2	20	mg/kg	11.05.19 18:07	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106586 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642106-001 — MS Sample Id: 642106-001 S — MSD Sample Id: 642106-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.55	199	216	105	218	106	90-110	1	20	mg/kg	11.05.19 18:26	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106586 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642108-010 — MS Sample Id: 642108-010 S — MSD Sample Id: 642108-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	20.3	200	231	105	235	107	90-110	2	20	mg/kg	11.05.19 20:03	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106557 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689689-1-BLK — LCS Sample Id: 7689689-1-BKS — LCSD Sample Id: 7689689-1-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	952	95	932	93	70-135	2	35	mg/kg	11.05.19 18:37	
Diesel Range Organics (DRO)	<11.5	1000	1060	106	1020	102	70-135	4	35	mg/kg	11.05.19 18:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		124		133		70-135	%	11.05.19 18:37
o-Terphenyl	117		124		123		70-135	%	11.05.19 18:37

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106557 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689689-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.05.19 18:17	

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 642108

LT Environmental, Inc.

EMSU 306

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106557 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642106-001 — MS Sample Id: 642106-001 S — MSD Sample Id: 642106-001 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	939	94	70-135	14	35	mg/kg	11.05.19 19:55	
Diesel Range Organics (DRO)	83.3	1000	1560	148	1400	132	70-135	11	35	mg/kg	11.05.19 19:55	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	156	**	133		70-135	%	11.05.19 19:55
o-Terphenyl	134		115		70-135	%	11.05.19 19:55

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106576 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689666-1-BLK — LCS Sample Id: 7689666-1-BKS — LCSD Sample Id: 7689666-1-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	0.0965	97	0.0867	87	70-130	11	35	mg/kg	11.05.19 16:04	
Toluene	<0.00100	0.100	0.0967	97	0.0873	87	70-130	10	35	mg/kg	11.05.19 16:04	
Ethylbenzene	<0.00100	0.100	0.0999	100	0.0897	90	71-129	11	35	mg/kg	11.05.19 16:04	
m,p-Xylenes	<0.00200	0.200	0.202	101	0.183	92	70-135	10	35	mg/kg	11.05.19 16:04	
o-Xylene	<0.00100	0.100	0.101	101	0.0924	92	71-133	9	35	mg/kg	11.05.19 16:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		100		99		70-130	%	11.05.19 16:04
4-Bromofluorobenzene	106		105		106		70-130	%	11.05.19 16:04

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106576 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642106-001 — MS Sample Id: 642106-001 S — MSD Sample Id: 642106-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0665	67	0.100	100	70-130	40	35	mg/kg	11.05.19 16:45	XF
Toluene	<0.00100	0.100	0.0568	57	0.0953	95	70-130	51	35	mg/kg	11.05.19 16:45	XF
Ethylbenzene	<0.00100	0.100	0.0493	49	0.0893	89	71-129	58	35	mg/kg	11.05.19 16:45	XF
m,p-Xylenes	<0.00200	0.200	0.0987	49	0.179	90	70-135	58	35	mg/kg	11.05.19 16:45	XF
o-Xylene	<0.00100	0.100	0.0496	50	0.0889	89	71-133	57	35	mg/kg	11.05.19 16:45	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		70-130	%	11.05.19 16:45
4-Bromofluorobenzene	104		102		70-130	%	11.05.19 16:45

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: 642108

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

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

Work Order Comments

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

Project Name:	EMSU 306	Turn Around	
Project Number:	012919066	Routine ☐	
P.O. Number:	IRP - 5457	Rush: 2 days	
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	TNM 007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	13

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SW01	S	11/4/19	0922	0-1'	1	X	X	X
SW02			0927	0-1'				
FS04			1002	1'				
FS05			1010					
FS06			1013					
FS07			1108					
FS08			1112					
SW03			1127	0-1'				
SW04			1130					
SW05			1133					

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		11/5/19 1353	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Chain of Custody

Work Order No: 642108

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

Project Name:	EMSU 306	Turn Around	
Project Number:	012919066	Routine ☐	
P.O. Number:	IRP-5457	Rush: 2 days	
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)
FS09	S	11/4/19	1606	1'	1	X	X	X
FS10	S	11/4/19	1608	1'	1	X	X	X
SW06	S	11/5/19	0953	0-1'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			11/5/19 1353	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/05/2019 01:53:00 PM

Work Order #: 642108

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)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 11/05/2019

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

Jessica Kramer

Analytical Report 642108

for

LT Environmental, Inc.

Project Manager: Dan Moir

EMSU 306

012919066

08-NOV-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

08-NOV-19

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

Reference: XENCO Report No(s): **642108**
EMSU 306
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) 642108. 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. 642108 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 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	11-04-19 09:22	0 - 1 ft	642108-001
SW02	S	11-04-19 09:27	0 - 1 ft	642108-002
FS04	S	11-04-19 10:02	1 ft	642108-003
FS05	S	11-04-19 10:10	1 ft	642108-004
FS06	S	11-04-19 10:13	1 ft	642108-005
FS07	S	11-04-19 11:08	1 ft	642108-006
FS08	S	11-04-19 11:12	1 ft	642108-007
SW03	S	11-04-19 11:27	0 - 1 ft	642108-008
SW04	S	11-04-19 11:30	0 - 1 ft	642108-009
SW05	S	11-04-19 11:33	0 - 1 ft	642108-010
FS09	S	11-04-19 16:06	1 ft	642108-011
FS10	S	11-04-19 16:08	1 ft	642108-012
SW06	S	11-05-19 09:53	0 - 1 ft	642108-013

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: EMSU 306

Project ID: *012919066*
Work Order Number(s): *642108*

Report Date: *08-NOV-19*
Date Received: *11/05/2019*

Sample receipt non conformances and comments:

Per client email, corrected sample depth for sample 003-007 to 1ft. New version generated JK 11/08/19

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3106557 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 642106-001 S.

Motor Oil Range Hydrocarbons (MRO) RPD was outside laboratory control limits.
Samples in the analytical batch are: 642108-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013

Batch: LBA-3106576 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 642108

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 306

Project Id: 012919066
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Nov-05-19 01:53 pm
Report Date: 08-NOV-19
Project Manager: Jessica Kramer

Analysis Requested		642108-001		642108-002		642108-003		642108-004		642108-005		642108-006	
	Lab Id:	642108-001		642108-002		642108-003		642108-004		642108-005		642108-006	
	Field Id:	SW01		SW02		FS04		FS05		FS06		FS07	
	Depth:	0-1 ft		0-1 ft		1- ft		1- ft		1- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-04-19 09:22		Nov-04-19 09:27		Nov-04-19 10:02		Nov-04-19 10:10		Nov-04-19 10:13		Nov-04-19 11:08	
BTEX by EPA 8021B	*Extracted:*	Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11	
	Analyzed:	Nov-05-19 18:21		Nov-05-19 18:41		Nov-05-19 19:01		Nov-05-19 19:22		Nov-05-19 19:42		Nov-05-19 20:03	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Toluene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Ethylbenzene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
m,p-Xylenes		<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00202	0.00202	<0.00202	0.00202
o-Xylene		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Total Xylenes		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Total BTEX		<0.00101	0.00101	<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101	<0.00101	0.00101
Chloride by EPA 300	*Extracted:*	Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11	
	Analyzed:	Nov-05-19 18:40		Nov-05-19 18:47		Nov-05-19 18:54		Nov-05-19 19:01		Nov-05-19 19:21		Nov-05-19 19:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		55.7	10.0	32.3	10.1	111	9.92	36.1	9.86	39.9	10.0	71.8	10.0
TPH by SW8015 Mod	*Extracted:*	Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00	
	Analyzed:	Nov-05-19 20:34		Nov-05-19 20:54		Nov-05-19 21:13		Nov-05-19 21:33		Nov-05-19 21:53		Nov-05-19 22:12	
	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	<49.8	49.8	<49.8	49.8	<49.8	49.8	<50.1	50.1	<50.0	50.0
Diesel Range Organics (DRO)		85.0	50.0	91.1	49.8	<49.8	49.8	<49.8	49.8	<50.1	50.1	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	<49.8	49.8	<49.8	49.8	<50.1	50.1	<50.0	50.0
Total GRO-DRO		85.0	50.0	91.1	49.8	<49.8	49.8	<49.8	49.8	<50.1	50.1	<50.0	50.0
Total TPH		85.0	50.0	91.1	49.8	<49.8	49.8	<49.8	49.8	<50.1	50.1	<50.0	50.0

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 642108

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 306

Project Id: 012919066
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Nov-05-19 01:53 pm
Report Date: 08-NOV-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	642108-007		642108-008		642108-009		642108-010		642108-011		642108-012	
	Field Id:	FS08		SW03		SW04		SW05		FS09		FS10	
	Depth:	1- ft		0-1 ft		0-1 ft		0-1 ft		1- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-04-19 11:12		Nov-04-19 11:27		Nov-04-19 11:30		Nov-04-19 11:33		Nov-04-19 16:06		Nov-04-19 16:08	
BTEX by EPA 8021B	*Extracted:*	Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11		Nov-05-19 16:11	
	Analyzed:	Nov-05-19 20:23		Nov-05-19 20:43		Nov-05-19 21:04		Nov-05-19 22:19		Nov-05-19 22:39		Nov-06-19 12:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Toluene		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Ethylbenzene		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	0.00106	0.00100
m,p-Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200
o-Xylene		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Total Xylenes		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Total BTEX		<0.00100	0.00100	<0.000994	0.000994	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	0.00106	0.00100
Chloride by EPA 300	*Extracted:*	Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11		Nov-05-19 15:11	
	Analyzed:	Nov-05-19 19:35		Nov-05-19 19:42		Nov-05-19 19:49		Nov-05-19 19:56		Nov-05-19 20:17		Nov-05-19 20:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		225	10.1	32.1	10.1	32.7	9.98	20.3	9.94	30.7	9.94	18.6	10.0
TPH by SW8015 Mod	*Extracted:*	Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00		Nov-05-19 17:00	
	Analyzed:	Nov-05-19 22:32		Nov-05-19 22:51		Nov-05-19 23:11		Nov-05-19 23:50		Nov-06-19 00:10		Nov-06-19 00:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.1	50.1
Diesel Range Organics (DRO)		<50.2	50.2	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.1	50.1
Total GRO-DRO		<50.2	50.2	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.1	50.1
Total TPH		<50.2	50.2	<50.2	50.2	<50.1	50.1	<50.2	50.2	<50.2	50.2	<50.1	50.1

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 642108

LT Environmental, Inc., Arvada, CO

Project Name: EMSU 306

Project Id: 012919066
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Nov-05-19 01:53 pm
Report Date: 08-NOV-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	642108-013					
	Field Id:	SW06					
	Depth:	0-1 ft					
	Matrix:	SOIL					
	Sampled:	Nov-05-19 09:53					
BTEX by EPA 8021B	***Extracted:***	Nov-05-19 16:11					
	Analyzed:	Nov-06-19 12:22					
	Units/RL:	mg/kg	RL				
Benzene		<0.000994	0.000994				
Toluene		<0.000994	0.000994				
Ethylbenzene		<0.000994	0.000994				
m,p-Xylenes		<0.00199	0.00199				
o-Xylene		<0.000994	0.000994				
Total Xylenes		<0.000994	0.000994				
Total BTEX		<0.000994	0.000994				
Chloride by EPA 300	***Extracted:***	Nov-05-19 15:11					
	Analyzed:	Nov-05-19 20:44					
	Units/RL:	mg/kg	RL				
Chloride		16.2	10.1				
TPH by SW8015 Mod	***Extracted:***	Nov-05-19 17:00					
	Analyzed:	Nov-06-19 00:49					
	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				

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-001	Date Collected:	11.04.19 09.22	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**55.7**	10.0	mg/kg	11.05.19 18.40		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.05.19 20.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	**85.0**	50.0	mg/kg	11.05.19 20.34		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.05.19 20.34	U	1
Total GRO-DRO	PHC628	**85.0**	50.0	mg/kg	11.05.19 20.34		1
Total TPH	PHC635	**85.0**	50.0	mg/kg	11.05.19 20.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	11.05.19 20.34	
o-Terphenyl	84-15-1	109	%	70-135	11.05.19 20.34	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-001	Date Collected:	11.04.19 09.22	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 18.21	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 18.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.05.19 18.21	
4-Bromofluorobenzene	460-00-4	108	%	70-130	11.05.19 18.21	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-002	Date Collected:	11.04.19 09.27	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**32.3**	10.1	mg/kg	11.05.19 18.47		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.05.19 20.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	**91.1**	49.8	mg/kg	11.05.19 20.54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.05.19 20.54	U	1
Total GRO-DRO	PHC628	**91.1**	49.8	mg/kg	11.05.19 20.54		1
Total TPH	PHC635	**91.1**	49.8	mg/kg	11.05.19 20.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	11.05.19 20.54	
o-Terphenyl	84-15-1	109	%	70-135	11.05.19 20.54	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-002	Date Collected:	11.04.19 09.27	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.05.19 18.41	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.05.19 18.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	11.05.19 18.41	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.05.19 18.41	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-003	Date Collected:	11.04.19 10.02	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**111**	9.92	mg/kg	11.05.19 18.54		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.05.19 21.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.05.19 21.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.05.19 21.13	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.05.19 21.13	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.05.19 21.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	11.05.19 21.13	
o-Terphenyl	84-15-1	108	%	70-135	11.05.19 21.13	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-003	Date Collected:	11.04.19 10.02	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 19.01	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 19.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.05.19 19.01	
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.05.19 19.01	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-004	Date Collected:	11.04.19 10.10	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**36.1**	9.86	mg/kg	11.05.19 19.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.05.19 21.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.05.19 21.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.05.19 21.33	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.05.19 21.33	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.05.19 21.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	11.05.19 21.33	
o-Terphenyl	84-15-1	108	%	70-135	11.05.19 21.33	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-004	Date Collected:	11.04.19 10.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 19.22	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 19.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.05.19 19.22	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.05.19 19.22	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-005	Date Collected:	11.04.19 10.13	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.9**	10.0	mg/kg	11.05.19 19.21		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.05.19 21.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.05.19 21.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.05.19 21.53	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.05.19 21.53	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.05.19 21.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	11.05.19 21.53	
o-Terphenyl	84-15-1	109	%	70-135	11.05.19 21.53	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-005	Date Collected:	11.04.19 10.13	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 19.42	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 19.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.05.19 19.42	
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.05.19 19.42	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-006	Date Collected:	11.04.19 11.08	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**71.8**	10.0	mg/kg	11.05.19 19.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.05.19 22.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.05.19 22.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.05.19 22.12	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.05.19 22.12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.05.19 22.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	11.05.19 22.12	
o-Terphenyl	84-15-1	115	%	70-135	11.05.19 22.12	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-006	Date Collected:	11.04.19 11.08	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 20.03	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 20.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.05.19 20.03	
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.05.19 20.03	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-007	Date Collected:	11.04.19 11.12	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**225**	10.1	mg/kg	11.05.19 19.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.05.19 22.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.05.19 22.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.05.19 22.32	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.05.19 22.32	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.05.19 22.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	11.05.19 22.32	
o-Terphenyl	84-15-1	116	%	70-135	11.05.19 22.32	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-007	Date Collected:	11.04.19 11.12	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.05.19 20.23	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.05.19 20.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.05.19 20.23	
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.05.19 20.23	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-008	Date Collected:	11.04.19 11.27	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**32.1**	10.1	mg/kg	11.05.19 19.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.05.19 22.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.05.19 22.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.05.19 22.51	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.05.19 22.51	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.05.19 22.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	11.05.19 22.51	
o-Terphenyl	84-15-1	113	%	70-135	11.05.19 22.51	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-008	Date Collected:	11.04.19 11.27	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	11.05.19 20.43	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1
Total BTEX		<0.000994	0.000994	mg/kg	11.05.19 20.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	11.05.19 20.43	
1,4-Difluorobenzene	540-36-3	96	%	70-130	11.05.19 20.43	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-009	Date Collected:	11.04.19 11.30	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**32.7**	9.98	mg/kg	11.05.19 19.49		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.05.19 23.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.05.19 23.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.05.19 23.11	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.05.19 23.11	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.05.19 23.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	11.05.19 23.11	
o-Terphenyl	84-15-1	110	%	70-135	11.05.19 23.11	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-009	Date Collected:	11.04.19 11.30	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.05.19 21.04	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.05.19 21.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.05.19 21.04	
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.05.19 21.04	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-010	Date Collected:	11.04.19 11.33	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.3**	9.94	mg/kg	11.05.19 19.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.05.19 23.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.05.19 23.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.05.19 23.50	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.05.19 23.50	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.05.19 23.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	11.05.19 23.50	
o-Terphenyl	84-15-1	112	%	70-135	11.05.19 23.50	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-010	Date Collected:	11.04.19 11.33	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.05.19 22.19	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.05.19 22.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.05.19 22.19	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.05.19 22.19	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-011	Date Collected:	11.04.19 16.06	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**30.7**	9.94	mg/kg	11.05.19 20.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.06.19 00.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.06.19 00.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.06.19 00.10	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.06.19 00.10	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.06.19 00.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	11.06.19 00.10	
o-Terphenyl	84-15-1	109	%	70-135	11.06.19 00.10	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-011	Date Collected:	11.04.19 16.06	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.05.19 22.39	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.05.19 22.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.05.19 22.39	
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.05.19 22.39	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-012	Date Collected:	11.04.19 16.08	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.6**	10.0	mg/kg	11.05.19 20.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.06.19 00.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.06.19 00.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.06.19 00.29	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.06.19 00.29	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.06.19 00.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	11.06.19 00.29	
o-Terphenyl	84-15-1	108	%	70-135	11.06.19 00.29	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-012	Date Collected:	11.04.19 16.08	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.06.19 12.02	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.06.19 12.02	U	1
Ethylbenzene	100-41-4	**0.00106**	0.00100	mg/kg	11.06.19 12.02		1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.06.19 12.02	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.06.19 12.02	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.06.19 12.02	U	1
Total BTEX		**0.00106**	0.00100	mg/kg	11.06.19 12.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.06.19 12.02	
4-Bromofluorobenzene	460-00-4	108	%	70-130	11.06.19 12.02	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-013	Date Collected:	11.05.19 09.53	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 15.11	Basis:	Wet Weight
Seq Number:	3106586				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.2**	10.1	mg/kg	11.05.19 20.44		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.05.19 17.00	Basis:	Wet Weight
Seq Number:	3106557				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.06.19 00.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.06.19 00.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.06.19 00.49	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.06.19 00.49	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.06.19 00.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	11.06.19 00.49	
o-Terphenyl	84-15-1	111	%	70-135	11.06.19 00.49	

Certificate of Analytical Results 642108

LT Environmental, Inc., Arvada, CO

EMSU 306

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	11.05.19 13.53
Lab Sample Id:	642108-013	Date Collected:	11.05.19 09.53	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.05.19 16.11	Basis:	Wet Weight
Seq Number:	3106576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	11.06.19 12.22	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1
Total BTEX		<0.000994	0.000994	mg/kg	11.06.19 12.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	11.06.19 12.22	
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.06.19 12.22	

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 642108

LT Environmental, Inc.

EMSU 306

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106586 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689648-1-BLK — LCS Sample Id: 7689648-1-BKS — LCSD Sample Id: 7689648-1-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	234	94	238	95	90-110	2	20	mg/kg	11.05.19 18:07	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106586 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642106-001 — MS Sample Id: 642106-001 S — MSD Sample Id: 642106-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.55	199	216	105	218	106	90-110	1	20	mg/kg	11.05.19 18:26	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106586 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642108-010 — MS Sample Id: 642108-010 S — MSD Sample Id: 642108-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	20.3	200	231	105	235	107	90-110	2	20	mg/kg	11.05.19 20:03	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106557 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689689-1-BLK — LCS Sample Id: 7689689-1-BKS — LCSD Sample Id: 7689689-1-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	952	95	932	93	70-135	2	35	mg/kg	11.05.19 18:37	
Diesel Range Organics (DRO)	<11.5	1000	1060	106	1020	102	70-135	4	35	mg/kg	11.05.19 18:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		124		133		70-135	%	11.05.19 18:37
o-Terphenyl	117		124		123		70-135	%	11.05.19 18:37

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106557 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689689-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.05.19 18:17	

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 642108

LT Environmental, Inc.

EMSU 306

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106557 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642106-001 — MS Sample Id: 642106-001 S — MSD Sample Id: 642106-001 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	939	94	70-135	14	35	mg/kg	11.05.19 19:55	
Diesel Range Organics (DRO)	83.3	1000	1560	148	1400	132	70-135	11	35	mg/kg	11.05.19 19:55	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	156	**	133		70-135	%	11.05.19 19:55
o-Terphenyl	134		115		70-135	%	11.05.19 19:55

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106576 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689666-1-BLK — LCS Sample Id: 7689666-1-BKS — LCSD Sample Id: 7689666-1-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	0.0965	97	0.0867	87	70-130	11	35	mg/kg	11.05.19 16:04	
Toluene	<0.00100	0.100	0.0967	97	0.0873	87	70-130	10	35	mg/kg	11.05.19 16:04	
Ethylbenzene	<0.00100	0.100	0.0999	100	0.0897	90	71-129	11	35	mg/kg	11.05.19 16:04	
m,p-Xylenes	<0.00200	0.200	0.202	101	0.183	92	70-135	10	35	mg/kg	11.05.19 16:04	
o-Xylene	<0.00100	0.100	0.101	101	0.0924	92	71-133	9	35	mg/kg	11.05.19 16:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		100		99		70-130	%	11.05.19 16:04
4-Bromofluorobenzene	106		105		106		70-130	%	11.05.19 16:04

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106576 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642106-001 — MS Sample Id: 642106-001 S — MSD Sample Id: 642106-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0665	67	0.100	100	70-130	40	35	mg/kg	11.05.19 16:45	XF
Toluene	<0.00100	0.100	0.0568	57	0.0953	95	70-130	51	35	mg/kg	11.05.19 16:45	XF
Ethylbenzene	<0.00100	0.100	0.0493	49	0.0893	89	71-129	58	35	mg/kg	11.05.19 16:45	XF
m,p-Xylenes	<0.00200	0.200	0.0987	49	0.179	90	70-135	58	35	mg/kg	11.05.19 16:45	XF
o-Xylene	<0.00100	0.100	0.0496	50	0.0889	89	71-133	57	35	mg/kg	11.05.19 16:45	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		70-130	%	11.05.19 16:45
4-Bromofluorobenzene	104		102		70-130	%	11.05.19 16:45

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: 642108

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

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

Work Order Comments

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

Project Name:	EMSU 306	Turn Around	
Project Number:	012919066	Routine ☐	
P.O. Number:	IRP - 5457	Rush: 2 days	
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	TNM 007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	13

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SW01	S	11/4/19	0922	0-1'	1	X	X	X
SW02			0927	0-1'				
FS04			1002	1'				
FS05			1010					
FS06			1013					
FS07			1108					
FS08			1112					
SW03			1127	0-1'				
SW04			1130					
SW05			1133					

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		11/5/19 1353	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Chain of Custody

Work Order No: 642108

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)

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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 306	Turn Around	
Project Number:	012919066	Routine ☐	
P.O. Number:	IRP-5457	Rush: 2 days	
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)
FS09	S	11/4/19	1606	1'	1	X	X	X
FS10	S	11/4/19	1608	1'	1	X	X	X
SW06	S	11/5/19	0953	0-1'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			11/5/19 1353	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/05/2019 01:53:00 PM

Work Order #: 642108

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)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 11/05/2019

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

Jessica Kramer