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

April 19, 2019

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

RE: Closure Request
Remuda North 25 State 122H
Remediation Permit Number 2RP-4968
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing excavation of impacted soil and confirmation soil sampling activities at the Remuda North 25 State 122H (Site) in Unit L, Section 25, Township 23 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impacts to soil after a release from an acid tank at the Site.

On August 28, 2018, a faulty internal acid tank liner caused the release of 20 barrels (bbls) of acid mixture into the lined containment surrounding the acid tank. A hole in the containment allowed 1 bbl of fluid to escape onto the surface of the well pad. The remaining fluid in the compromised tank and containment was recovered; approximately 19 bbls of released fluid were recovered. The tank and containment were both replaced. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on September 12, 2018, and was assigned Remediation Permit (RP) Number 2RP-4968 (Attachment 1). Based on the excavation activities and results of the confirmation soil sampling events, XTO is submitting this closure report and requesting no further action for this release event.

BACKGROUND

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 less than 50 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well is United States Geological Survey (USGS) well 321717103561001 23S.29E.24.41321, located approximately 0.97 miles northeast of the Site, with a depth to groundwater of 50.26 feet bgs. The total depth is not determined. The water well is approximately 34 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash located approximately 964 feet northeast 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 medium karst area. Based on these criteria, the following NMOCD Table 1 closure criteria were applied: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 100 mg/kg total petroleum hydrocarbons (TPH); and 600 mg/kg chloride.

PRELIMINARY SOIL SAMPLING ACTIVITIES

On October 16, 2018, LTE personnel inspected the Site to evaluate the release extent. Surface staining was observed in the release area on the well pad. The release extent was mapped using a handheld Global Positing System (GPS) unit and is depicted on Figure 2. An LTE scientist collected five preliminary characterization soil samples (SS01 through SS05) within the release area from a depth of 0.5 feet bgs to assess the lateral extent of impacted soil. The soil sample locations were selected based on field observations and the documented release area. The soil sample locations and depths are presented on Figure 2.

The soil samples were screened for volatile aromatic hydrocarbons and chlorides using a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips. The soil samples were placed directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis, and immediately placed on ice. The samples were shipped to Xenco Laboratories (Xenco) in Midland, Texas, at 4 degrees Celsius (°C) under strict chain-of-custody procedures for analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021B, TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) by EPA Method 8015 Modified, and chloride by EPA Method 300.0.

Laboratory analytical results for soil samples SS02 and SS05 indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Laboratory analytical results for soil samples SS01, SS03, and SS04 indicated that TPH or chloride concentrations exceeded the NMOCD Table 1 closure criteria. Based on the laboratory analytical results, soil excavation was required. Laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the laboratory analytical report is included in Attachment 2.

DELINEATION ACTIVITIES

During February and March 2019, upon removal of the temporary tank and containment, LTE personnel returned to the Site to oversee potholing and excavation activities. Potholes were advanced via backhoe at four of the preliminary soil sample locations (SS01 through SS04) and potholes PH01 through PH03 were advanced via backhoe along the northern release extent to further delineate the lateral and vertical extent of impacted soil and help guide excavation activities, which occurred simultaneously. Soil was field screened in each pothole using a PID and

Hach® chloride QuanTab® test strips. Two delineation soil samples were collected from each pothole PH01 through PH03 from depths ranging from 0.5 feet to 2 feet bgs. Two delineation soil samples were collected each pothole SS01 through SS04 from depths of 2 feet and 4.5 feet bgs. The delineation soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Midland, Texas. The delineation soil sample locations and depths are presented on Figure 2 and soil sample logs are included as Attachment 3.

Laboratory analytical results for delineation soil samples SS01B, SS02A, SS02B, SS03B, SS04A, SS04B, PH01, PH01A, PH02, PH02A, PH03, and PH03A collected from depths ranging from 0.5 feet to 4.5 feet bgs indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Laboratory analytical results for delineation soil samples SS01A and SS03A collected from a depth of 2 feet bgs indicated that chloride concentrations exceeded the NMOCD Table 1 closure criteria. Laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the laboratory analytical report is included in Attachment 2.

EXCAVATION ACTIVITIES

During February and March 2019, LTE personnel was at the Site to oversee excavation of impacted soil as indicated by potholing and field screening activities, laboratory analytical results, and the documented release area. To delineate hydrocarbon and chloride impacts to soil and direct excavation activities, LTE screened soil using a PID and Hach® chloride QuanTab® test strips. Impacted soil was excavated from the release area to a depth ranging from 6 feet to 10 feet bgs. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by depositing 5 aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS17 were collected from the floor of the excavation from depths ranging from 6 feet to 10 feet bgs. Composite soil samples SW01 through SW18 were collected from the sidewalls of the excavation from depths ranging from 0 to 10 feet bgs. The excavation soil sample locations and depths are presented on Figure 3.

The excavation measured approximately 5,370 square feet in area and was completed to a depth of 6 feet to 10 feet bgs. The horizontal extent of the excavation is illustrated on Figure 3. A total of approximately 1,760 cubic yards of impacted soil was removed from the excavation. The impacted soil will be transported and properly disposed of at the Lea Land Disposal Facility in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results indicated that TPH or chloride concentrations initially exceeded the NMOCD Table 1 closure criteria in preliminary soil samples SS01, SS03, and SS04 and pothole soil

samples SS01A and SS03A. Impacted soil was excavated from the release area to a depth ranging from 6 feet to 10 feet bgs. Laboratory analytical results indicated that chloride concentrations initially exceeded the NMOCD Table 1 closure criteria in excavation sidewall samples SW02, SW03, and SW04. The excavation was extended laterally in those areas and laboratory analytical results for the excavation sidewall samples and excavation floor samples collected from the final excavation extent indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Based on the laboratory analytical results, no further excavation was required. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 2.

CONCLUSIONS

Impacted soil was excavated from the release area and laboratory analytical results for the confirmation soil samples collected from the final excavation extent indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for this release. Upon approval of the no further action request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included as Attachment 1. A photographic log of the Site is included as Attachment 4.

If you have any questions or comments, please do not hesitate to contact Ms. Adrian Baker at (432) 887-1255 or abaker@ltenv.com.

Sincerely,

LT ENVIRONMENTAL, INC.

Adrian Baker
Project Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO Energy, Inc.
Robert Hamlet, NMOCD
Ryan Mann, State Land Office

Attachments:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Figure 3	Excavation Soil Sample Locations

Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-4968)
Attachment 2 Laboratory Analytical Reports
Attachment 3 Soil Sample Logs
Attachment 4 Photographic Log

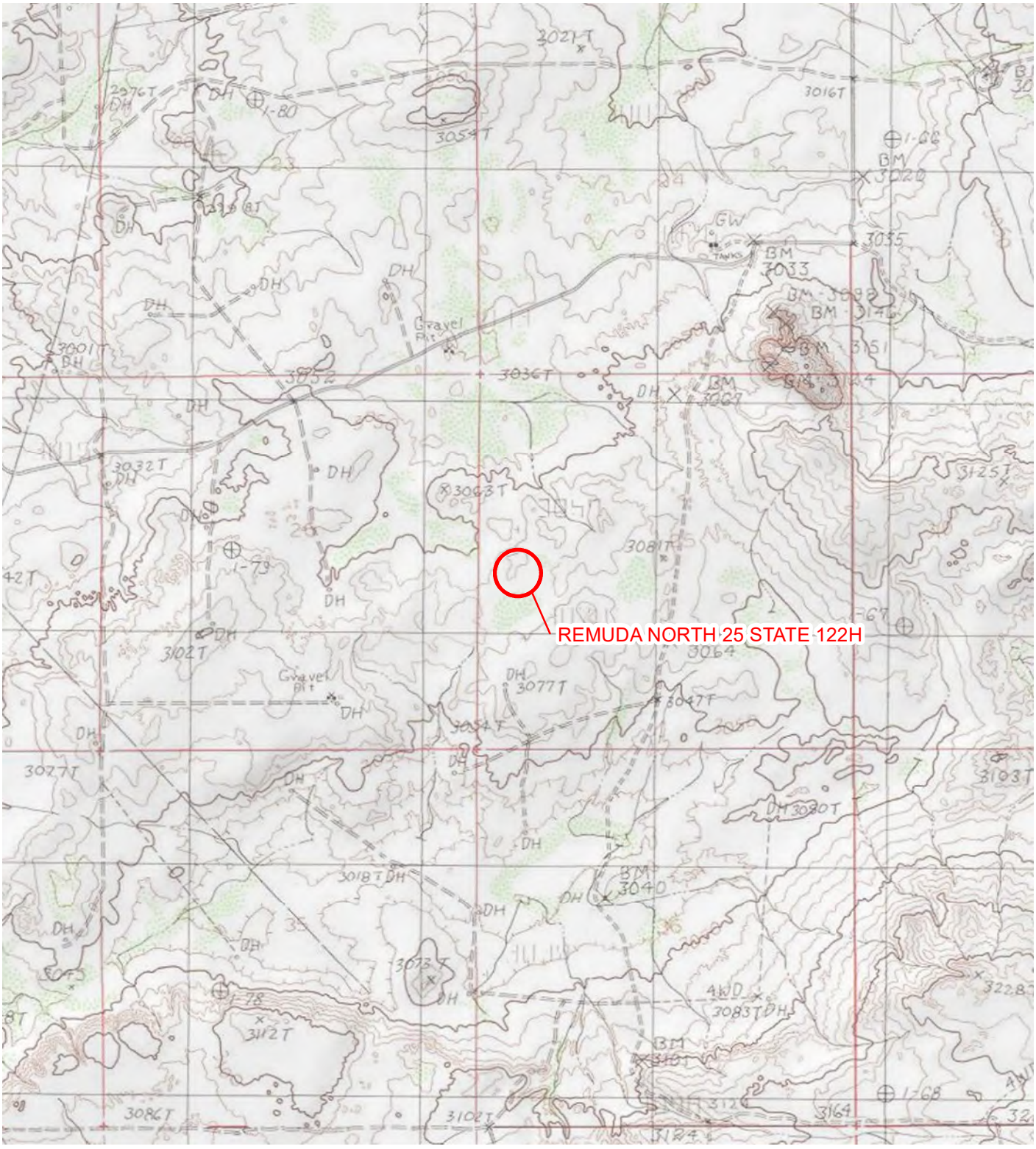


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

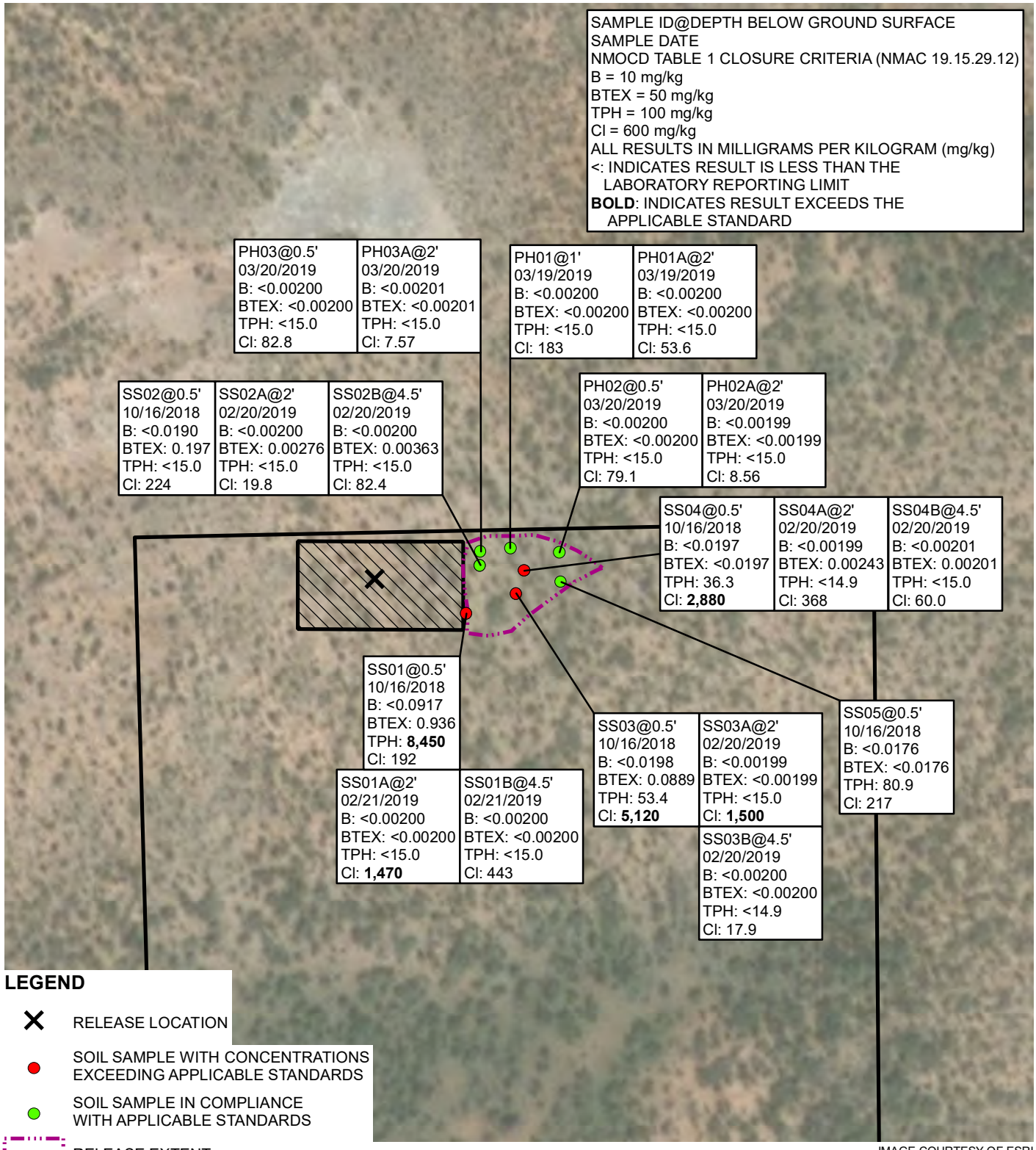
N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-4968

FIGURE 1
SITE LOCATION MAP
REMUDA NORTH 25 STATE 122H
UNIT L SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

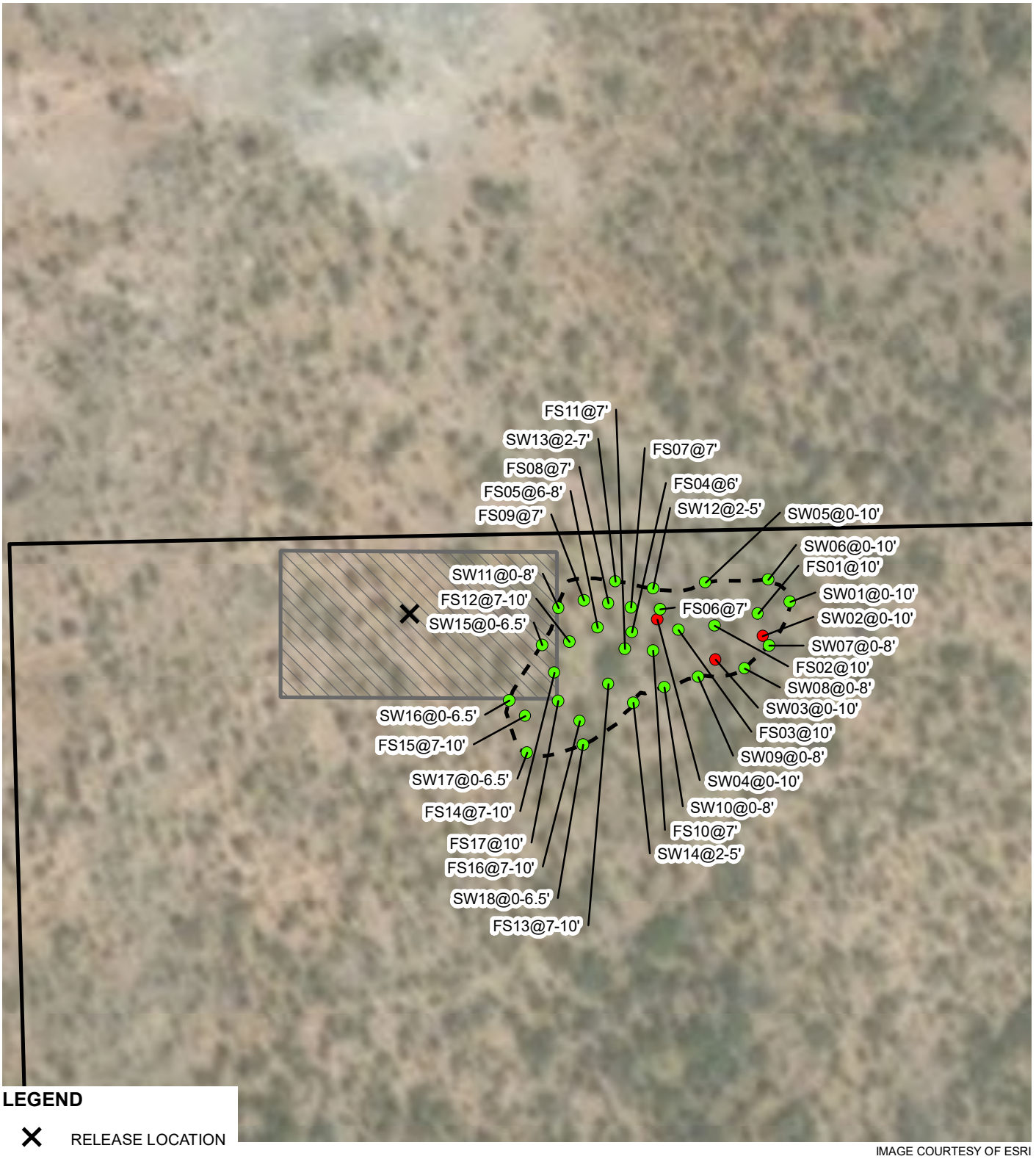
P:\XTO Energy\GIS\MXD\012918154_REMUDA NORTH 25 STATE 122H\012918154_FIG01_SL_2018_4968.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-4968

FIGURE 2
SOIL SAMPLE LOCATIONS
REMUDA NORTH 25 STATE 122H
UNIT L SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918154_REMUDA NORTH 25 STATE 122H\012918154_FIG02_SS LOC_2019_4968.mxd



LEGEND

- RELEASE LOCATION
- EXCAVATION SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE STANDARDS
- EXCAVATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE STANDARDS
- EXCAVATION EXTENT
- APPROXIMATE PAD BOUNDARY
- FORMER TANK CONTAINMENT

NOTE: REMEDIATION PERMIT NUMBER 2RP-4968

IMAGE COURTESY OF ESRI

0 60 120
Feet

N

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
REMUDA NORTH 25 STATE 122H
UNIT L SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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TABLE 1
SOIL ANALYTICAL RESULTS

REMUDA NORTH 25 STATE 122H
REMEDIATION PERMIT NUMBER 2RP-4968
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 GRO (mg/kg)	C10-C28 DRO (mg/kg)	C28-C40 ORO (mg/kg)	GRO and DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	10/16/2018	<0.0917	<0.0917	0.193	0.743	0.936	434	8,020	<74.9	8,450	**8,450**	192
SS02	0.5	10/16/2018	<0.0190	<0.0190	<0.0190	0.197	0.197	<15.0	<15.0	<15.0	<15.0	<15.0	224
SS03	0.5	10/16/2018	<0.0198	<0.0198	<0.0198	0.0889	0.0889	<15.0	53.4	<15.0	53.4	53.4	**5,120**
SS04	0.5	10/16/2018	<0.0197	<0.0197	<0.0197	<0.0197	<0.0197	<15.0	36.3	<15.0	36.3	36.3	**2,880**
SS05	0.5	10/16/2018	<0.0176	<0.0176	<0.0176	<0.0176	<0.0176	<15.0	80.9	<15.0	80.9	80.9	217
SS02A	2	02/20/2019	<0.00200	0.00276	<0.00200	<0.00200	0.00276	<15.0	<15.0	<15.0	<15.0	<15.0	19.8
SS02B	4.5	02/20/2019	<0.00200	0.00363	<0.00200	<0.00200	0.00363	<15.0	<15.0	<15.0	<15.0	<15.0	82.4
SS03A	2	02/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	**1,500**
SS03B	4.5	02/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	17.9
SS04A	2	02/20/2019	<0.00199	0.00243	<0.00199	<0.00199	0.00243	<14.9	<14.9	<14.9	<14.9	<14.9	368
SS04B	4.5	02/20/2019	<0.00201	0.00201	<0.00201	<0.00201	0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	60.0
FS01	10	02/22/2019	<0.00202	0.00213	<0.00202	<0.00202	0.00213	<15.0	<15.0	<15.0	<15.0	<15.0	273
FS02	10	02/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	334
FS03	10	02/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	115
SS01A	2	02/21/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	**1,470**
SS01B	4.5	02/21/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	443
SW01	0 - 10	02/22/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	237
SW02	0 - 10	02/22/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	**737**
SW03	0 - 10	02/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	**697**
SW04	0 - 10	02/22/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	**992**
SW05	0 - 10	02/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	25.3
SW06	0 - 10	02/22/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	437
SW07	0 - 8	03/18/2019	<0.00200	0.00229	<0.00200	<0.00200	0.00229	<15.0	<15.0	<15.0	<15.0	<15.0	143
SW08	0 - 8	03/18/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	70.7
PH01	1	03/19/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	183
PH01A	2	03/19/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	53.6
SW09	0 - 8	03/19/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	98.8

TABLE 1 (Continued)
SOIL ANALYTICAL RESULTS

REMUDA NORTH 25 STATE 122H
REMEDIATION PERMIT NUMBER 2RP-4968
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 GRO (mg/kg)	C10-C28 DRO (mg/kg)	C28-C40 ORO (mg/kg)	GRO and DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SW10	0 - 8	03/19/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	68.5
SW11	0 - 8	03/19/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	66.6
PH02	0.5	03/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	79.1
PH02A	2	03/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	8.56
PH03	0.5	03/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	82.8
PH03A	2	03/20/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	7.57
FS04	6	03/22/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	12.5
FS05	6 - 8	03/22/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	96.7
SW12	2 - 5	03/22/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	<4.95
SW13	2 - 7	03/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	56.2
SW14	2 - 5	03/22/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	180
FS06	7	03/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	341
FS07	7	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	70.6
FS08	7	03/25/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	76.7
FS09	7	03/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	184
FS10	7	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	200
FS11	7	03/25/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	175
FS12	7 - 10	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	88.1
SW15	0 - 6.5	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	284
SW16	0 - 6.5	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	16.3	<15.0	16.3	16.3	131
SW17	0 - 6.5	03/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	159
SW18	0 - 6.5	03/25/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	61.1
FS13	7 - 10	03/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	223
FS14	7 - 10	03/26/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	186
FS15	7 - 10	03/26/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	170
FS16	7 - 10	03/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	188
FS17	10	03/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	132

TABLE 1 (Continued)
SOIL ANALYTICAL RESULTS

REMUDA NORTH 25 STATE 122H
REMEDIATION PERMIT NUMBER 2RP-4968
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 GRO (mg/kg)	C10-C28 DRO (mg/kg)	C28-C40 ORO (mg/kg)	GRO and DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	NE	100	600

Notes:
bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
mg/kg - milligrams per kilogram
NE - not established
NMOCD - New Mexico Oil Conservation Division
DRO - diesel range organics
GRO - gasoline range organics
ORO - oil range organics
TPH - total petroleum hydrocarbons
< - indicates result is below laboratory reporting limits
Bold - indicates result exceeds the applicable regulatory standard
* - indicates sample was collected in area to be reclaimed after remediation is complete; closure criteria for chloride concentration in the top 4 feet of soil is 600 mg/kgTable 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018 NMAC - New Mexico Administrative Code

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	NMAP1825553144
District RP	2RP-4968
Facility ID	N/A
Application ID	pMAP1825552716

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 32.27534 Longitude -103.94429
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Remuda North 25 State 122H	Site Type Production well
Date Release Discovered 8/28/2018	API# *(if applicable)* 30-015-44307

Unit Letter	Section	Township	Range	County
L	25	23S	29E	Eddy

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)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	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)
10% HCl fluid	20 bbls	19 bbls

Cause of Release

Acid mixture was released due to a faulty internal acid tank liner. The leaked fluid escaped into lined containment surrounding the acid tank. One barrel of fluid then escaped the lined containment to the well pad through a hole in the containment. The fluid remaining within the compromised tank and containmnent was recovered. The tank and containment were both replaced. An environmental contractor will be retained to assist with remediation efforts when well work at the location is complete.

State of New Mexico
Oil Conservation Division

Incident ID	NMAP1825553144
District RP	2RP-4968
Facility ID	N/A
Application ID	pMAP1825552716

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:

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

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature:  Date: 9-12-18

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

OCD Only

Received by:  Date: 09/12/18

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4968
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?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4968
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: 9-12-18

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4968
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.***

[X] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[X] 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)

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

[X] 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 Coordinator

Signature: Date: 4/19/2019

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

OCD Only

Received by: Date:

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

Closure Approved by: Date:

Printed Name: Title:

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

Analytical Report 602717

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda N 25 State 122H

25-OCT-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

25-OCT-18

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

Reference: XENCO Report No(s): **602717**
Remuda N 25 State 122H
Project Address: Carlsbad, 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) 602717. 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. 602717 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 602717

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	10-16-18 11:40	6 In	602717-001
SS02	S	10-16-18 11:50	6 In	602717-002
SS03	S	10-16-18 12:00	6 In	602717-003
SS04	S	10-16-18 12:05	6 In	602717-004
SS05	S	10-16-18 12:15	6 In	602717-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Remuda N 25 State 122H

Project ID:
Work Order Number(s): *602717*

Report Date: *25-OCT-18*
Date Received: *10/18/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3067038 BTEX by EPA 8021B
Sample 602717-001 was diluted due to hydrocarbons.

Batch: LBA-3067092 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 602717-001.

Certificate of Analysis Summary 602717

LT Environmental, Inc., Arvada, CO

Project Name: Remuda N 25 State 122H

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Thu Oct-18-18 10:40 am
Report Date: 25-OCT-18
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	602717-001		602717-002		602717-003		602717-004		602717-005	
	Field Id:	SS01		SS02		SS03		SS04		SS05	
	Depth:	6- In		6- In		6- In		6- In		6- In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-16-18 11:40		Oct-16-18 11:50		Oct-16-18 12:00		Oct-16-18 12:05		Oct-16-18 12:15	
BTEX by EPA 8021B SUB: T104704219-18-18	***Extracted:***	Oct-19-18 12:30		Oct-19-18 12:30		Oct-19-18 12:30		Oct-19-18 12:30		Oct-19-18 12:30	
	Analyzed:	Oct-21-18 01:53		Oct-21-18 02:17		Oct-21-18 02:42		Oct-21-18 03:06		Oct-21-18 03:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0917	0.0917	<0.0190	0.0190	<0.0198	0.0198	<0.0197	0.0197	<0.0176	0.0176
Toluene		<0.0917	0.0917	<0.0190	0.0190	<0.0198	0.0198	<0.0197	0.0197	<0.0176	0.0176
Ethylbenzene		0.193	0.0917	<0.0190	0.0190	<0.0198	0.0198	<0.0197	0.0197	<0.0176	0.0176
m,p-Xylenes		0.321	0.183	0.197	0.0380	0.0889	0.0395	<0.0394	0.0394	<0.0353	0.0353
o-Xylene		0.422	0.0917	<0.0190	0.0190	<0.0198	0.0198	<0.0197	0.0197	<0.0176	0.0176
Total Xylenes		0.743	0.0917	0.197	0.0190	0.0889	0.0198	<0.0197	0.0197	<0.0176	0.0176
Total BTEX		0.936	0.0917	0.197	0.0190	0.0889	0.0198	<0.0197	0.0197	<0.0176	0.0176
Inorganic Anions by EPA 300 SUB: T104704219-18-18	***Extracted:***	Oct-19-18 11:00		Oct-19-18 10:30		Oct-19-18 11:00		Oct-19-18 10:30		Oct-19-18 11:00	
	Analyzed:	Oct-19-18 17:57		Oct-22-18 13:59		Oct-19-18 18:22		Oct-22-18 14:12		Oct-19-18 18:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		192	125	224	25.0	5120	1250	2880	250	217	125
TPH by SW8015 Mod	***Extracted:***	Oct-19-18 16:00		Oct-19-18 16:00		Oct-19-18 16:00		Oct-19-18 16:00		Oct-19-18 16:00	
	Analyzed:	Oct-20-18 08:20		Oct-20-18 01:06		Oct-20-18 01:27		Oct-20-18 01:48		Oct-20-18 02:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		434	74.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		8020	74.9	<15.0	15.0	53.4	15.0	36.3	15.0	80.9	15.0
Motor Oil Range Hydrocarbons (MRO)		<74.9	74.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		8450	74.9	<15.0	15.0	53.4	15.0	36.3	15.0	80.9	15.0

Jessica Kramer
Project Assistant

Certificate of Analytical Results 602717

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	10.18.18 10.40
Lab Sample Id:	602717-001	Date Collected:	10.16.18 11.40	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	10.19.18 11.00	Basis:	Wet Weight
Seq Number:	3067028			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**192**	125	mg/kg	10.19.18 17.57		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.19.18 16.00	Basis:	Wet Weight
Seq Number:	3067092				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**434**	74.9	mg/kg	10.20.18 08.20		5
Diesel Range Organics (DRO)	C10C28DRO	**8020**	74.9	mg/kg	10.20.18 08.20		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<74.9	74.9	mg/kg	10.20.18 08.20	U	5
Total TPH	PHC635	**8450**	74.9	mg/kg	10.20.18 08.20		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	10.20.18 08.20	
o-Terphenyl	84-15-1	214	%	70-135	10.20.18 08.20	**

Certificate of Analytical Results 602717

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	10.18.18 10.40
Lab Sample Id:	602717-001	Date Collected:	10.16.18 11.40	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.19.18 12.30	Basis:	Wet Weight
Seq Number:	3067038			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0917	0.0917	mg/kg	10.21.18 01.53	U	5
Toluene	108-88-3	<0.0917	0.0917	mg/kg	10.21.18 01.53	U	5
Ethylbenzene	100-41-4	**0.193**	0.0917	mg/kg	10.21.18 01.53		5
m,p-Xylenes	179601-23-1	**0.321**	0.183	mg/kg	10.21.18 01.53		5
o-Xylene	95-47-6	**0.422**	0.0917	mg/kg	10.21.18 01.53		5
Total Xylenes	1330-20-7	**0.743**	0.0917	mg/kg	10.21.18 01.53		5
Total BTEX		**0.936**	0.0917	mg/kg	10.21.18 01.53		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	10.21.18 01.53	
a,a,a-Trifluorotoluene	98-08-8	84	%	71-121	10.21.18 01.53	

Certificate of Analytical Results 602717

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	10.18.18 10.40
Lab Sample Id:	602717-002	Date Collected:	10.16.18 11.50	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	10.19.18 10.30	Basis:	Wet Weight
Seq Number:	3067146			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**224**	25.0	mg/kg	10.22.18 13.59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.19.18 16.00	Basis:	Wet Weight
Seq Number:	3067092				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.20.18 01.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.20.18 01.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.20.18 01.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.20.18 01.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.20.18 01.06	
o-Terphenyl	84-15-1	98	%	70-135	10.20.18 01.06	

Certificate of Analytical Results 602717

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	10.18.18 10.40
Lab Sample Id:	602717-002	Date Collected:	10.16.18 11.50	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.19.18 12.30	Basis:	Wet Weight
Seq Number:	3067038			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0190	0.0190	mg/kg	10.21.18 02.17	U	1
Toluene	108-88-3	<0.0190	0.0190	mg/kg	10.21.18 02.17	U	1
Ethylbenzene	100-41-4	<0.0190	0.0190	mg/kg	10.21.18 02.17	U	1
m,p-Xylenes	179601-23-1	**0.197**	0.0380	mg/kg	10.21.18 02.17		1
o-Xylene	95-47-6	<0.0190	0.0190	mg/kg	10.21.18 02.17	U	1
Total Xylenes	1330-20-7	**0.197**	0.0190	mg/kg	10.21.18 02.17		1
Total BTEX		**0.197**	0.0190	mg/kg	10.21.18 02.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	68-120	10.21.18 02.17	
a,a,a-Trifluorotoluene	98-08-8	107	%	71-121	10.21.18 02.17	

Certificate of Analytical Results 602717

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	10.18.18 10.40
Lab Sample Id:	602717-003	Date Collected:	10.16.18 12.00	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	10.19.18 11.00	Basis:	Wet Weight
Seq Number:	3067028			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5120**	1250	mg/kg	10.19.18 18.22		50

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.19.18 16.00	Basis:	Wet Weight
Seq Number:	3067092				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.20.18 01.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	**53.4**	15.0	mg/kg	10.20.18 01.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.20.18 01.27	U	1
Total TPH	PHC635	**53.4**	15.0	mg/kg	10.20.18 01.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	10.20.18 01.27	
o-Terphenyl	84-15-1	102	%	70-135	10.20.18 01.27	

Certificate of Analytical Results 602717

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	10.18.18 10.40
Lab Sample Id:	602717-003	Date Collected:	10.16.18 12.00	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.19.18 12.30	Basis:	Wet Weight
Seq Number:	3067038			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0198	0.0198	mg/kg	10.21.18 02.42	U	1
Toluene	108-88-3	<0.0198	0.0198	mg/kg	10.21.18 02.42	U	1
Ethylbenzene	100-41-4	<0.0198	0.0198	mg/kg	10.21.18 02.42	U	1
m,p-Xylenes	179601-23-1	**0.0889**	0.0395	mg/kg	10.21.18 02.42		1
o-Xylene	95-47-6	<0.0198	0.0198	mg/kg	10.21.18 02.42	U	1
Total Xylenes	1330-20-7	**0.0889**	0.0198	mg/kg	10.21.18 02.42		1
Total BTEX		**0.0889**	0.0198	mg/kg	10.21.18 02.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	68-120	10.21.18 02.42	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	10.21.18 02.42	

Certificate of Analytical Results 602717

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	10.18.18 10.40
Lab Sample Id:	602717-004	Date Collected:	10.16.18 12.05	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	10.19.18 10.30	Basis:	Wet Weight
Seq Number:	3067146			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2880**	250	mg/kg	10.22.18 14.12		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.19.18 16.00	Basis:	Wet Weight
Seq Number:	3067092				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.20.18 01.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**36.3**	15.0	mg/kg	10.20.18 01.48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.20.18 01.48	U	1
Total TPH	PHC635	**36.3**	15.0	mg/kg	10.20.18 01.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	10.20.18 01.48	
o-Terphenyl	84-15-1	97	%	70-135	10.20.18 01.48	

Certificate of Analytical Results 602717

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	10.18.18 10.40
Lab Sample Id:	602717-004	Date Collected:	10.16.18 12.05	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.19.18 12.30	Basis:	Wet Weight
Seq Number:	3067038			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.21.18 03.06	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	10.21.18 03.06	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.21.18 03.06	U	1
m,p-Xylenes	179601-23-1	<0.0394	0.0394	mg/kg	10.21.18 03.06	U	1
o-Xylene	95-47-6	<0.0197	0.0197	mg/kg	10.21.18 03.06	U	1
Total Xylenes	1330-20-7	<0.0197	0.0197	mg/kg	10.21.18 03.06	U	1
Total BTEX		<0.0197	0.0197	mg/kg	10.21.18 03.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	68-120	10.21.18 03.06	
a,a,a-Trifluorotoluene	98-08-8	93	%	71-121	10.21.18 03.06	

Certificate of Analytical Results 602717

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	10.18.18 10.40
Lab Sample Id:	602717-005	Date Collected:	10.16.18 12.15	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	10.19.18 11.00	Basis:	Wet Weight
Seq Number:	3067028			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**217**	125	mg/kg	10.19.18 18.47		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.19.18 16.00	Basis:	Wet Weight
Seq Number:	3067092				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.20.18 02.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	**80.9**	15.0	mg/kg	10.20.18 02.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.20.18 02.09	U	1
Total TPH	PHC635	**80.9**	15.0	mg/kg	10.20.18 02.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	10.20.18 02.09	
o-Terphenyl	84-15-1	101	%	70-135	10.20.18 02.09	

Certificate of Analytical Results 602717

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	10.18.18 10.40
Lab Sample Id:	602717-005	Date Collected:	10.16.18 12.15	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.19.18 12.30	Basis:	Wet Weight
Seq Number:	3067038			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0176	0.0176	mg/kg	10.21.18 03.30	U	1
Toluene	108-88-3	<0.0176	0.0176	mg/kg	10.21.18 03.30	U	1
Ethylbenzene	100-41-4	<0.0176	0.0176	mg/kg	10.21.18 03.30	U	1
m,p-Xylenes	179601-23-1	<0.0353	0.0353	mg/kg	10.21.18 03.30	U	1
o-Xylene	95-47-6	<0.0176	0.0176	mg/kg	10.21.18 03.30	U	1
Total Xylenes	1330-20-7	<0.0176	0.0176	mg/kg	10.21.18 03.30	U	1
Total BTEX		<0.0176	0.0176	mg/kg	10.21.18 03.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	68-120	10.21.18 03.30	
a,a,a-Trifluorotoluene	98-08-8	85	%	71-121	10.21.18 03.30	

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 602717

LT Environmental, Inc.

Remuda N 25 State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3067146 Matrix: Solid Date Prep: 10.19.18
MB Sample Id: 7664617-1-BLK LCS Sample Id: 7664617-1-BKS LCSD Sample Id: 7664617-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.572	250	242	97	236	94	90-110	3	20	mg/kg	10.22.18 12:20	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3067028 Matrix: Solid Date Prep: 10.19.18
MB Sample Id: 7664554-1-BLK LCS Sample Id: 7664554-1-BKS LCSD Sample Id: 7664554-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.26	250	246	98	239	96	90-110	3	20	mg/kg	10.19.18 16:43	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3067146 Matrix: Soil Date Prep: 10.19.18
Parent Sample Id: 602722-008 MS Sample Id: 602722-008 S MSD Sample Id: 602722-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	329	250	594	106	561	93	80-120	6	20	mg/kg	10.22.18 13:10	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3067028 Matrix: Soil Date Prep: 10.19.18
Parent Sample Id: 602716-012 MS Sample Id: 602716-012 S MSD Sample Id: 602716-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	383	250	628	98	648	106	80-120	3	20	mg/kg	10.19.18 17:33	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3067028 Matrix: Soil Date Prep: 10.19.18
Parent Sample Id: 602719-002 MS Sample Id: 602719-002 S MSD Sample Id: 602719-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	36.9	250	277	96	275	95	80-120	1	20	mg/kg	10.19.18 20:39	

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

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

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

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

QC Summary 602717

LT Environmental, Inc.

Remuda N 25 State 122H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3067092 Matrix: Solid Date Prep: 10.19.18
MB Sample Id: 7664522-1-BLK LCS Sample Id: 7664522-1-BKS LCSD Sample Id: 7664522-1-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)	8.13	1000	932	93	947	95	70-135	2	20	mg/kg	10.19.18 09:21	
Diesel Range Organics (DRO)	<8.13	1000	932	93	948	95	70-135	2	20	mg/kg	10.19.18 09:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		126		127		70-135	%	10.19.18 09:21
o-Terphenyl	98		103		103		70-135	%	10.19.18 09:21

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3067092 Matrix: Soil Date Prep: 10.19.18
Parent Sample Id: 602722-001 MS Sample Id: 602722-001 S MSD Sample Id: 602722-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	14.2	999	918	90	941	93	70-135	2	20	mg/kg	10.19.18 20:12	
Diesel Range Organics (DRO)	<8.12	999	918	92	940	94	70-135	2	20	mg/kg	10.19.18 20:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		126		70-135	%	10.19.18 20:12
o-Terphenyl	103		99		70-135	%	10.19.18 20:12

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3067038 Matrix: Solid Date Prep: 10.19.18
MB Sample Id: 7664511-1-BLK LCS Sample Id: 7664511-1-BKS LCSD Sample Id: 7664511-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.87	94	1.81	91	55-120	3	20	mg/kg	10.20.18 17:50	
Toluene	<0.0200	2.00	1.83	92	1.77	89	77-120	3	20	mg/kg	10.20.18 17:50	
Ethylbenzene	<0.0200	2.00	2.00	100	1.86	93	77-120	7	20	mg/kg	10.20.18 17:50	
m,p-Xylenes	<0.0400	4.00	3.95	99	3.67	92	78-120	7	20	mg/kg	10.20.18 17:50	
o-Xylene	<0.0200	2.00	1.94	97	1.84	92	78-120	5	20	mg/kg	10.20.18 17:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		86		92		68-120	%	10.20.18 17:50
a,a,a-Trifluorotoluene	104		81		94		71-121	%	10.20.18 17:50

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 602717

LT Environmental, Inc.

Remuda N 25 State 122H

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

Seq Number: 3067038 Matrix: Soil Date Prep: 10.19.18

Parent Sample Id: 602716-001 MS Sample Id: 602716-001 S MSD Sample Id: 602716-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0197	1.97	1.69	86	1.66	85	54-120	2	25	mg/kg	10.20.18 19:50	
Toluene	<0.0197	1.97	1.70	86	1.68	86	57-120	1	25	mg/kg	10.20.18 19:50	
Ethylbenzene	<0.0197	1.97	1.80	91	1.87	95	58-131	4	25	mg/kg	10.20.18 19:50	
m,p-Xylenes	<0.0394	3.94	3.58	91	3.77	96	62-124	5	25	mg/kg	10.20.18 19:50	
o-Xylene	<0.0197	1.97	1.77	90	1.85	94	62-124	4	25	mg/kg	10.20.18 19:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	86		98		68-120	%	10.20.18 19:50
a,a,a-Trifluorotoluene	90		93		71-121	%	10.20.18 19:50

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

Revision 2016.1

Page 1 Of 1

XENCO LABORATORIES

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Xenco Quote # | Xenco Job # 602717

Client / Reporting Information

Company Name / Branch: LTE
Company Address: Midland, Tx 79705
3300 N 'A' street Building 1 unit 103
Email: ABaker@Ltenv.com
Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name: Garrett Green

Project Information

Project Name/Number: Remuda N 25 State 122H
Project Location: Carlsbad, NM
Invoice To: XTO / Kyle Littrell
PO Number: 2RP-4968

Analytical Information

BTEX 8021 (only BTEX)
TPH (MRO, GRO, DRO) 8015
Chlorides (300.00)

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	SS01	6"	10/16/18	1140	S	1								X	
2	SS02	6"	10/16/18	1150	S	1								X	
3	SS03	6"	10/16/18	1200	S	1								X	
4	SS04	6"	10/16/18	1205	S	1								X	
5	SS05	6"	10/16/18	1215	S	1								X	
6															
7															
8															
9															
10															

Turnaround Time (Business days)

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

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] Level II Report with TRRP checklist

Notes:

TAT Starts Day received by Lab, if received by 5:00 pm

FED-EX / UPS: Tracking # 773539241628

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Garrett Green	10/17/18 1225	1	2	10/17/18 1530	2 10/18/18 1040
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: N; Cooler Temp: 3.2; Thermo. Corr. Factor: NEOD

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 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

ORIGIN ID:CAOA (575) 887-6245
XENCO
PAC N MAIL
910 W PIERCE ST
CARLSBAD, NM 88220
UNITED STATES US

SHIP DATE: 17OCT18
ACTWGT: 56.00 LB
CAD: 101813706/INET4040
DIMS: 26x14x14 IN
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MIDLAND TX 79711
(806) 794-1296
INV:
PO:
REF:
DEPT:

552J1/88FB/DCA5

J182118081501ur

FedEx Express

THU - 18 OCT HOLD
STANDARD OVERNIGHT
HLD

TRK# 0201 7735 0392 4628

41 MAFA
MAFA
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After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Inter-Office Shipment

IOS Number **115729**

Date/Time: 10/18/18 11:59
Lab# From: **Midland**
Lab# To: **Lubbock**

Created by: Brianna Teel
Delivery Priority:
Air Bill No.: 773515268264

Please send report to: Jessica Kramer
Address: 1211 W. Florida Ave, Midland TX 79701
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
602717-001	S	SS01	10/16/18 11:40	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602717-001	S	SS01	10/16/18 11:40	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602717-002	S	SS02	10/16/18 11:50	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602717-002	S	SS02	10/16/18 11:50	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602717-003	S	SS03	10/16/18 12:00	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602717-003	S	SS03	10/16/18 12:00	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602717-004	S	SS04	10/16/18 12:05	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602717-004	S	SS04	10/16/18 12:05	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	
602717-005	S	SS01	10/16/18 12:15	SW8021B	BTEX by EPA 8021B	10/24/18	10/30/18	JKR	BR4FBZ BZ BZME EBZ X	
602717-005	S	SS01	10/16/18 12:15	E300	Inorganic Anions by EPA 300	10/24/18	11/13/18	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Brianna Teel
Brianna Teel

Date Relinquished: 10/18/2018

Received By: Brenda Ward
Brenda Ward

Date Received: 10/19/2018 10:44

Cooler Temperature: 2.9

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Lubbock

IOS #: 115729

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : IR-3

Sent By: Brianna Teel **Date Sent:** 10/18/2018 11:59 AM

Received By: Brenda Ward **Date Received:** 10/19/2018 10:44 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.9	
#2 *Shipping container in good condition?	**Yes**	0
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**No**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Brenda Ward Date: 10/19/2018

Brenda Ward

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/18/2018 10:40:00 AM

Work Order #: 602717

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

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.2	
#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)?	**Yes**	Lubbock-BTEX/Chlorides
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 10/18/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 10/18/2018
Jessica Kramer

Analytical Report 615918

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda North State 122H

12918154

05-MAR-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)

05-MAR-19

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

Reference: XENCO Report No(s): **615918**
Remuda North State 122H
Project Address: Delaware Basin

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) 615918. 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. 615918 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS02A	S	02-20-19 13:42	2	615918-001
SS02B	S	02-20-19 13:50	4.5	615918-002
SS04A	S	02-20-19 14:03	2	615918-003
SS04B	S	02-20-19 14:21	4.5	615918-004
SS03A	S	02-20-19 14:32	2	615918-005
SS03B	S	02-20-19 14:44	4.5	615918-006

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3081082 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 615918-001.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 615918

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North State 122H

Project Id: 12918154
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Wed Feb-27-19 11:25 am
Report Date: 05-MAR-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	615918-001		615918-002		615918-003		615918-004		615918-005		615918-006	
	Field Id:	SS02A		SS02B		SS04A		SS04B		SS03A		SS03B	
	Depth:	2-		4.5-		2-		4.5-		2-		4.5-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-20-19 13:42		Feb-20-19 13:50		Feb-20-19 14:03		Feb-20-19 14:21		Feb-20-19 14:32		Feb-20-19 14:44	
BTEX by EPA 8021B	***Extracted:***	Mar-04-19 15:00		Mar-04-19 15:00		Mar-04-19 15:00		Mar-04-19 15:00		Mar-04-19 15:00		Mar-04-19 15:00	
	Analyzed:	Mar-05-19 05:08		Mar-05-19 05:27		Mar-05-19 06:41		Mar-05-19 07:00		Mar-05-19 07:19		Mar-05-19 07:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Toluene		0.00276	0.00200	0.00363	0.00200	0.00243	0.00199	0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00400	0.00400	<0.00401	0.00401	<0.00398	0.00398	<0.00402	0.00402	<0.00398	0.00398	<0.00400	0.00400
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		0.00276	0.00200	0.00363	0.00200	0.00243	0.00199	0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Mar-02-19 09:40		Mar-02-19 09:40		Mar-02-19 09:40		Mar-02-19 09:40		Mar-02-19 09:40		Mar-02-19 09:40	
	Analyzed:	Mar-02-19 18:40		Mar-02-19 18:47		Mar-02-19 18:53		Mar-02-19 19:00		Mar-02-19 19:06		Mar-02-19 19:26	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		19.8	4.99	82.4	4.95	368	5.00	60.0	5.00	1500	5.00	17.9	5.00
TPH by SW8015 Mod	***Extracted:***	Mar-01-19 09:00		Mar-01-19 09:00		Mar-01-19 09:00		Mar-01-19 09:00		Mar-01-19 09:00		Mar-01-19 09:00	
	Analyzed:	Mar-01-19 14:12		Mar-01-19 14:31		Mar-01-19 14:51		Mar-01-19 15:09		Mar-01-19 15:28		Mar-01-19 15:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<14.9	14.9
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<14.9	14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<14.9	14.9
Total TPH		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<14.9	14.9

Jessica Kramer
Project Assistant

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS02A**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-001	Date Collected:	02.20.19 13.42	Sample Depth:	2

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.02.19 09.40	Basis:	Wet Weight
Seq Number:	3081021				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.8**	4.99	mg/kg	03.02.19 18.40		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 14.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 14.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 14.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 14.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	03.01.19 14.12	
o-Terphenyl	84-15-1	93	%	70-135	03.01.19 14.12	

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS02A**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-001	Date Collected:	02.20.19 13.42	Sample Depth:	2
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.04.19 15.00	Basis:	Wet Weight
Seq Number:	3081082				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.05.19 05.08	U	1
Toluene	108-88-3	**0.00276**	0.00200	mg/kg	03.05.19 05.08		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.05.19 05.08	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.05.19 05.08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.05.19 05.08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.05.19 05.08	U	1
Total BTEX		**0.00276**	0.00200	mg/kg	03.05.19 05.08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	03.05.19 05.08	
4-Bromofluorobenzene	460-00-4	135	%	70-130	03.05.19 05.08	**

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS02B**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-002	Date Collected:	02.20.19 13.50	Sample Depth:	4.5

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.02.19 09.40	Basis:	Wet Weight
Seq Number:	3081021				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**82.4**	4.95	mg/kg	03.02.19 18.47		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 14.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 14.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 14.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 14.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.01.19 14.31	
o-Terphenyl	84-15-1	90	%	70-135	03.01.19 14.31	

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS02B**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-002	Date Collected:	02.20.19 13.50	Sample Depth:	4.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.04.19 15.00	Basis:	Wet Weight
Seq Number:	3081082				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.05.19 05.27	U	1
Toluene	108-88-3	**0.00363**	0.00200	mg/kg	03.05.19 05.27		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.05.19 05.27	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.05.19 05.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.05.19 05.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.05.19 05.27	U	1
Total BTEX		**0.00363**	0.00200	mg/kg	03.05.19 05.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	03.05.19 05.27	
4-Bromofluorobenzene	460-00-4	124	%	70-130	03.05.19 05.27	

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-003	Date Collected:	02.20.19 14.03	Sample Depth:	2

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.02.19 09.40	Basis:	Wet Weight
Seq Number:	3081021				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**368**	5.00	mg/kg	03.02.19 18.53		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.01.19 14.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.01.19 14.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.01.19 14.51	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.01.19 14.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	03.01.19 14.51	
o-Terphenyl	84-15-1	91	%	70-135	03.01.19 14.51	

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-003	Date Collected:	02.20.19 14.03	Sample Depth:	2
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.04.19 15.00	Basis:	Wet Weight
Seq Number:	3081082				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.05.19 06.41	U	1
Toluene	108-88-3	**0.00243**	0.00199	mg/kg	03.05.19 06.41		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.05.19 06.41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.05.19 06.41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.05.19 06.41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.05.19 06.41	U	1
Total BTEX		**0.00243**	0.00199	mg/kg	03.05.19 06.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	03.05.19 06.41	
1,4-Difluorobenzene	540-36-3	110	%	70-130	03.05.19 06.41	

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS04B**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-004	Date Collected:	02.20.19 14.21	Sample Depth:	4.5

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.02.19 09.40	Basis:	Wet Weight
Seq Number:	3081021				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**60.0**	5.00	mg/kg	03.02.19 19.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 15.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 15.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 15.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 15.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	03.01.19 15.09	
o-Terphenyl	84-15-1	93	%	70-135	03.01.19 15.09	

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS04B**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-004	Date Collected:	02.20.19 14.21	Sample Depth:	4.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.04.19 15.00	Basis:	Wet Weight
Seq Number:	3081082				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.05.19 07.00	U	1
Toluene	108-88-3	**0.00201**	0.00201	mg/kg	03.05.19 07.00		1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.05.19 07.00	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.05.19 07.00	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.05.19 07.00	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.05.19 07.00	U	1
Total BTEX		**0.00201**	0.00201	mg/kg	03.05.19 07.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	03.05.19 07.00	
1,4-Difluorobenzene	540-36-3	122	%	70-130	03.05.19 07.00	

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS03A**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-005	Date Collected:	02.20.19 14.32	Sample Depth:	2

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.02.19 09.40	Basis:	Wet Weight
Seq Number:	3081021				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1500**	5.00	mg/kg	03.02.19 19.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 15.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 15.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 15.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 15.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	03.01.19 15.28	
o-Terphenyl	84-15-1	95	%	70-135	03.01.19 15.28	

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS03A**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-005	Date Collected:	02.20.19 14.32	Sample Depth:	2
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.04.19 15.00	Basis:	Wet Weight
Seq Number:	3081082				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.05.19 07.19	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.05.19 07.19	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.05.19 07.19	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.05.19 07.19	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.05.19 07.19	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.05.19 07.19	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.05.19 07.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	03.05.19 07.19	
1,4-Difluorobenzene	540-36-3	122	%	70-130	03.05.19 07.19	

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS03B**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-006	Date Collected:	02.20.19 14.44	Sample Depth:	4.5

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.02.19 09.40	Basis:	Wet Weight
Seq Number:	3081021				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17.9**	5.00	mg/kg	03.02.19 19.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.01.19 15.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.01.19 15.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.01.19 15.47	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.01.19 15.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	03.01.19 15.47	
o-Terphenyl	84-15-1	93	%	70-135	03.01.19 15.47	

Certificate of Analytical Results 615918

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS03B**	Matrix:	Soil	Date Received:	02.27.19 11.25
Lab Sample Id:	615918-006	Date Collected:	02.20.19 14.44	Sample Depth:	4.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.04.19 15.00	Basis:	Wet Weight
Seq Number:	3081082				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.05.19 07.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.05.19 07.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.05.19 07.38	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.05.19 07.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.05.19 07.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.05.19 07.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.05.19 07.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	03.05.19 07.38	
1,4-Difluorobenzene	540-36-3	121	%	70-130	03.05.19 07.38	

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 615918

LT Environmental, Inc.

Remuda North State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081021 Matrix: Solid Date Prep: 03.02.19
MB Sample Id: 7672865-1-BLK LCS Sample Id: 7672865-1-BKS LCSD Sample Id: 7672865-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	248	99	250	100	90-110	1	20	mg/kg	03.02.19 14:17	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081021 Matrix: Soil Date Prep: 03.02.19
Parent Sample Id: 615918-006 MS Sample Id: 615918-006 S MSD Sample Id: 615918-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	17.9	250	277	104	277	104	90-110	0	20	mg/kg	03.04.19 11:14	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081021 Matrix: Soil Date Prep: 03.02.19
Parent Sample Id: 615920-009 MS Sample Id: 615920-009 S MSD Sample Id: 615920-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	115	250	393	111	382	107	90-110	3	20	mg/kg	03.02.19 17:11	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3080899 Matrix: Solid Date Prep: 03.01.19
MB Sample Id: 7672837-1-BLK LCS Sample Id: 7672837-1-BKS LCSD Sample Id: 7672837-1-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	899	90	1020	102	70-135	13	20	mg/kg	03.01.19 12:17	
Diesel Range Organics (DRO)	<8.13	1000	937	94	1090	109	70-135	15	20	mg/kg	03.01.19 12:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		122		128		70-135	%	03.01.19 12:17
o-Terphenyl	117		101		118		70-135	%	03.01.19 12:17

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

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

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

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

QC Summary 615918

LT Environmental, Inc.

Remuda North State 122H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3080899 Matrix: Soil Date Prep: 03.01.19
Parent Sample Id: 615917-001 MS Sample Id: 615917-001 S MSD Sample Id: 615917-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	994	99	921	92	70-135	8	20	mg/kg	03.01.19 13:15	
Diesel Range Organics (DRO)	<8.13	1000	1070	107	995	100	70-135	7	20	mg/kg	03.01.19 13:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		117		70-135	%	03.01.19 13:15
o-Terphenyl	109		102		70-135	%	03.01.19 13:15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3081082 Matrix: Solid Date Prep: 03.04.19
MB Sample Id: 7672940-1-BLK LCS Sample Id: 7672940-1-BKS LCSD Sample Id: 7672940-1-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	0.0996	0.129	130	0.129	129	70-130	0	35	mg/kg	03.05.19 00:44	
Toluene	<0.000454	0.0996	0.105	105	0.106	106	70-130	1	35	mg/kg	03.05.19 00:44	
Ethylbenzene	<0.000563	0.0996	0.0939	94	0.0957	96	70-130	2	35	mg/kg	03.05.19 00:44	
m,p-Xylenes	<0.00101	0.199	0.189	95	0.194	97	70-130	3	35	mg/kg	03.05.19 00:44	
o-Xylene	<0.000343	0.0996	0.0928	93	0.0959	96	70-130	3	35	mg/kg	03.05.19 00:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	118		109		115		70-130	%	03.05.19 00:44
4-Bromofluorobenzene	96		96		103		70-130	%	03.05.19 00:44

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3081082 Matrix: Soil Date Prep: 03.04.19
Parent Sample Id: 615917-002 MS Sample Id: 615917-002 S MSD Sample Id: 615917-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.115	115	0.120	120	70-130	4	35	mg/kg	03.05.19 01:22	
Toluene	0.00257	0.0998	0.0936	91	0.0982	96	70-130	5	35	mg/kg	03.05.19 01:22	
Ethylbenzene	<0.000564	0.0998	0.0792	79	0.0858	86	70-130	8	35	mg/kg	03.05.19 01:22	
m,p-Xylenes	<0.00101	0.200	0.159	80	0.172	86	70-130	8	35	mg/kg	03.05.19 01:22	
o-Xylene	0.000413	0.0998	0.0788	79	0.0841	84	70-130	7	35	mg/kg	03.05.19 01:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		116		70-130	%	03.05.19 01:22
4-Bromofluorobenzene	103		102		70-130	%	03.05.19 01:22

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

Chain of Custody

Work Order No: 615918

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:	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:		abaker@ltenv.com; mwills@ltenv.com

Work Order Comments

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

Project Name:	Remuda North State 122H	Turn Around	
Project Number:	12918154	Routine	☒
P.O. Number:	2RP-4968	Rush:	
Sampler's Name:	Martin Wills	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.5/0.4	Thermometer ID		
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes No (N/A)	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS02A	S	2/20/2019	1342	2	1	X	X	X
SS02B	S	2/20/2019	1350	4.5	1	X	X	X
SS04A	S	2/20/2019	1403	2	1	X	X	X
SS04B	S	2/20/2019	1421	4.5	1	X	X	X
SS03A	S	2/20/2019	1432	2	1	X	X	X
SS03B	S	2/20/2019	1444	4.5	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	Chase Pudder	2/26/19 9:38	2 Christy Rivera		2/27/19 1175
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Final 1.000

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After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/27/2019 11:25:00 AM

Work Order #: 615918

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

Temperature Measuring device used : R8

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

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

Analyst:

PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 02/27/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 02/27/2019

Jessica Kramer

Analytical Report 615920

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda North State 122H

12918154

06-MAR-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)

06-MAR-19

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

Reference: XENCO Report No(s): **615920**
Remuda North State 122H
Project Address: Delaware Basin

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) 615920. 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. 615920 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 615920

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01A	S	02-22-19 09:33	2 ft	615920-001
SS01B	S	02-22-19 09:42	4.5 ft	615920-002
FS01	S	02-22-19 13:20	10 ft	615920-003
SW01	S	02-22-19 13:22	0 - 10 ft	615920-004
SW02	S	02-22-19 13:24	0 - 10 ft	615920-005
FS02	S	02-22-19 13:25	10 ft	615920-006
SW03	S	02-22-19 13:27	0 - 10 ft	615920-007
SW04	S	02-22-19 13:31	0 - 10 ft	615920-008
FS03	S	02-22-19 13:35	10 ft	615920-009
SW05	S	02-22-19 13:40	0 - 10 ft	615920-010
SW06	S	02-22-19 13:45	0 - 10 ft	615920-011

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3081021 Inorganic Anions by EPA 300
Lab Sample ID 615920-009 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.
Samples in the analytical batch are: 615920-001, -002, -009, -010, -011.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3081082 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3081216 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 615920-007.

Certificate of Analysis Summary 615920

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North State 122H

Project Id: 12918154
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Wed Feb-27-19 12:11 pm
Report Date: 06-MAR-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	615920-001		615920-002		615920-003		615920-004		615920-005		615920-006	
	Field Id:	SS01A		SS01B		FS01		SW01		SW02		FS02	
	Depth:	2- ft		4.5- ft		10- ft		0-10 ft		0-10 ft		10- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-22-19 09:33		Feb-22-19 09:42		Feb-22-19 13:20		Feb-22-19 13:22		Feb-22-19 13:24		Feb-22-19 13:25	
BTEX by EPA 8021B	***Extracted:***	Mar-04-19 15:00		Mar-04-19 15:00		Mar-04-19 15:00		Mar-04-19 15:00		Mar-04-19 15:00		Mar-05-19 15:00	
	Analyzed:	Mar-05-19 07:57		Mar-05-19 08:16		Mar-05-19 08:35		Mar-05-19 08:54		Mar-05-19 09:51		Mar-06-19 02:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00200	0.00200	0.00213	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes		<0.00400	0.00400	<0.00399	0.00399	<0.00403	0.00403	<0.00398	0.00398	<0.00402	0.00402	<0.00400	0.00400
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	0.00213	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Mar-02-19 09:40		Mar-02-19 09:40		Mar-01-19 16:30		Mar-01-19 16:30		Mar-01-19 16:30		Mar-01-19 16:30	
	Analyzed:	Mar-02-19 19:58		Mar-02-19 20:05		Mar-02-19 03:09		Mar-02-19 03:16		Mar-02-19 03:22		Mar-02-19 03:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1470	24.8	443	5.00	273	4.99	237	4.98	737	4.99	334	4.95
TPH by SW8015 Mod	***Extracted:***	Feb-28-19 14:00		Feb-28-19 14:00		Mar-01-19 09:00		Mar-01-19 09:00		Mar-01-19 09:00		Mar-01-19 09:00	
	Analyzed:	Mar-01-19 03:39		Mar-01-19 03:58		Mar-01-19 17:42		Mar-01-19 18:01		Mar-01-19 18:20		Mar-01-19 18:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 615920

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North State 122H

Project Id: 12918154
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Wed Feb-27-19 12:11 pm
Report Date: 06-MAR-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	615920-007		615920-008		615920-009		615920-010		615920-011	
	Field Id:	SW03		SW04		FS03		SW05		SW06	
	Depth:	0-10 ft		0-10 ft		10- ft		0-10 ft		0-10 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-22-19 13:27		Feb-22-19 13:31		Feb-22-19 13:35		Feb-22-19 13:40		Feb-22-19 13:45	
BTEX by EPA 8021B	***Extracted:***	Mar-05-19 15:00		Mar-05-19 15:00		Mar-05-19 15:00		Mar-05-19 15:00		Mar-05-19 15:00	
	Analyzed:	Mar-06-19 02:50		Mar-06-19 03:09		Mar-06-19 03:28		Mar-06-19 03:47		Mar-06-19 04:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		<0.00399	0.00399	<0.00403	0.00403	<0.00400	0.00400	<0.00401	0.00401	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	Mar-01-19 16:30		Mar-01-19 16:30		Mar-02-19 09:40		Mar-02-19 09:40		Mar-02-19 09:40	
	Analyzed:	Mar-02-19 03:35		Mar-02-19 03:41		Mar-02-19 17:04		Mar-02-19 17:24		Mar-02-19 17:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		697	4.95	992	4.95	115	5.00	25.3	5.00	437	5.00
TPH by SW8015 Mod	***Extracted:***	Mar-01-19 09:00		Mar-01-19 09:00		Mar-01-19 09:00		Mar-01-19 09:00		Mar-01-19 09:00	
	Analyzed:	Mar-01-19 18:58		Mar-01-19 19:17		Mar-01-19 19:36		Mar-01-19 19:55		Mar-01-19 20:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Certificate of Analytical Results 615920

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-001	Date Collected:	02.22.19 09.33	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.02.19 09.40	Basis:	Wet Weight
Seq Number:	3081021				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1470**	24.8	mg/kg	03.02.19 19.58		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 03.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 03.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 03.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 03.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	03.01.19 03.39	
o-Terphenyl	84-15-1	93	%	70-135	03.01.19 03.39	

Certificate of Analytical Results 615920

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-001	Date Collected:	02.22.19 09.33	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.04.19 15.00	Basis:	Wet Weight
Seq Number:	3081082				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.05.19 07.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.05.19 07.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.05.19 07.57	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.05.19 07.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.05.19 07.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.05.19 07.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.05.19 07.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	03.05.19 07.57	
1,4-Difluorobenzene	540-36-3	116	%	70-130	03.05.19 07.57	

Certificate of Analytical Results 615920

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS01B**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-002	Date Collected:	02.22.19 09.42	Sample Depth:	4.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.02.19 09.40	Basis:	Wet Weight
Seq Number:	3081021				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**443**	5.00	mg/kg	03.02.19 20.05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 03.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 03.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 03.58	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 03.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	03.01.19 03.58	
o-Terphenyl	84-15-1	93	%	70-135	03.01.19 03.58	

Certificate of Analytical Results 615920

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SS01B**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-002	Date Collected:	02.22.19 09.42	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.04.19 15.00	Basis:	Wet Weight
Seq Number:	3081082				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.05.19 08.16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.05.19 08.16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.05.19 08.16	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.05.19 08.16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.05.19 08.16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.05.19 08.16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.05.19 08.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	122	%	70-130	03.05.19 08.16	
4-Bromofluorobenzene	460-00-4	111	%	70-130	03.05.19 08.16	

Certificate of Analytical Results 615920

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-003	Date Collected:	02.22.19 13.20	Sample Depth:	10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.01.19 16.30	Basis:	Wet Weight
Seq Number:	3081018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**273**	4.99	mg/kg	03.02.19 03.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 17.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 17.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 17.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 17.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	03.01.19 17.42	
o-Terphenyl	84-15-1	106	%	70-135	03.01.19 17.42	

Certificate of Analytical Results 615920

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-003	Date Collected:	02.22.19 13.20	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.04.19 15.00	Basis:	Wet Weight
Seq Number:	3081082				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.05.19 08.35	U	1
Toluene	108-88-3	**0.00213**	0.00202	mg/kg	03.05.19 08.35		1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.05.19 08.35	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.05.19 08.35	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.05.19 08.35	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.05.19 08.35	U	1
Total BTEX		**0.00213**	0.00202	mg/kg	03.05.19 08.35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	03.05.19 08.35	
4-Bromofluorobenzene	460-00-4	127	%	70-130	03.05.19 08.35	

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LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-004	Date Collected:	02.22.19 13.22	Sample Depth:	0 - 10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.01.19 16.30	Basis:	Wet Weight
Seq Number:	3081018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**237**	4.98	mg/kg	03.02.19 03.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 18.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 18.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 18.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 18.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	03.01.19 18.01	
o-Terphenyl	84-15-1	96	%	70-135	03.01.19 18.01	

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LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-004	Date Collected:	02.22.19 13.22	Sample Depth:	0 - 10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.04.19 15.00	Basis:	Wet Weight
Seq Number:	3081082				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.05.19 08.54	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.05.19 08.54	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.05.19 08.54	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.05.19 08.54	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.05.19 08.54	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.05.19 08.54	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.05.19 08.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	118	%	70-130	03.05.19 08.54	
4-Bromofluorobenzene	460-00-4	118	%	70-130	03.05.19 08.54	

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LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-005	Date Collected:	02.22.19 13.24	Sample Depth:	0 - 10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.01.19 16.30	Basis:	Wet Weight
Seq Number:	3081018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**737**	4.99	mg/kg	03.02.19 03.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 18.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 18.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 18.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 18.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.01.19 18.20	
o-Terphenyl	84-15-1	93	%	70-135	03.01.19 18.20	

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Remuda North State 122H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-005	Date Collected:	02.22.19 13.24	Sample Depth:	0 - 10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.04.19 15.00	Basis:	Wet Weight
Seq Number:	3081082				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.05.19 09.51	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.05.19 09.51	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.05.19 09.51	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.05.19 09.51	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.05.19 09.51	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.05.19 09.51	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.05.19 09.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	123	%	70-130	03.05.19 09.51	
4-Bromofluorobenzene	460-00-4	113	%	70-130	03.05.19 09.51	

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Remuda North State 122H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-006	Date Collected:	02.22.19 13.25	Sample Depth:	10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.01.19 16.30	Basis:	Wet Weight
Seq Number:	3081018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**334**	4.95	mg/kg	03.02.19 03.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 18.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 18.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 18.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 18.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	03.01.19 18.39	
o-Terphenyl	84-15-1	93	%	70-135	03.01.19 18.39	

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LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-006	Date Collected:	02.22.19 13.25	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.05.19 15.00	Basis:	Wet Weight
Seq Number:	3081216				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.06.19 02.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.06.19 02.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.06.19 02.31	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.06.19 02.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.06.19 02.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.06.19 02.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.06.19 02.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	118	%	70-130	03.06.19 02.31	
4-Bromofluorobenzene	460-00-4	111	%	70-130	03.06.19 02.31	

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Remuda North State 122H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-007	Date Collected:	02.22.19 13.27	Sample Depth:	0 - 10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.01.19 16.30	Basis:	Wet Weight
Seq Number:	3081018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**697**	4.95	mg/kg	03.02.19 03.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.01.19 18.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.01.19 18.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.01.19 18.58	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.01.19 18.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	03.01.19 18.58	
o-Terphenyl	84-15-1	107	%	70-135	03.01.19 18.58	

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LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-007	Date Collected:	02.22.19 13.27	Sample Depth:	0 - 10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.05.19 15.00	Basis:	Wet Weight
Seq Number:	3081216				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.06.19 02.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.06.19 02.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.06.19 02.50	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.06.19 02.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.06.19 02.50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.06.19 02.50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.06.19 02.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	03.06.19 02.50	
4-Bromofluorobenzene	460-00-4	143	%	70-130	03.06.19 02.50	**

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LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-008	Date Collected:	02.22.19 13.31	Sample Depth:	0 - 10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.01.19 16.30	Basis:	Wet Weight
Seq Number:	3081018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**992**	4.95	mg/kg	03.02.19 03.41		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 19.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 19.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 19.17	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 19.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	03.01.19 19.17	
o-Terphenyl	84-15-1	98	%	70-135	03.01.19 19.17	

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LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-008	Date Collected:	02.22.19 13.31	Sample Depth:	0 - 10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.05.19 15.00	Basis:	Wet Weight
Seq Number:	3081216				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.06.19 03.09	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.06.19 03.09	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.06.19 03.09	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.06.19 03.09	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.06.19 03.09	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.06.19 03.09	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.06.19 03.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	03.06.19 03.09	
1,4-Difluorobenzene	540-36-3	119	%	70-130	03.06.19 03.09	

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Remuda North State 122H

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-009	Date Collected:	02.22.19 13.35	Sample Depth:	10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.02.19 09.40	Basis:	Wet Weight
Seq Number:	3081021				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**115**	5.00	mg/kg	03.02.19 17.04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 19.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 19.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 19.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 19.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	03.01.19 19.36	
o-Terphenyl	84-15-1	96	%	70-135	03.01.19 19.36	

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Sample Id:	**FS03**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-009	Date Collected:	02.22.19 13.35	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.05.19 15.00	Basis:	Wet Weight
Seq Number:	3081216				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.06.19 03.28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.06.19 03.28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.06.19 03.28	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.06.19 03.28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.06.19 03.28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.06.19 03.28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.06.19 03.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	120	%	70-130	03.06.19 03.28	
4-Bromofluorobenzene	460-00-4	115	%	70-130	03.06.19 03.28	

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Sample Id:	**SW05**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-010	Date Collected:	02.22.19 13.40	Sample Depth:	0 - 10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.02.19 09.40	Basis:	Wet Weight
Seq Number:	3081021				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**25.3**	5.00	mg/kg	03.02.19 17.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 19.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 19.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 19.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 19.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	03.01.19 19.55	
o-Terphenyl	84-15-1	94	%	70-135	03.01.19 19.55	

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LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-010	Date Collected:	02.22.19 13.40	Sample Depth:	0 - 10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.05.19 15.00	Basis:	Wet Weight
Seq Number:	3081216				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.06.19 03.47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.06.19 03.47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.06.19 03.47	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.06.19 03.47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.06.19 03.47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.06.19 03.47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.06.19 03.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	118	%	70-130	03.06.19 03.47	
4-Bromofluorobenzene	460-00-4	117	%	70-130	03.06.19 03.47	

Certificate of Analytical Results 615920

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-011	Date Collected:	02.22.19 13.45	Sample Depth:	0 - 10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.02.19 09.40	Basis:	Wet Weight
Seq Number:	3081021				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**437**	5.00	mg/kg	03.02.19 17.30		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.01.19 09.00	Basis:	Wet Weight
Seq Number:	3080899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 20.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 20.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 20.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 20.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	03.01.19 20.14	
o-Terphenyl	84-15-1	102	%	70-135	03.01.19 20.14	

Certificate of Analytical Results 615920

LT Environmental, Inc., Arvada, CO

Remuda North State 122H

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	02.27.19 12.11
Lab Sample Id:	615920-011	Date Collected:	02.22.19 13.45	Sample Depth:	0 - 10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.05.19 15.00	Basis:	Wet Weight
Seq Number:	3081216				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.06.19 04.06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.06.19 04.06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.06.19 04.06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.06.19 04.06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.06.19 04.06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.06.19 04.06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.06.19 04.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	03.06.19 04.06	
4-Bromofluorobenzene	460-00-4	118	%	70-130	03.06.19 04.06	

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 615920

LT Environmental, Inc.

Remuda North State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081018 Matrix: Solid Date Prep: 03.01.19
MB Sample Id: 7672864-1-BLK LCS Sample Id: 7672864-1-BKS LCSD Sample Id: 7672864-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	256	102	257	103	90-110	0	20	mg/kg	03.02.19 00:33	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081021 Matrix: Solid Date Prep: 03.02.19
MB Sample Id: 7672865-1-BLK LCS Sample Id: 7672865-1-BKS LCSD Sample Id: 7672865-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	248	99	250	100	90-110	1	20	mg/kg	03.02.19 14:17	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081018 Matrix: Soil Date Prep: 03.01.19
Parent Sample Id: 615637-004 MS Sample Id: 615637-004 S MSD Sample Id: 615637-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.855	249	262	105	270	108	90-110	3	20	mg/kg	03.02.19 00:53	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081018 Matrix: Soil Date Prep: 03.01.19
Parent Sample Id: 615723-005 MS Sample Id: 615723-005 S MSD Sample Id: 615723-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.850	248	262	106	265	107	90-110	1	20	mg/kg	03.02.19 02:24	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081021 Matrix: Soil Date Prep: 03.02.19
Parent Sample Id: 615918-006 MS Sample Id: 615918-006 S MSD Sample Id: 615918-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	17.9	250	277	104	277	104	90-110	0	20	mg/kg	03.04.19 11:14	

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

QC Summary 615920

LT Environmental, Inc.

Remuda North State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081021 Matrix: Soil Date Prep: 03.02.19
Parent Sample Id: 615920-009 MS Sample Id: 615920-009 S MSD Sample Id: 615920-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	115	250	393	111	382	107	90-110	3	20	mg/kg	03.02.19 17:11	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3080795 Matrix: Solid Date Prep: 02.28.19
MB Sample Id: 7672743-1-BLK LCS Sample Id: 7672743-1-BKS LCSD Sample Id: 7672743-1-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	906	91	900	90	70-135	1	20	mg/kg	02.28.19 21:25	
Diesel Range Organics (DRO)	<8.13	1000	953	95	941	94	70-135	1	20	mg/kg	02.28.19 21:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		126		121		70-135	%	02.28.19 21:25
o-Terphenyl	102		107		100		70-135	%	02.28.19 21:25

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3080899 Matrix: Solid Date Prep: 03.01.19
MB Sample Id: 7672837-1-BLK LCS Sample Id: 7672837-1-BKS LCSD Sample Id: 7672837-1-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	899	90	1020	102	70-135	13	20	mg/kg	03.01.19 12:17	
Diesel Range Organics (DRO)	<8.13	1000	937	94	1090	109	70-135	15	20	mg/kg	03.01.19 12:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		122		128		70-135	%	03.01.19 12:17
o-Terphenyl	117		101		118		70-135	%	03.01.19 12:17

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3080795 Matrix: Soil Date Prep: 02.28.19
Parent Sample Id: 616045-001 MS Sample Id: 616045-001 S MSD Sample Id: 616045-001 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	999	895	90	891	89	70-135	0	20	mg/kg	02.28.19 22:24	
Diesel Range Organics (DRO)	66.7	999	963	90	968	90	70-135	1	20	mg/kg	02.28.19 22:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		121		70-135	%	02.28.19 22:24
o-Terphenyl	115		112		70-135	%	02.28.19 22:24

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

QC Summary 615920

LT Environmental, Inc.

Remuda North State 122H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3080899 Matrix: Soil Date Prep: 03.01.19
Parent Sample Id: 615917-001 MS Sample Id: 615917-001 S MSD Sample Id: 615917-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	994	99	921	92	70-135	8	20	mg/kg	03.01.19 13:15	
Diesel Range Organics (DRO)	<8.13	1000	1070	107	995	100	70-135	7	20	mg/kg	03.01.19 13:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		117		70-135	%	03.01.19 13:15
o-Terphenyl	109		102		70-135	%	03.01.19 13:15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3081082 Matrix: Solid Date Prep: 03.04.19
MB Sample Id: 7672940-1-BLK LCS Sample Id: 7672940-1-BKS LCSD Sample Id: 7672940-1-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	0.0996	0.129	130	0.129	129	70-130	0	35	mg/kg	03.05.19 00:44	
Toluene	<0.000454	0.0996	0.105	105	0.106	106	70-130	1	35	mg/kg	03.05.19 00:44	
Ethylbenzene	<0.000563	0.0996	0.0939	94	0.0957	96	70-130	2	35	mg/kg	03.05.19 00:44	
m,p-Xylenes	<0.00101	0.199	0.189	95	0.194	97	70-130	3	35	mg/kg	03.05.19 00:44	
o-Xylene	<0.000343	0.0996	0.0928	93	0.0959	96	70-130	3	35	mg/kg	03.05.19 00:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	118		109		115		70-130	%	03.05.19 00:44
4-Bromofluorobenzene	96		96		103		70-130	%	03.05.19 00:44

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3081216 Matrix: Solid Date Prep: 03.05.19
MB Sample Id: 7673026-1-BLK LCS Sample Id: 7673026-1-BKS LCSD Sample Id: 7673026-1-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	0.0996	0.123	123	0.123	123	70-130	0	35	mg/kg	03.06.19 00:39	
Toluene	<0.000454	0.0996	0.102	102	0.102	102	70-130	0	35	mg/kg	03.06.19 00:39	
Ethylbenzene	<0.000563	0.0996	0.0947	95	0.0949	95	70-130	0	35	mg/kg	03.06.19 00:39	
m,p-Xylenes	<0.00101	0.199	0.192	96	0.193	97	70-130	1	35	mg/kg	03.06.19 00:39	
o-Xylene	<0.000343	0.0996	0.0940	94	0.0943	94	70-130	0	35	mg/kg	03.06.19 00:39	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		111		112		70-130	%	03.06.19 00:39
4-Bromofluorobenzene	101		99		100		70-130	%	03.06.19 00:39

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

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

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

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

QC Summary 615920

LT Environmental, Inc.

Remuda North State 122H

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

Seq Number: 3081082 Matrix: Soil Date Prep: 03.04.19

Parent Sample Id: 615917-002 MS Sample Id: 615917-002 S MSD Sample Id: 615917-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.115	115	0.120	120	70-130	4	35	mg/kg	03.05.19 01:22	
Toluene	0.00257	0.0998	0.0936	91	0.0982	96	70-130	5	35	mg/kg	03.05.19 01:22	
Ethylbenzene	<0.000564	0.0998	0.0792	79	0.0858	86	70-130	8	35	mg/kg	03.05.19 01:22	
m,p-Xylenes	<0.00101	0.200	0.159	80	0.172	86	70-130	8	35	mg/kg	03.05.19 01:22	
o-Xylene	0.000413	0.0998	0.0788	79	0.0841	84	70-130	7	35	mg/kg	03.05.19 01:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		116		70-130	%	03.05.19 01:22
4-Bromofluorobenzene	103		102		70-130	%	03.05.19 01:22

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

Seq Number: 3081216 Matrix: Soil Date Prep: 03.05.19

Parent Sample Id: 615920-006 MS Sample Id: 615920-006 S MSD Sample Id: 615920-006 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	0.111	111	0.109	109	70-130	2	35	mg/kg	03.06.19 01:17	
Toluene	0.00152	0.100	0.0925	91	0.0899	88	70-130	3	35	mg/kg	03.06.19 01:17	
Ethylbenzene	<0.000567	0.100	0.0857	86	0.0827	83	70-130	4	35	mg/kg	03.06.19 01:17	
m,p-Xylenes	<0.00102	0.201	0.174	87	0.168	84	70-130	4	35	mg/kg	03.06.19 01:17	
o-Xylene	<0.000346	0.100	0.0850	85	0.0827	83	70-130	3	35	mg/kg	03.06.19 01:17	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	113		115		70-130	%	03.06.19 01:17
4-Bromofluorobenzene	104		102		70-130	%	03.06.19 01:17

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

Chain of Custody

Work Order No: 615920

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000) www.xenco.com Page 1 of 2

Project Manager:	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:		abaker@ltenv.com; mwills@ltenv.com

Work Order Comments

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

Project Name:	Remuda North State 122H	Turn Around	
Project Number:	12918154	Routine	X
P.O. Number:	2RP-4968	Rush:	
Sampler's Name:	Martin Wills	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.5/0.4	Thermometer ID:		
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS01A	S	2/21/2019	933	2'	1	X	X	X
SS01B	S	2/21/2019	942	4.5'	1	X	X	X
FS01	S	2/22/2019	1320	10	1	X	X	X
SW01	S	2/22/2019	1322	0-10	1	X	X	X
SW02	S	2/22/2019	1324	0-10	1	X	X	X
FS02	S	2/22/2019	1325	10	1	X	X	X
SW03	S	2/22/2019	1327	0-10	1	X	X	X
SW04	S	2/22/2019	1331	0-10	1	X	X	X
FS03	S	2/22/2019	1335	10	1	X	X	X
SW05	S	2/22/2019	1340	0-10	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			2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Final 1.000

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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: _____

Page 2 of 2

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:		abaker@ltenv.com; mwills@ltenv.com

Work Order Comments

Program: UST/PST ☐ RP ☐ rownfields R ☐ C ☐ perfund ☐
State of Project:
Reporting:Level II ☐ evel III ☐ ST/UST ☐ RP ☐ vel IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Remuda North State 122H	Turn Around	
Project Number:	12918154	Routine	☒
P.O. Number:	2RP-4968	Rush:	
Sampler's Name:	Martin Wills	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.5/0.4	Thermometer ID		
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes No N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SW06	S	2/22/2019	1345	0-10	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			2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Page 35 of 37

ORIGIN ID:CAOA (575) 887-6245
XENCO
PAC N MAIL
910 W PIERCE ST
CARLSBAD, NM 88220
UNITED STATES US

SHIP DATE: 26FEB19
ACTWGT: 62.00 LB
CAD: 101813706/INET4100
DIMS: 30x15x16 IN
BILL RECIPIENT

TO HOLD FOR XENCO
FEDEX EXPRESS SHIP CENTER
FEDEX SHIP CENTER
3600 COUNTY RD 1276 S
MIDLAND TX 79711
(806) 794-1296

INV:
PO:
REF:
DEPT:

565J2/0E3D/23AD

J191019010701uv

FedEx Express

41 MAFA

TRK# 0201 7745 6785 0115

WED - 27 FEB HOLD
STANDARD OVERNIGHT
HLD

MAFA
TX-US LBB

After printing this label:
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2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/27/2019 12:11:14 PM

Work Order #: 615920

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 02/27/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 02/27/2019
Jessica Kramer

Analytical Report 618267

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda North 25 State 122H

21-MAR-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)

21-MAR-19

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

Reference: XENCO Report No(s): **618267**
Remuda North 25 State 122H
Project Address: 2RP4968

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) 618267. 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. 618267 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 618267

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW07	S	03-18-19 14:25	0 - 8 ft	618267-001
SW08	S	03-18-19 15:00	0 - 8 ft	618267-002

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3082772 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 618267-001.

Certificate of Analysis Summary 618267

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North 25 State 122H

Project Id:
Contact: Adrian Baker
Project Location: 2RP4968

Date Received in Lab: Wed Mar-20-19 01:15 pm
Report Date: 21-MAR-19
Project Manager: Kalei Stout

Analysis Requested									
	Lab Id:	618267-001		618267-002					
	Field Id:	SW07		SW08					
	Depth:	0-8 ft		0-8 ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Mar-18-19 14:25		Mar-18-19 15:00					
BTEX by EPA 8021B	***Extracted:***	Mar-20-19 13:30		Mar-20-19 13:30					
	Analyzed:	Mar-20-19 21:10		Mar-20-19 21:29					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00201	0.00201				
Toluene		0.00229	0.00200	<0.00201	0.00201				
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201				
m,p-Xylenes		<0.00399	0.00399	<0.00402	0.00402				
o-Xylene		<0.00200	0.00200	<0.00201	0.00201				
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201				
Total BTEX		0.00229	0.00200	<0.00201	0.00201				
Inorganic Anions by EPA 300	***Extracted:***	Mar-20-19 16:30		Mar-20-19 16:30					
	Analyzed:	Mar-20-19 19:43		Mar-20-19 19:26					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		143	5.00	70.7	5.00				
TPH by SW8015 Mod	***Extracted:***	Mar-20-19 14:00		Mar-20-19 14:00					
	Analyzed:	Mar-21-19 00:08		Mar-21-19 00:27					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				

Mike Kimmel
Client Services Manager

Certificate of Analytical Results 618267

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	03.20.19 13.15
Lab Sample Id:	618267-001	Date Collected:	03.18.19 14.25	Sample Depth:	0 - 8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.20.19 16.30	Basis:	Wet Weight
Seq Number:	3082819				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**143**	5.00	mg/kg	03.20.19 19.43		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.20.19 14.00	Basis:	Wet Weight
Seq Number:	3082825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.21.19 00.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.21.19 00.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.21.19 00.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.21.19 00.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.21.19 00.08	
o-Terphenyl	84-15-1	94	%	70-135	03.21.19 00.08	

Certificate of Analytical Results 618267

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	03.20.19 13.15
Lab Sample Id:	618267-001	Date Collected:	03.18.19 14.25	Sample Depth:	0 - 8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.20.19 13.30	Basis:	Wet Weight
Seq Number:	3082772				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.19 21.10	U	1
Toluene	108-88-3	**0.00229**	0.00200	mg/kg	03.20.19 21.10		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.19 21.10	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.20.19 21.10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.19 21.10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.19 21.10	U	1
Total BTEX		**0.00229**	0.00200	mg/kg	03.20.19 21.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	133	%	70-130	03.20.19 21.10	**
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.20.19 21.10	

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	03.20.19 13.15
Lab Sample Id:	618267-002	Date Collected:	03.18.19 15.00	Sample Depth:	0 - 8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.20.19 16.30	Basis:	Wet Weight
Seq Number:	3082819				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**70.7**	5.00	mg/kg	03.20.19 19.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.20.19 14.00	Basis:	Wet Weight
Seq Number:	3082825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.21.19 00.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.21.19 00.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.21.19 00.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.21.19 00.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	03.21.19 00.27	
o-Terphenyl	84-15-1	92	%	70-135	03.21.19 00.27	

Certificate of Analytical Results 618267

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	03.20.19 13.15
Lab Sample Id:	618267-002	Date Collected:	03.18.19 15.00	Sample Depth:	0 - 8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.20.19 13.30	Basis:	Wet Weight
Seq Number:	3082772				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.20.19 21.29	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.20.19 21.29	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.20.19 21.29	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.20.19 21.29	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.20.19 21.29	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.20.19 21.29	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.20.19 21.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	03.20.19 21.29	
1,4-Difluorobenzene	540-36-3	115	%	70-130	03.20.19 21.29	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 618267

LT Environmental, Inc.

Remuda North 25 State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3082819 Matrix: Solid Date Prep: 03.20.19
MB Sample Id: 7673967-1-BLK LCS Sample Id: 7673967-1-BKS LCSD Sample Id: 7673967-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	249	100	245	98	90-110	2	20	mg/kg	03.20.19 18:41	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3082819 Matrix: Soil Date Prep: 03.20.19
Parent Sample Id: 618265-001 MS Sample Id: 618265-001 S MSD Sample Id: 618265-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	157	250	408	100	407	100	90-110	0	20	mg/kg	03.20.19 18:58	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3082819 Matrix: Soil Date Prep: 03.20.19
Parent Sample Id: 618266-005 MS Sample Id: 618266-005 S MSD Sample Id: 618266-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.2	248	261	100	257	99	90-110	2	20	mg/kg	03.20.19 20:17	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3082825 Matrix: Solid Date Prep: 03.20.19
MB Sample Id: 7674002-1-BLK LCS Sample Id: 7674002-1-BKS LCSD Sample Id: 7674002-1-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	1060	106	1030	103	70-135	3	20	mg/kg	03.20.19 20:16	
Diesel Range Organics (DRO)	<8.13	1000	1080	108	1040	104	70-135	4	20	mg/kg	03.20.19 20:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		122		126		70-135	%	03.20.19 20:16
o-Terphenyl	121		113		108		70-135	%	03.20.19 20:16

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

QC Summary 618267

LT Environmental, Inc.

Remuda North 25 State 122H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3082825 Matrix: Soil Date Prep: 03.20.19
Parent Sample Id: 618082-041 MS Sample Id: 618082-041 S MSD Sample Id: 618082-041 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)	<7.98	997	1000	100	1040	104	70-135	4	20	mg/kg	03.20.19 21:13	
Diesel Range Organics (DRO)	<8.10	997	1030	103	1060	106	70-135	3	20	mg/kg	03.20.19 21:13	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		122		70-135	%	03.20.19 21:13
o-Terphenyl	98		101		70-135	%	03.20.19 21:13

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3082772 Matrix: Solid Date Prep: 03.20.19
MB Sample Id: 7673968-1-BLK LCS Sample Id: 7673968-1-BKS LCSD Sample Id: 7673968-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.113	113	0.117	117	70-130	3	35	mg/kg	03.20.19 14:50	
Toluene	<0.00200	0.100	0.114	114	0.118	118	70-130	3	35	mg/kg	03.20.19 14:50	
Ethylbenzene	<0.000565	0.100	0.101	101	0.103	103	70-130	2	35	mg/kg	03.20.19 14:50	
m,p-Xylenes	<0.00101	0.200	0.198	99	0.203	101	70-130	2	35	mg/kg	03.20.19 14:50	
o-Xylene	<0.00200	0.100	0.0992	99	0.102	102	70-130	3	35	mg/kg	03.20.19 14:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	117		108		109		70-130	%	03.20.19 14:50
4-Bromofluorobenzene	114		105		108		70-130	%	03.20.19 14:50

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3082772 Matrix: Soil Date Prep: 03.20.19
Parent Sample Id: 618088-010 MS Sample Id: 618088-010 S MSD Sample Id: 618088-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.104	105	0.107	107	70-130	3	35	mg/kg	03.20.19 15:32	
Toluene	0.000601	0.0994	0.107	107	0.109	108	70-130	2	35	mg/kg	03.20.19 15:32	
Ethylbenzene	<0.000561	0.0994	0.0960	97	0.0944	94	70-130	2	35	mg/kg	03.20.19 15:32	
m,p-Xylenes	<0.00101	0.199	0.189	95	0.186	93	70-130	2	35	mg/kg	03.20.19 15:32	
o-Xylene	0.000391	0.0994	0.0955	96	0.0931	93	70-130	3	35	mg/kg	03.20.19 15:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		110		70-130	%	03.20.19 15:32
4-Bromofluorobenzene	113		111		70-130	%	03.20.19 15:32

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

Page 1 of 1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford, Texas (281-240-4200) | Dallas Texas (214-902-0300) | San Antonio, Texas (210-509-3334) | Midland, Texas (432-704-5251) | Phoenix, Arizona (480-355-0900)

www.xenco.com

Xenco Quote #: | Xenco Job #: 618267

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. Permian Office

Company Address: 3300 N "A" St. Building 1 Unit 103 Midland, TX 79705

Email: abyers@ltenv.com, abaker@ltenv.com | Phone No: (432) 704-5178

Project Contact: Adrian Baker

Samplers's Name: Anna Byers

Project Information

Project Name/Number: Remuda North 25 State 1221H

Project Location: 2RP4968

Invoice To: XTO Energy : Kyle Littrell

PO Number:

Analytical Information

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

No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX (only BTEX) 8021	TPH (DRO, GRO, MRO) 8015	Chloride (300.00)	Field Comments
1	SW07	0-8'	3/18	1425	S	1								X	X	X	X	
2	SW08	0-8'	3/18	1500	S	1								X	X	X	X	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

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

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level III Std QC+ Forms
- [ ] Level 3 (CLP Forms)
- [ ] TRRP Checklist
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] TRRP Level IV
- [ ] UST / RG -411

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Anna Byers	3/18/19 1900	Robert M. Allen	Robert Muffley	03/19/19 1300	Timothy P. Elliott
2	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3.20.19 1355				
4	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice: ✓ Cooler Temp. 2.1/2.0 R8 Thermo. Corr. Factor -0.1
5						

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

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Final 1.000

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/20/2019 01:15:00 PM

Work Order #: 618267

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)?	2
#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: 03/20/2019

Checklist reviewed by: Mike Kimmel Date: 03/20/2019

Analytical Report 618268

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda North 25 State 122H

21-MAR-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)

21-MAR-19

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

Reference: XENCO Report No(s): **618268**
Remuda North 25 State 122H
Project Address: 2RP4968

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) 618268. 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. 618268 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 618268

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS09	S	03-19-19 08:45	0 - 8 ft	618268-001
SS10	S	03-19-19 08:50	0 - 8 ft	618268-002
SS11	S	03-19-19 08:55	0 - 8 ft	618268-003

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3082772 BTEX by EPA 8021B

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

Certificate of Analysis Summary 618268

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North 25 State 122H

Project Id:
Contact: Adrian Baker
Project Location: 2RP4968

Date Received in Lab: Wed Mar-20-19 01:22 pm
Report Date: 21-MAR-19
Project Manager: Kalei Stout

Analysis Requested									
	Lab Id:	618268-001		618268-002		618268-003			
	Field Id:	SS09		SS10		SS11			
	Depth:	0-8 ft		0-8 ft		0-8 ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Mar-19-19 08:45		Mar-19-19 08:50		Mar-19-19 08:55			
BTEX by EPA 8021B	***Extracted:***	Mar-20-19 13:30		Mar-20-19 13:30		Mar-20-19 13:30			
	Analyzed:	Mar-20-19 21:48		Mar-20-19 22:07		Mar-20-19 22:26			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198		
Toluene		<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198		
Ethylbenzene		<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198		
m,p-Xylenes		<0.00398	0.00398	<0.00402	0.00402	<0.00397	0.00397		
o-Xylene		<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198		
Total Xylenes		<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198		
Total BTEX		<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198		
Inorganic Anions by EPA 300	***Extracted:***	Mar-20-19 16:30		Mar-20-19 16:30		Mar-20-19 16:30			
	Analyzed:	Mar-20-19 20:52		Mar-20-19 20:57		Mar-20-19 21:03			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		98.8	4.97	68.5	5.04	66.6	4.99		
TPH by SW8015 Mod	***Extracted:***	Mar-20-19 14:00		Mar-20-19 14:00		Mar-20-19 14:00			
	Analyzed:	Mar-21-19 01:26		Mar-21-19 01:45		Mar-21-19 02:05			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0		

Mike Kimmel
Client Services Manager

Certificate of Analytical Results 618268

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SS09**	Matrix:	Soil	Date Received:	03.20.19 13.22
Lab Sample Id:	618268-001	Date Collected:	03.19.19 08.45	Sample Depth:	0 - 8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.20.19 16.30	Basis:	Wet Weight
Seq Number:	3082819				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**98.8**	4.97	mg/kg	03.20.19 20.52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.20.19 14.00	Basis:	Wet Weight
Seq Number:	3082825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.21.19 01.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.21.19 01.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.21.19 01.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.21.19 01.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	03.21.19 01.26	
o-Terphenyl	84-15-1	81	%	70-135	03.21.19 01.26	

Certificate of Analytical Results 618268

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SS09**	Matrix:	Soil	Date Received:	03.20.19 13.22
Lab Sample Id:	618268-001	Date Collected:	03.19.19 08.45	Sample Depth:	0 - 8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.20.19 13.30	Basis:	Wet Weight
Seq Number:	3082772				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.20.19 21.48	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.20.19 21.48	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.20.19 21.48	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.20.19 21.48	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.20.19 21.48	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.20.19 21.48	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.20.19 21.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	03.20.19 21.48	
1,4-Difluorobenzene	540-36-3	115	%	70-130	03.20.19 21.48	

Certificate of Analytical Results 618268

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SS10**	Matrix:	Soil	Date Received:	03.20.19 13.22
Lab Sample Id:	618268-002	Date Collected:	03.19.19 08.50	Sample Depth:	0 - 8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.20.19 16.30	Basis:	Wet Weight
Seq Number:	3082819				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**68.5**	5.04	mg/kg	03.20.19 20.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.20.19 14.00	Basis:	Wet Weight
Seq Number:	3082825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.21.19 01.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.21.19 01.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.21.19 01.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.21.19 01.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	03.21.19 01.45	
o-Terphenyl	84-15-1	95	%	70-135	03.21.19 01.45	

Certificate of Analytical Results 618268

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SS10**	Matrix:	Soil	Date Received:	03.20.19 13.22
Lab Sample Id:	618268-002	Date Collected:	03.19.19 08.50	Sample Depth:	0 - 8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.20.19 13.30	Basis:	Wet Weight
Seq Number:	3082772				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.20.19 22.07	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.20.19 22.07	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.20.19 22.07	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.20.19 22.07	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.20.19 22.07	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.20.19 22.07	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.20.19 22.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	70-130	03.20.19 22.07	
4-Bromofluorobenzene	460-00-4	115	%	70-130	03.20.19 22.07	

Certificate of Analytical Results 618268

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SS11**	Matrix:	Soil	Date Received:	03.20.19 13.22
Lab Sample Id:	618268-003	Date Collected:	03.19.19 08.55	Sample Depth:	0 - 8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.20.19 16.30	Basis:	Wet Weight
Seq Number:	3082819				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**66.6**	4.99	mg/kg	03.20.19 21.03		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.20.19 14.00	Basis:	Wet Weight
Seq Number:	3082825				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.21.19 02.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.21.19 02.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.21.19 02.05	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.21.19 02.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	03.21.19 02.05	
o-Terphenyl	84-15-1	101	%	70-135	03.21.19 02.05	

Certificate of Analytical Results 618268

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SS11**	Matrix:	Soil	Date Received:	03.20.19 13.22
Lab Sample Id:	618268-003	Date Collected:	03.19.19 08.55	Sample Depth:	0 - 8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.20.19 13.30	Basis:	Wet Weight
Seq Number:	3082772				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.20.19 22.26	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.20.19 22.26	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.20.19 22.26	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	03.20.19 22.26	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.20.19 22.26	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.20.19 22.26	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.20.19 22.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	70-130	03.20.19 22.26	
4-Bromofluorobenzene	460-00-4	115	%	70-130	03.20.19 22.26	

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 618268

LT Environmental, Inc.

Remuda North 25 State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3082819 Matrix: Solid Date Prep: 03.20.19
MB Sample Id: 7673967-1-BLK LCS Sample Id: 7673967-1-BKS LCSD Sample Id: 7673967-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	249	100	245	98	90-110	2	20	mg/kg	03.20.19 18:41	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3082819 Matrix: Soil Date Prep: 03.20.19
Parent Sample Id: 618265-001 MS Sample Id: 618265-001 S MSD Sample Id: 618265-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	157	250	408	100	407	100	90-110	0	20	mg/kg	03.20.19 18:58	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3082819 Matrix: Soil Date Prep: 03.20.19
Parent Sample Id: 618266-005 MS Sample Id: 618266-005 S MSD Sample Id: 618266-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.2	248	261	100	257	99	90-110	2	20	mg/kg	03.20.19 20:17	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3082825 Matrix: Solid Date Prep: 03.20.19
MB Sample Id: 7674002-1-BLK LCS Sample Id: 7674002-1-BKS LCSD Sample Id: 7674002-1-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	1060	106	1030	103	70-135	3	20	mg/kg	03.20.19 20:16	
Diesel Range Organics (DRO)	<8.13	1000	1080	108	1040	104	70-135	4	20	mg/kg	03.20.19 20:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		122		126		70-135	%	03.20.19 20:16
o-Terphenyl	121		113		108		70-135	%	03.20.19 20:16

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

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

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

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

QC Summary 618268

LT Environmental, Inc.

Remuda North 25 State 122H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3082825 Matrix: Soil Date Prep: 03.20.19
Parent Sample Id: 618082-041 MS Sample Id: 618082-041 S MSD Sample Id: 618082-041 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)	<7.98	997	1000	100	1040	104	70-135	4	20	mg/kg	03.20.19 21:13	
Diesel Range Organics (DRO)	<8.10	997	1030	103	1060	106	70-135	3	20	mg/kg	03.20.19 21:13	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		122		70-135	%	03.20.19 21:13
o-Terphenyl	98		101		70-135	%	03.20.19 21:13

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3082772 Matrix: Solid Date Prep: 03.20.19
MB Sample Id: 7673968-1-BLK LCS Sample Id: 7673968-1-BKS LCSD Sample Id: 7673968-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.113	113	0.117	117	70-130	3	35	mg/kg	03.20.19 14:50	
Toluene	<0.00200	0.100	0.114	114	0.118	118	70-130	3	35	mg/kg	03.20.19 14:50	
Ethylbenzene	<0.000565	0.100	0.101	101	0.103	103	70-130	2	35	mg/kg	03.20.19 14:50	
m,p-Xylenes	<0.00101	0.200	0.198	99	0.203	101	70-130	2	35	mg/kg	03.20.19 14:50	
o-Xylene	<0.00200	0.100	0.0992	99	0.102	102	70-130	3	35	mg/kg	03.20.19 14:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	117		108		109		70-130	%	03.20.19 14:50
4-Bromofluorobenzene	114		105		108		70-130	%	03.20.19 14:50

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3082772 Matrix: Soil Date Prep: 03.20.19
Parent Sample Id: 618088-010 MS Sample Id: 618088-010 S MSD Sample Id: 618088-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.104	105	0.107	107	70-130	3	35	mg/kg	03.20.19 15:32	
Toluene	0.000601	0.0994	0.107	107	0.109	108	70-130	2	35	mg/kg	03.20.19 15:32	
Ethylbenzene	<0.000561	0.0994	0.0960	97	0.0944	94	70-130	2	35	mg/kg	03.20.19 15:32	
m,p-Xylenes	<0.00101	0.199	0.189	95	0.186	93	70-130	2	35	mg/kg	03.20.19 15:32	
o-Xylene	0.000391	0.0994	0.0955	96	0.0931	93	70-130	3	35	mg/kg	03.20.19 15:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		110		70-130	%	03.20.19 15:32
4-Bromofluorobenzene	113		111		70-130	%	03.20.19 15:32

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

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

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

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

Chain of Custody

Work Order No: 6182608

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 Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.704.5178	Email:	abaker@ltenv.com & abyers@ltenv.com

Work Order Comments

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

Project Name:	Remuda North 25 State 122H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP 4968	Rush: same day	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	2.1/2.0	Thermometer ID	R8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS09	S	3/19/19	0845	0-8'	1	X	X	X
SS10	S	3/19/19	0850	0-8'	1	X	X	X
SS11	S	3/19/19	0855	0-8'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Anna Byers		3/19/19			
2				Robert McGuire	Timothy R. Elliott	3-19-19 1:00 pm
3			3/20/19 1315			
4						
5						
6						

Revised Date 051418 Rev. 2018.1

77474521 7224

Final 1.000

Page 15 of 16

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/20/2019 01:22:01 PM

Work Order #: 618268

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)?	2
#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: 03/20/2019

Checklist reviewed by: Mike Kimmel Date: 03/20/2019

Analytical Report 618388

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda N 25 State 122H

22-MAR-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)

22-MAR-19

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

Reference: XENCO Report No(s): **618388**
Remuda N 25 State 122H
Project Address: Delaware Basin

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) 618388. 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. 618388 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 618388

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	03-19-19 13:05	1 ft	618388-001
PH01A	S	03-19-19 13:10	2 ft	618388-002

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3082934 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 618388-002,618388-001.

Certificate of Analysis Summary 618388

LT Environmental, Inc., Arvada, CO

Project Name: Remuda N 25 State 122H

Project Id:
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Thu Mar-21-19 11:30 am
Report Date: 22-MAR-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	618388-001		618388-002					
	Field Id:	PH01		PH01A					
	Depth:	1- ft		2- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Mar-19-19 13:05		Mar-19-19 13:10					
BTEX by EPA 8021B	***Extracted:***	Mar-21-19 16:00		Mar-21-19 16:00					
	Analyzed:	Mar-21-19 18:54		Mar-21-19 19:13					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00200	0.00200				
Toluene		<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes		<0.00399	0.00399	<0.00401	0.00401				
o-Xylene		<0.00200	0.00200	<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200				
Total BTEX		<0.00200	0.00200	<0.00200	0.00200				
Inorganic Anions by EPA 300	***Extracted:***	Mar-21-19 13:30		Mar-21-19 13:30					
	Analyzed:	Mar-21-19 20:21		Mar-21-19 20:26					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		183	4.97	53.6	4.95				
TPH by SW8015 Mod	***Extracted:***	Mar-21-19 16:00		Mar-21-19 16:00					
	Analyzed:	Mar-22-19 02:51		Mar-22-19 03:11					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 618388

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	03.21.19 11.30
Lab Sample Id:	618388-001	Date Collected:	03.19.19 13.05	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	03.21.19 13.30	Basis:	Wet Weight
Seq Number:	3082960				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**183**	4.97	mg/kg	03.21.19 20.21		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.21.19 16.00	Basis:	Wet Weight
Seq Number:	3082947				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.22.19 02.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.22.19 02.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.22.19 02.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.22.19 02.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	03.22.19 02.51	
o-Terphenyl	84-15-1	98	%	70-135	03.22.19 02.51	

Certificate of Analytical Results 618388

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	03.21.19 11.30
Lab Sample Id:	618388-001	Date Collected:	03.19.19 13.05	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.21.19 16.00	Basis:	Wet Weight
Seq Number:	3082934				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.21.19 18.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.21.19 18.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.21.19 18.54	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.21.19 18.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.21.19 18.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.21.19 18.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.21.19 18.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	158	%	70-130	03.21.19 18.54	**
1,4-Difluorobenzene	540-36-3	109	%	70-130	03.21.19 18.54	

Certificate of Analytical Results 618388

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	03.21.19 11.30
Lab Sample Id:	618388-002	Date Collected:	03.19.19 13.10	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	03.21.19 13.30	Basis:	Wet Weight
Seq Number:	3082960				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**53.6**	4.95	mg/kg	03.21.19 20.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.21.19 16.00	Basis:	Wet Weight
Seq Number:	3082947				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.22.19 03.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.22.19 03.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.22.19 03.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.22.19 03.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	03.22.19 03.11	
o-Terphenyl	84-15-1	101	%	70-135	03.22.19 03.11	

Certificate of Analytical Results 618388

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	03.21.19 11.30
Lab Sample Id:	618388-002	Date Collected:	03.19.19 13.10	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.21.19 16.00	Basis:	Wet Weight
Seq Number:	3082934				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.21.19 19.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.21.19 19.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.21.19 19.13	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.21.19 19.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.21.19 19.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.21.19 19.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.21.19 19.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	153	%	70-130	03.21.19 19.13	**
1,4-Difluorobenzene	540-36-3	110	%	70-130	03.21.19 19.13	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 618388

LT Environmental, Inc.

Remuda N 25 State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3082960 Matrix: Solid Date Prep: 03.21.19
MB Sample Id: 7674054-1-BLK LCS Sample Id: 7674054-1-BKS LCSD Sample Id: 7674054-1-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	251	100	249	100	90-110	1	20	mg/kg	03.21.19 19:47	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3082960 Matrix: Soil Date Prep: 03.21.19
Parent Sample Id: 618364-013 MS Sample Id: 618364-013 S MSD Sample Id: 618364-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4.35	248	255	101	251	99	90-110	2	20	mg/kg	03.21.19 21:23	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3082960 Matrix: Soil Date Prep: 03.21.19
Parent Sample Id: 618387-001 MS Sample Id: 618387-001 S MSD Sample Id: 618387-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.15	249	251	98	250	98	90-110	0	20	mg/kg	03.21.19 20:04	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3082947 Matrix: Solid Date Prep: 03.21.19
MB Sample Id: 7674076-1-BLK LCS Sample Id: 7674076-1-BKS LCSD Sample Id: 7674076-1-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	1130	113	1190	119	70-135	5	20	mg/kg	03.21.19 19:00	
Diesel Range Organics (DRO)	<8.13	1000	1110	111	1160	116	70-135	4	20	mg/kg	03.21.19 19:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		127		128		70-135	%	03.21.19 19:00
o-Terphenyl	107		109		120		70-135	%	03.21.19 19:00

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

QC Summary 618388

LT Environmental, Inc.

Remuda N 25 State 122H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3082947 Matrix: Soil Date Prep: 03.21.19
Parent Sample Id: 617904-001 MS Sample Id: 617904-001 S MSD Sample Id: 617904-001 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	999	1010	101	991	99	70-135	2	20	mg/kg	03.21.19 19:59	
Diesel Range Organics (DRO)	<8.12	999	1000	100	988	99	70-135	1	20	mg/kg	03.21.19 19:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		108		70-135	%	03.21.19 19:59
o-Terphenyl	101		98		70-135	%	03.21.19 19:59

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3082934 Matrix: Solid Date Prep: 03.21.19
MB Sample Id: 7674064-1-BLK LCS Sample Id: 7674064-1-BKS LCSD Sample Id: 7674064-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.110	109	0.106	107	70-130	4	35	mg/kg	03.21.19 17:02	
Toluene	<0.00201	0.101	0.116	115	0.112	113	70-130	4	35	mg/kg	03.21.19 17:02	
Ethylbenzene	<0.000568	0.101	0.102	101	0.0991	100	70-130	3	35	mg/kg	03.21.19 17:02	
m,p-Xylenes	<0.00102	0.201	0.202	100	0.197	99	70-130	3	35	mg/kg	03.21.19 17:02	
o-Xylene	<0.00201	0.101	0.101	100	0.0982	99	70-130	3	35	mg/kg	03.21.19 17:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	117		107		106		70-130	%	03.21.19 17:02
4-Bromofluorobenzene	112		106		107		70-130	%	03.21.19 17:02

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3082934 Matrix: Soil Date Prep: 03.21.19
Parent Sample Id: 618388-001 MS Sample Id: 618388-001 S MSD Sample Id: 618388-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.100	99	0.0853	86	70-130	16	35	mg/kg	03.21.19 17:40	
Toluene	0.00192	0.101	0.109	106	0.0909	89	70-130	18	35	mg/kg	03.21.19 17:40	
Ethylbenzene	0.00189	0.101	0.0939	91	0.0768	75	70-130	20	35	mg/kg	03.21.19 17:40	
m,p-Xylenes	0.00325	0.202	0.188	91	0.154	76	70-130	20	35	mg/kg	03.21.19 17:40	
o-Xylene	<0.00202	0.101	0.0945	94	0.0774	78	70-130	20	35	mg/kg	03.21.19 17:40	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		108		70-130	%	03.21.19 17:40
4-Bromofluorobenzene	112		115		70-130	%	03.21.19 17:40

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

Chain of Custody

Work Order No: 618389

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 Energy
Address:	3300 North A Street	Address:	3104 E Green. Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.704.5178 Email:		abyers@ltenv.com, abaker@ltenv.com

Work Order Comments

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

Project Name:	Remuda N 25 State 122H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP 4968	Rush: same day	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.3 | 0.2	Thermometer ID		
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
PH01	S	3/19/19	1305	1'	1	X	X	X
PH01A	S	3/19/19	1310	2'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

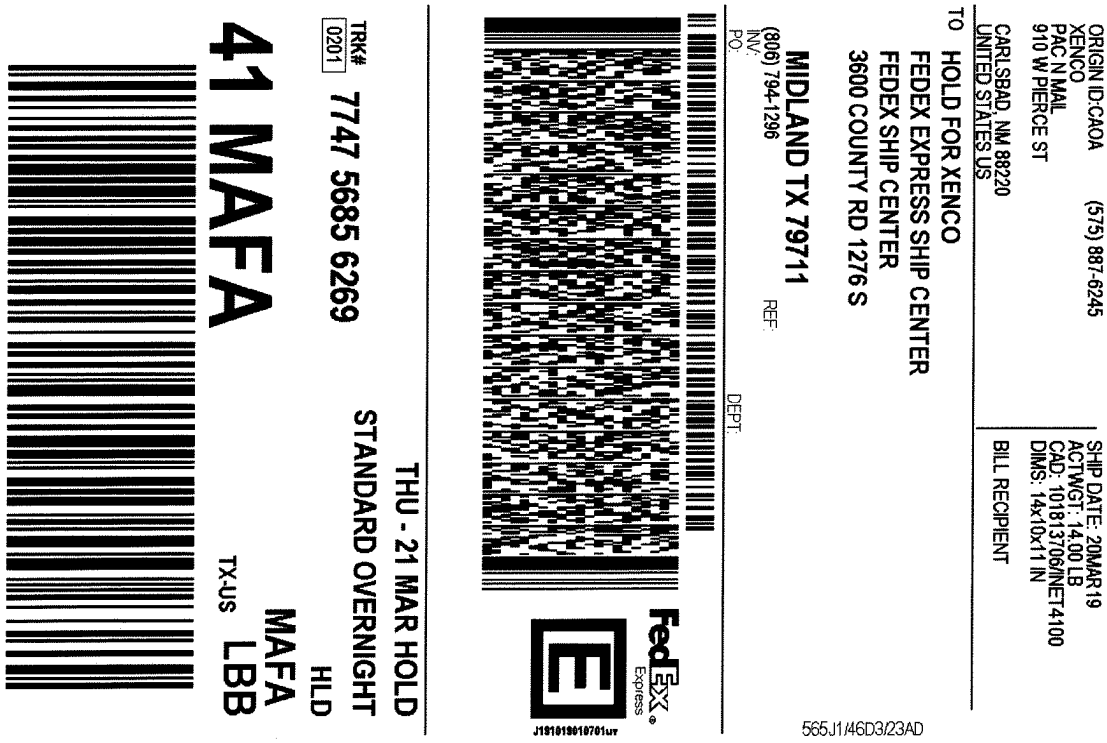
TAT starts the day recevied by the lab, if received by 4:30pm

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	Anna Byers		3/20/19 @ 0600	2	Timothy P. Elliott	03/20/2019 11:40
3			3/21/19 1130	4		
5				6		

Revised Date 051418 Rev. 2018.1



After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/21/2019 11:30:00 AM

Work Order #: 618388

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

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

Analyst:

PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 03/21/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 03/21/2019

Jessica Kramer

Analytical Report 618593

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remunda North 25 State 122H

25-MAR-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)

25-MAR-19

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

Reference: XENCO Report No(s): **618593**
Remunda North 25 State 122H
Project Address: Delaware Basin

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) 618593. 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. 618593 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 618593

LT Environmental, Inc., Arvada, CO

Remunda North 25 State 122H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH02	S	03-20-19 08:15	0.5 ft	618593-001
PH02A	S	03-20-19 08:20	2 ft	618593-002
PH03	S	03-20-19 08:40	0.5 ft	618593-003
PH03A	S	03-20-19 09:50	2 ft	618593-004

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3083149 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 618593-001,618593-004,618593-003.

Certificate of Analysis Summary 618593

LT Environmental, Inc., Arvada, CO

Project Name: Remunda North 25 State 122H

Project Id:
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Fri Mar-22-19 11:55 am
Report Date: 25-MAR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	618593-001		618593-002		618593-003		618593-004					
	Field Id:	PH02		PH02A		PH03		PH03A					
	Depth:	0.5- ft		2- ft		0.5- ft		2- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Mar-20-19 08:15		Mar-20-19 08:20		Mar-20-19 08:40		Mar-20-19 09:50					
BTEX by EPA 8021B	***Extracted:***	Mar-22-19 12:00		Mar-22-19 12:00		Mar-22-19 12:00		Mar-22-19 12:00					
	Analyzed:	Mar-22-19 18:53		Mar-22-19 19:12		Mar-22-19 19:31		Mar-22-19 19:50					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
m,p-Xylenes		<0.00401	0.00401	<0.00398	0.00398	<0.00401	0.00401	<0.00402	0.00402				
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Inorganic Anions by EPA 300	***Extracted:***	Mar-22-19 16:00		Mar-22-19 16:00		Mar-22-19 16:00		Mar-23-19 13:24					
	Analyzed:	Mar-22-19 21:26		Mar-22-19 21:31		Mar-22-19 21:37		Mar-23-19 17:15					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		79.1	5.05	8.56	4.99	82.8	4.98	7.57	4.98				
TPH by SW8015 Mod	***Extracted:***	Mar-22-19 13:00		Mar-22-19 13:00		Mar-22-19 13:00		Mar-22-19 13:00					
	Analyzed:	Mar-22-19 23:31		Mar-22-19 23:51		Mar-23-19 00:50		Mar-23-19 01:10					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 618593

LT Environmental, Inc., Arvada, CO

Remunda North 25 State 122H

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	03.22.19 11.55
Lab Sample Id:	618593-001	Date Collected:	03.20.19 08.15	Sample Depth:	0.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	03.22.19 16.00	Basis:	Wet Weight
Seq Number:	3083140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**79.1**	5.05	mg/kg	03.22.19 21.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.22.19 13.00	Basis:	Wet Weight
Seq Number:	3083115				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.22.19 23.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.22.19 23.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.22.19 23.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.22.19 23.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	03.22.19 23.31	
o-Terphenyl	84-15-1	107	%	70-135	03.22.19 23.31	

Certificate of Analytical Results 618593

LT Environmental, Inc., Arvada, CO

Remunda North 25 State 122H

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	03.22.19 11.55
Lab Sample Id:	618593-001	Date Collected:	03.20.19 08.15	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.22.19 12.00	Basis:	Wet Weight
Seq Number:	3083149				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.22.19 18.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.22.19 18.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.22.19 18.53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.22.19 18.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.22.19 18.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.22.19 18.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.22.19 18.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	139	%	70-130	03.22.19 18.53	**
1,4-Difluorobenzene	540-36-3	109	%	70-130	03.22.19 18.53	

Certificate of Analytical Results 618593

LT Environmental, Inc., Arvada, CO

Remunda North 25 State 122H

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	03.22.19 11.55
Lab Sample Id:	618593-002	Date Collected:	03.20.19 08.20	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	03.22.19 16.00	Basis:	Wet Weight
Seq Number:	3083140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.56**	4.99	mg/kg	03.22.19 21.31		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.22.19 13.00	Basis:	Wet Weight
Seq Number:	3083115				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.22.19 23.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.22.19 23.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.22.19 23.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.22.19 23.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	03.22.19 23.51	
o-Terphenyl	84-15-1	103	%	70-135	03.22.19 23.51	

Certificate of Analytical Results 618593

LT Environmental, Inc., Arvada, CO

Remunda North 25 State 122H

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	03.22.19 11.55
Lab Sample Id:	618593-002	Date Collected:	03.20.19 08.20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.22.19 12.00	Basis:	Wet Weight
Seq Number:	3083149				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.22.19 19.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.22.19 19.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.22.19 19.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.22.19 19.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.22.19 19.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.22.19 19.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.22.19 19.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	70-130	03.22.19 19.12	
4-Bromofluorobenzene	460-00-4	119	%	70-130	03.22.19 19.12	

Certificate of Analytical Results 618593

LT Environmental, Inc., Arvada, CO

Remunda North 25 State 122H

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	03.22.19 11.55
Lab Sample Id:	618593-003	Date Collected:	03.20.19 08.40	Sample Depth:	0.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	03.22.19 16.00	Basis:	Wet Weight
Seq Number:	3083140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**82.8**	4.98	mg/kg	03.22.19 21.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.22.19 13.00	Basis:	Wet Weight
Seq Number:	3083115				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.23.19 00.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.23.19 00.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.23.19 00.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.23.19 00.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.23.19 00.50	
o-Terphenyl	84-15-1	94	%	70-135	03.23.19 00.50	

Certificate of Analytical Results 618593

LT Environmental, Inc., Arvada, CO

Remunda North 25 State 122H

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	03.22.19 11.55
Lab Sample Id:	618593-003	Date Collected:	03.20.19 08.40	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.22.19 12.00	Basis:	Wet Weight
Seq Number:	3083149				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.22.19 19.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.22.19 19.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.22.19 19.31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.22.19 19.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.22.19 19.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.22.19 19.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.22.19 19.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	145	%	70-130	03.22.19 19.31	**
1,4-Difluorobenzene	540-36-3	113	%	70-130	03.22.19 19.31	

Certificate of Analytical Results 618593

LT Environmental, Inc., Arvada, CO

Remunda North 25 State 122H

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	03.22.19 11.55
Lab Sample Id:	618593-004	Date Collected:	03.20.19 09.50	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	03.23.19 13.24	Basis:	Wet Weight
Seq Number:	3083125				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.57**	4.98	mg/kg	03.23.19 17.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.22.19 13.00	Basis:	Wet Weight
Seq Number:	3083115				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.23.19 01.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.23.19 01.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.23.19 01.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.23.19 01.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.23.19 01.10	
o-Terphenyl	84-15-1	93	%	70-135	03.23.19 01.10	

Certificate of Analytical Results 618593

LT Environmental, Inc., Arvada, CO

Remunda North 25 State 122H

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	03.22.19 11.55
Lab Sample Id:	618593-004	Date Collected:	03.20.19 09.50	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.22.19 12.00	Basis:	Wet Weight
Seq Number:	3083149				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.22.19 19.50	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.22.19 19.50	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.22.19 19.50	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.22.19 19.50	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.22.19 19.50	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.22.19 19.50	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.22.19 19.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	03.22.19 19.50	
4-Bromofluorobenzene	460-00-4	131	%	70-130	03.22.19 19.50	**

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 618593

LT Environmental, Inc.

Remunda North 25 State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083140 Matrix: Solid Date Prep: 03.22.19
MB Sample Id: 7674151-1-BLK LCS Sample Id: 7674151-1-BKS LCSD Sample Id: 7674151-1-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	251	100	252	101	90-110	0	20	mg/kg	03.22.19 18:52	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083125 Matrix: Solid Date Prep: 03.23.19
MB Sample Id: 7674152-1-BLK LCS Sample Id: 7674152-1-BKS LCSD Sample Id: 7674152-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	254	102	253	101	90-110	0	20	mg/kg	03.23.19 17:02	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083140 Matrix: Soil Date Prep: 03.22.19
Parent Sample Id: 618592-001 MS Sample Id: 618592-001 S MSD Sample Id: 618592-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.97	249	243	96	243	96	90-110	0	20	mg/kg	03.22.19 19:09	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083140 Matrix: Soil Date Prep: 03.22.19
Parent Sample Id: 618592-015 MS Sample Id: 618592-015 S MSD Sample Id: 618592-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	26.2	252	275	99	274	98	90-110	0	20	mg/kg	03.22.19 20:29	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083125 Matrix: Soil Date Prep: 03.23.19
Parent Sample Id: 618593-004 MS Sample Id: 618593-004 S MSD Sample Id: 618593-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.57	249	262	102	260	101	90-110	1	20	mg/kg	03.23.19 17:22	

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

QC Summary 618593

LT Environmental, Inc.

Remunda North 25 State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083125 Matrix: Soil Date Prep: 03.23.19
Parent Sample Id: 618659-003 MS Sample Id: 618659-003 S MSD Sample Id: 618659-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5.60	249	256	101	264	104	90-110	3	20	mg/kg	03.23.19 18:55	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3083115 Matrix: Solid Date Prep: 03.22.19
MB Sample Id: 7674181-1-BLK LCS Sample Id: 7674181-1-BKS LCSD Sample Id: 7674181-1-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	1060	106	1030	103	70-135	3	20	mg/kg	03.22.19 19:35	
Diesel Range Organics (DRO)	<8.13	1000	1160	116	1120	112	70-135	4	20	mg/kg	03.22.19 19:35	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		127		129		70-135	%	03.22.19 19:35
o-Terphenyl	107		118		118		70-135	%	03.22.19 19:35

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3083115 Matrix: Soil Date Prep: 03.22.19
Parent Sample Id: 617910-001 MS Sample Id: 617910-001 S MSD Sample Id: 617910-001 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)	<7.98	997	981	98	1000	100	70-135	2	20	mg/kg	03.22.19 20:36	
Diesel Range Organics (DRO)	<8.10	997	1000	100	1020	102	70-135	2	20	mg/kg	03.22.19 20:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		128		70-135	%	03.22.19 20:36
o-Terphenyl	116		118		70-135	%	03.22.19 20:36

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

QC Summary 618593

LT Environmental, Inc.

Remunda North 25 State 122H

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

Seq Number: 3083149 Matrix: Solid Date Prep: 03.22.19

MB Sample Id: 7674222-1-BLK LCS Sample Id: 7674222-1-BKS LCSD Sample Id: 7674222-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.105	106	0.112	112	70-130	6	35	mg/kg	03.22.19 12:12	
Toluene	<0.00199	0.0994	0.109	110	0.116	116	70-130	6	35	mg/kg	03.22.19 12:12	
Ethylbenzene	<0.000561	0.0994	0.0947	95	0.0997	100	70-130	5	35	mg/kg	03.22.19 12:12	
m,p-Xylenes	<0.00101	0.199	0.187	94	0.196	98	70-130	5	35	mg/kg	03.22.19 12:12	
o-Xylene	<0.00199	0.0994	0.0950	96	0.0990	99	70-130	4	35	mg/kg	03.22.19 12:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	117		107		107		70-130	%	03.22.19 12:12
4-Bromofluorobenzene	110		105		102		70-130	%	03.22.19 12:12

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

Seq Number: 3083149 Matrix: Soil Date Prep: 03.22.19

Parent Sample Id: 617809-001 MS Sample Id: 617809-001 S MSD Sample Id: 617809-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.104	104	0.0999	100	70-130	4	35	mg/kg	03.22.19 12:50	
Toluene	0.000612	0.0998	0.106	106	0.102	102	70-130	4	35	mg/kg	03.22.19 12:50	
Ethylbenzene	<0.000564	0.0998	0.0900	90	0.0875	88	70-130	3	35	mg/kg	03.22.19 12:50	
m,p-Xylenes	<0.00101	0.200	0.176	88	0.171	86	70-130	3	35	mg/kg	03.22.19 12:50	
o-Xylene	<0.000344	0.0998	0.0888	89	0.0854	86	70-130	4	35	mg/kg	03.22.19 12:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		109		70-130	%	03.22.19 12:50
4-Bromofluorobenzene	106		106		70-130	%	03.22.19 12:50

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: 618593

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:	Adrian Baker	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 Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.704.5178 Email:		abyers@ltenv.com & abaker@ltenv.com

Work Order Comments

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

Project Name:	Remuda North 25 State 132H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP 4968	Rush: same day	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT				
Temperature (°C):	0.3/0.2	Temp Blank: Yes (No)	Wet Ice: (Yes) No	
Received Intact:	(Yes) No	Thermometer ID:	DE	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1	
Sample Custody Seals:	Yes No (N/A)	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
PH02	S	3/20/19	0815	0.5'	1	X	X	X
PH02A	S	3/20/19	0820	2'	1	X	X	X
PH03	S	3/20/19	0940	0.5'	1	X	X	X
PH03A	S	3/20/19	0950	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	Anna Byers		3/20/19 1800	2		03/21/19 10:15
3			3/22/19 1155	4		
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Page 18 of 20

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/22/2019 11:55:00 AM

Work Order #: 618593

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 03/22/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 03/22/2019
Jessica Kramer

Analytical Report 619077

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda N 25 State 122H

28-MAR-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)

28-MAR-19

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

Reference: XENCO Report No(s): **619077**
Remuda N 25 State 122H
Project Address: Delaware Basin

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) 619077. 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. 619077 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 619077

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW12	S	03-22-19 12:20	2 - 5 ft	619077-001
SW13	S	03-22-19 14:45	2 - 7 ft	619077-002
SW14	S	03-22-19 14:30	2 - 5 ft	619077-003
FS04	S	03-22-19 13:00	6 ft	619077-004
FS05	S	03-22-19 13:25	6 - 8 ft	619077-005

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3083678 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 619077-001,619077-002,619077-005,619077-004,619077-003.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 619077

LT Environmental, Inc., Arvada, CO

Project Name: Remuda N 25 State 122H

Project Id:

Contact: Adrian Baker

Project Location: Delaware Basin

Date Received in Lab: Wed Mar-27-19 11:50 am

Report Date: 28-MAR-19

Project Manager: Kalei Stout

Analysis Requested											
	Lab Id:	619077-001		619077-002		619077-003		619077-004		619077-005	
	Field Id:	SW12		SW13		SW14		FS04		FS05	
	Depth:	2-5 ft		2-7 ft		2-5 ft		6- ft		6-8 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-22-19 12:20		Mar-22-19 14:45		Mar-22-19 14:30		Mar-22-19 13:00		Mar-22-19 13:25	
BTEX by EPA 8021B	***Extracted:***	Mar-27-19 13:00		Mar-27-19 13:00		Mar-27-19 13:00		Mar-27-19 13:00		Mar-27-19 13:00	
	Analyzed:	Mar-28-19 00:13		Mar-28-19 00:32		Mar-28-19 00:51		Mar-28-19 01:10		Mar-28-19 01:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
m,p-Xylenes		<0.00397	0.00397	<0.00400	0.00400	<0.00398	0.00398	<0.00402	0.00402	<0.00402	0.00402
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
Inorganic Anions by EPA 300	***Extracted:***	Mar-27-19 15:15		Mar-27-19 15:15		Mar-27-19 15:15		Mar-27-19 15:15		Mar-27-19 15:15	
	Analyzed:	Mar-27-19 17:55		Mar-27-19 18:01		Mar-27-19 18:08		Mar-27-19 18:15		Mar-27-19 22:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.95	4.95	56.2	4.95	180	4.95	12.5	5.04	96.7	4.98
TPH by SW8015 Mod	***Extracted:***	Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00	
	Analyzed:	Mar-27-19 18:38		Mar-27-19 18:57		Mar-27-19 19:16		Mar-27-19 19:35		Mar-27-19 19:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0

Mike Kimmel
Client Services Manager

Certificate of Analytical Results 619077

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SW12**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619077-001	Date Collected:	03.22.19 12.20	Sample Depth:	2 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.27.19 15.15	Basis:	Wet Weight
Seq Number:	3083705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	03.27.19 17.55	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 18.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 18.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 18.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 18.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	03.27.19 18.38	
o-Terphenyl	84-15-1	84	%	70-135	03.27.19 18.38	

Certificate of Analytical Results 619077

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SW12**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619077-001	Date Collected:	03.22.19 12.20	Sample Depth:	2 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.28.19 00.13	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.28.19 00.13	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.28.19 00.13	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	03.28.19 00.13	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.28.19 00.13	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.28.19 00.13	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.28.19 00.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.28.19 00.13	
4-Bromofluorobenzene	460-00-4	137	%	70-130	03.28.19 00.13	**

Certificate of Analytical Results 619077

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SW13**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619077-002	Date Collected:	03.22.19 14.45	Sample Depth:	2 - 7 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.27.19 15.15	Basis:	Wet Weight
Seq Number:	3083705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**56.2**	4.95	mg/kg	03.27.19 18.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 18.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 18.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 18.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 18.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.27.19 18.57	
o-Terphenyl	84-15-1	83	%	70-135	03.27.19 18.57	

Certificate of Analytical Results 619077

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SW13**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619077-002	Date Collected:	03.22.19 14.45	Sample Depth:	2 - 7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.28.19 00.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.28.19 00.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.28.19 00.32	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.28.19 00.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.28.19 00.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.28.19 00.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.28.19 00.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	141	%	70-130	03.28.19 00.32	**
1,4-Difluorobenzene	540-36-3	102	%	70-130	03.28.19 00.32	

Certificate of Analytical Results 619077

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SW14**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619077-003	Date Collected:	03.22.19 14.30	Sample Depth:	2 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.27.19 15.15	Basis:	Wet Weight
Seq Number:	3083705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**180**	4.95	mg/kg	03.27.19 18.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.27.19 19.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.27.19 19.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.27.19 19.16	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.27.19 19.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.27.19 19.16	
o-Terphenyl	84-15-1	84	%	70-135	03.27.19 19.16	

Certificate of Analytical Results 619077

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**SW14**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619077-003	Date Collected:	03.22.19 14.30	Sample Depth:	2 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.28.19 00.51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.28.19 00.51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.28.19 00.51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.28.19 00.51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.28.19 00.51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.28.19 00.51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.28.19 00.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	139	%	70-130	03.28.19 00.51	**
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.28.19 00.51	

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619077-004	Date Collected:	03.22.19 13.00	Sample Depth:	6 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.27.19 15.15	Basis:	Wet Weight
Seq Number:	3083705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.5**	5.04	mg/kg	03.27.19 18.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 19.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 19.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 19.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 19.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.27.19 19.35	
o-Terphenyl	84-15-1	84	%	70-135	03.27.19 19.35	

Certificate of Analytical Results 619077

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619077-004	Date Collected:	03.22.19 13.00	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.28.19 01.10	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.28.19 01.10	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.28.19 01.10	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.28.19 01.10	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.28.19 01.10	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.28.19 01.10	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.28.19 01.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	139	%	70-130	03.28.19 01.10	**
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.28.19 01.10	

Certificate of Analytical Results 619077

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619077-005	Date Collected:	03.22.19 13.25	Sample Depth:	6 - 8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.27.19 15.15	Basis:	Wet Weight
Seq Number:	3083705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**96.7**	4.98	mg/kg	03.27.19 22.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 19.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 19.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 19.54	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 19.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.27.19 19.54	
o-Terphenyl	84-15-1	83	%	70-135	03.27.19 19.54	

Certificate of Analytical Results 619077

LT Environmental, Inc., Arvada, CO

Remuda N 25 State 122H

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619077-005	Date Collected:	03.22.19 13.25	Sample Depth:	6 - 8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.28.19 01.30	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.28.19 01.30	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.28.19 01.30	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.28.19 01.30	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.28.19 01.30	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.28.19 01.30	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.28.19 01.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	141	%	70-130	03.28.19 01.30	**
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.28.19 01.30	

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 619077

LT Environmental, Inc.

Remuda N 25 State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083705 Matrix: Solid Date Prep: 03.27.19
MB Sample Id: 7674464-1-BLK LCS Sample Id: 7674464-1-BKS LCSD Sample Id: 7674464-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	232	93	240	96	90-110	3	20	mg/kg	03.27.19 15:15	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083705 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 619076-001 MS Sample Id: 619076-001 S MSD Sample Id: 619076-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	58.9	250	296	95	301	97	90-110	2	20	mg/kg	03.27.19 15:34	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083705 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 619076-011 MS Sample Id: 619076-011 S MSD Sample Id: 619076-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	18.3	249	268	100	263	98	90-110	2	20	mg/kg	03.27.19 17:08	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3083698 Matrix: Solid Date Prep: 03.27.19
MB Sample Id: 7674533-1-BLK LCS Sample Id: 7674533-1-BKS LCSD Sample Id: 7674533-1-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	946	95	1010	101	70-135	7	20	mg/kg	03.27.19 12:12	
Diesel Range Organics (DRO)	<8.13	1000	982	98	1050	105	70-135	7	20	mg/kg	03.27.19 12:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		126		129		70-135	%	03.27.19 12:12
o-Terphenyl	91		102		109		70-135	%	03.27.19 12:12

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

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

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

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

QC Summary 619077

LT Environmental, Inc.

Remuda N 25 State 122H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3083698 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 619076-001 MS Sample Id: 619076-001 S MSD Sample Id: 619076-001 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)	9.02	998	903	90	916	91	70-135	1	20	mg/kg	03.27.19 13:10	
Diesel Range Organics (DRO)	<8.11	998	947	95	956	96	70-135	1	20	mg/kg	03.27.19 13:10	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		121		70-135	%	03.27.19 13:10
o-Terphenyl	100		97		70-135	%	03.27.19 13:10

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3083678 Matrix: Solid Date Prep: 03.27.19
MB Sample Id: 7674451-1-BLK LCS Sample Id: 7674451-1-BKS LCSD Sample Id: 7674451-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.110	110	0.114	114	70-130	4	35	mg/kg	03.27.19 21:05	
Toluene	<0.000457	0.100	0.108	108	0.112	112	70-130	4	35	mg/kg	03.27.19 21:05	
Ethylbenzene	<0.000566	0.100	0.116	116	0.119	119	70-130	3	35	mg/kg	03.27.19 21:05	
m,p-Xylenes	<0.00102	0.200	0.223	112	0.232	116	70-130	4	35	mg/kg	03.27.19 21:05	
o-Xylene	<0.000345	0.100	0.116	116	0.121	121	70-130	4	35	mg/kg	03.27.19 21:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		100		103		70-130	%	03.27.19 21:05
4-Bromofluorobenzene	111		113		124		70-130	%	03.27.19 21:05

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3083678 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 619076-011 MS Sample Id: 619076-011 S MSD Sample Id: 619076-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.109	109	0.115	114	70-130	5	35	mg/kg	03.27.19 21:43	
Toluene	<0.000456	0.100	0.106	106	0.112	111	70-130	6	35	mg/kg	03.27.19 21:43	
Ethylbenzene	<0.000565	0.100	0.112	112	0.118	117	70-130	5	35	mg/kg	03.27.19 21:43	
m,p-Xylenes	<0.00101	0.200	0.215	108	0.228	113	70-130	6	35	mg/kg	03.27.19 21:43	
o-Xylene	<0.000344	0.100	0.112	112	0.119	118	70-130	6	35	mg/kg	03.27.19 21:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		104		70-130	%	03.27.19 21:43
4-Bromofluorobenzene	123		127		70-130	%	03.27.19 21:43

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

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

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

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

Chain of Custody

Work Order No: 1e19077

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:	Cgreen@LTenv.com/Abaker@LTenv.com

Work Order Comments

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

Project Name:	Remuda N25 State 122H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP-4968	Rush: Same day	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.3 0.2	Thermometer ID:	CC
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SW12	S	03/22/19	1220	2'-5'	1	X	X	X
SW13	S		1445	2'-7'	1			
SW14	S		1430	2'-5'	1			
FS04	S		1300	6'	1			
FS05	S		1325	6'-8'	1			

Garrett Green

Work Order Notes

32.27534
-103.94429

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	Garrett Green	Timothy R. Elliott	3/25/19-1650	2		
3						
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Page 19 of 21

ORIGIN ID:CAOA (575) 887-6245
XENCO
PAC N MAIL
910 W PIERCE ST
CARLSBAD, NM 88220
UNITED STATES US

SHIP DATE: 26MAR19
ACTWGT: 65.00 LB
CAD: 101813706/INET4100
DIMS: 22x15x16 IN

BILL RECIPIENT

TO **HOLD FOR XENCO**
FEDEX EXPRESS SHIP CENTER
FEDEX SHIP CENTER
3600 COUNTY RD 1276 S

MIDLAND TX 79711
(806) 794-1296
INV:
PO:
REF:
DEPT:

565J1/46D3/23AD

J191019010701uv

FedEx Express

WED - 27 MAR HOLD
STANDARD OVERNIGHT
HLD

TRK# 0201 **7748 0498 0114**

41 MAFA

MAFA
TX-US **LBB**

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/27/2019 11:50:00 AM

Work Order #: 619077

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 03/27/2019
Brianna Teel

Checklist reviewed by: Whitney Capps Date: 03/27/2019
Whitney Capps

Analytical Report 619078

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda North 25 State 122H

28-MAR-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)

28-MAR-19

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

Reference: XENCO Report No(s): **619078**
Remuda North 25 State 122H
Project Address: Delaware Basin

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) 619078. 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. 619078 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 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW15	S	03-25-19 14:45	0 - 6.5 ft	619078-001
SW16	S	03-25-19 14:50	0 - 6.5 ft	619078-002
SW17	S	03-25-19 15:10	0 - 6.5 ft	619078-003
SW18	S	03-25-19 15:20	0 - 6.5 ft	619078-004
FS06	S	03-25-19 17:30	7 ft	619078-005
FS07	S	03-25-19 17:32	7 ft	619078-006
FS08	S	03-25-19 17:35	7 ft	619078-007
FS09	S	03-25-19 17:38	7 ft	619078-008
FS10	S	03-25-19 17:40	7 ft	619078-009
FS11	S	03-25-19 17:43	7 ft	619078-010
FS12	S	03-25-19 17:45	7 - 10 ft	619078-011
FS13	S	03-26-19 09:50	7 - 10 ft	619078-012
FS14	S	03-26-19 11:35	7 - 10 ft	619078-013
FS15	S	03-26-19 11:40	7 - 10 ft	619078-014
FS16	S	03-26-19 11:50	7 - 10 ft	619078-015
FS17	S	03-26-19 09:55	10 ft	619078-016

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3083678 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 619078-001,619078-003,619078-004,619078-005,619078-011,619078-007,619078-008,619078-009,619078-010,619078-006.

Batch: LBA-3083682 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 619078

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North 25 State 122H

Project Id:

Contact: Adrian Baker

Project Location: Delaware Basin

Date Received in Lab: Wed Mar-27-19 11:50 am

Report Date: 28-MAR-19

Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	619078-001		619078-002		619078-003		619078-004		619078-005		619078-006	
	Field Id:	SW15		SW16		SW17		SW18		FS06		FS07	
	Depth:	0-6.5 ft		0-6.5 ft		0-6.5 ft		0-6.5 ft		7- ft		7- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-25-19 14:45		Mar-25-19 14:50		Mar-25-19 15:10		Mar-25-19 15:20		Mar-25-19 17:30		Mar-25-19 17:32	
BTEX by EPA 8021B	***Extracted:***	Mar-27-19 13:00		Mar-27-19 13:00		Mar-27-19 13:00		Mar-27-19 13:00		Mar-27-19 13:00		Mar-27-19 13:00	
	Analyzed:	Mar-28-19 01:49		Mar-28-19 03:03		Mar-28-19 03:22		Mar-28-19 03:41		Mar-28-19 04:00		Mar-28-19 04:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00399	0.00399	<0.00401	0.00401	<0.00398	0.00398	<0.00403	0.00403	<0.00398	0.00398	<0.00400	0.00400
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Mar-27-19 15:15		Mar-27-19 15:40		Mar-27-19 15:40		Mar-27-19 15:40		Mar-27-19 15:40		Mar-27-19 15:40	
	Analyzed:	Mar-27-19 18:28		Mar-27-19 19:08		Mar-27-19 19:28		Mar-27-19 19:35		Mar-27-19 19:42		Mar-27-19 19:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		284	5.00	131	5.04	159	4.98	61.1	4.99	341	5.00	70.6	4.96
TPH by SW8015 Mod	***Extracted:***	Mar-27-19 17:00		Mar-27-19 17:00		Mar-27-19 17:00		Mar-27-19 17:00		Mar-27-19 17:00		Mar-27-19 17:00	
	Analyzed:	Mar-27-19 21:48		Mar-27-19 22:45		Mar-27-19 23:04		Mar-27-19 23:23		Mar-27-19 23:42		Mar-28-19 00:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Diesel Range Organics (DRO)		<15.0	15.0	16.3	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Total TPH		<15.0	15.0	16.3	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 619078

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North 25 State 122H

Project Id:

Contact: Adrian Baker

Project Location: Delaware Basin

Date Received in Lab: Wed Mar-27-19 11:50 am

Report Date: 28-MAR-19

Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	619078-007		619078-008		619078-009		619078-010		619078-011		619078-012	
	Field Id:	FS08		FS09		FS10		FS11		FS12		FS13	
	Depth:	7- ft		7- ft		7- ft		7- ft		7-10 ft		7-10 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-25-19 17:35		Mar-25-19 17:38		Mar-25-19 17:40		Mar-25-19 17:43		Mar-25-19 17:45		Mar-26-19 09:50	
BTEX by EPA 8021B	***Extracted:***	Mar-27-19 13:00		Mar-27-19 13:00		Mar-27-19 13:00		Mar-27-19 13:00		Mar-27-19 13:00		Mar-27-19 15:00	
	Analyzed:	Mar-28-19 04:38		Mar-28-19 04:57		Mar-28-19 05:16		Mar-28-19 05:35		Mar-28-19 05:54		Mar-27-19 22:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00401	0.00401	<0.00402	0.00402	<0.00400	0.00400	<0.00399	0.00399
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Mar-27-19 15:40		Mar-27-19 15:40		Mar-27-19 15:40		Mar-27-19 15:40		Mar-27-19 15:40		Mar-27-19 15:40	
	Analyzed:	Mar-27-19 20:08		Mar-27-19 20:15		Mar-27-19 20:22		Mar-27-19 20:28		Mar-27-19 20:35		Mar-27-19 20:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		76.7	5.03	184	4.99	200	4.97	175	5.00	88.1	5.00	223	5.00
TPH by SW8015 Mod	***Extracted:***	Mar-27-19 17:00		Mar-27-19 17:00		Mar-27-19 17:00		Mar-27-19 17:00		Mar-27-19 17:00		Mar-27-19 17:00	
	Analyzed:	Mar-28-19 00:20		Mar-28-19 00:39		Mar-28-19 00:58		Mar-28-19 01:17		Mar-28-19 02:14		Mar-28-19 02:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 619078

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North 25 State 122H

Project Id:
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Wed Mar-27-19 11:50 am
Report Date: 28-MAR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	619078-013		619078-014		619078-015		619078-016					
	Field Id:	FS14		FS15		FS16		FS17					
	Depth:	7-10 ft		7-10 ft		7-10 ft		10- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Mar-26-19 11:35		Mar-26-19 11:40		Mar-26-19 11:50		Mar-26-19 09:55					
BTEX by EPA 8021B	***Extracted:***	Mar-27-19 15:00		Mar-27-19 15:00		Mar-27-19 15:00		Mar-27-19 15:00					
	Analyzed:	Mar-27-19 22:34		Mar-27-19 22:53		Mar-27-19 23:12		Mar-27-19 23:31					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
Toluene		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes		<0.00398	0.00398	<0.00397	0.00397	<0.00399	0.00399	<0.00399	0.00399				
o-Xylene		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
Total Xylenes		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
Total BTEX		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
Inorganic Anions by EPA 300	***Extracted:***	Mar-27-19 15:40		Mar-27-19 15:40		Mar-27-19 15:40		Mar-27-19 15:40					
	Analyzed:	Mar-27-19 21:02		Mar-27-19 21:08		Mar-27-19 21:29		Mar-27-19 21:35					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		186	5.00	170	5.00	188	4.99	132	4.95				
TPH by SW8015 Mod	***Extracted:***	Mar-27-19 17:00		Mar-27-19 17:00		Mar-27-19 17:00		Mar-27-19 17:00					
	Analyzed:	Mar-28-19 02:52		Mar-28-19 03:12		Mar-28-19 03:31		Mar-28-19 03:50					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				

Mike Kimmel
Client Services Manager

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SW15**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-001	Date Collected:	03.25.19 14.45	Sample Depth:	0 - 6.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.27.19 15.15	Basis:	Wet Weight
Seq Number:	3083705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**284**	5.00	mg/kg	03.27.19 18.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 21.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 21.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 21.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 21.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	03.27.19 21.48	
o-Terphenyl	84-15-1	86	%	70-135	03.27.19 21.48	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SW15**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-001	Date Collected:	03.25.19 14.45	Sample Depth:	0 - 6.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.28.19 01.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.28.19 01.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.28.19 01.49	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.28.19 01.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.28.19 01.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.28.19 01.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.28.19 01.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	143	%	70-130	03.28.19 01.49	**
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.28.19 01.49	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SW16**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-002	Date Collected:	03.25.19 14.50	Sample Depth:	0 - 6.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**131**	5.04	mg/kg	03.27.19 19.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 22.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	**16.3**	15.0	mg/kg	03.27.19 22.45		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 22.45	U	1
Total TPH	PHC635	**16.3**	15.0	mg/kg	03.27.19 22.45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	03.27.19 22.45	
o-Terphenyl	84-15-1	87	%	70-135	03.27.19 22.45	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SW16**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-002	Date Collected:	03.25.19 14.50	Sample Depth:	0 - 6.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.28.19 03.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.28.19 03.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.28.19 03.03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.28.19 03.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.28.19 03.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.28.19 03.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.28.19 03.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.28.19 03.03	
4-Bromofluorobenzene	460-00-4	129	%	70-130	03.28.19 03.03	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SW17**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-003	Date Collected:	03.25.19 15.10	Sample Depth:	0 - 6.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**159**	4.98	mg/kg	03.27.19 19.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 23.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 23.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 23.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 23.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	03.27.19 23.04	
o-Terphenyl	84-15-1	90	%	70-135	03.27.19 23.04	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SW17**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-003	Date Collected:	03.25.19 15.10	Sample Depth:	0 - 6.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.28.19 03.22	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.28.19 03.22	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.28.19 03.22	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.28.19 03.22	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.28.19 03.22	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.28.19 03.22	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.28.19 03.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	03.28.19 03.22	
4-Bromofluorobenzene	460-00-4	134	%	70-130	03.28.19 03.22	**

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**SW18**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-004	Date Collected:	03.25.19 15.20	Sample Depth:	0 - 6.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**61.1**	4.99	mg/kg	03.27.19 19.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 23.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 23.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 23.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 23.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	03.27.19 23.23	
o-Terphenyl	84-15-1	87	%	70-135	03.27.19 23.23	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW18**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-004	Date Collected:	03.25.19 15.20	Sample Depth:	0 - 6.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.28.19 03.41	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.28.19 03.41	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.28.19 03.41	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.28.19 03.41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.28.19 03.41	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.28.19 03.41	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.28.19 03.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	144	%	70-130	03.28.19 03.41	**
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.28.19 03.41	

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LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-005	Date Collected:	03.25.19 17.30	Sample Depth:	7 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**341**	5.00	mg/kg	03.27.19 19.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 23.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 23.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 23.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 23.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.27.19 23.42	
o-Terphenyl	84-15-1	84	%	70-135	03.27.19 23.42	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**FS06**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-005	Date Collected:	03.25.19 17.30	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.28.19 04.00	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.28.19 04.00	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.28.19 04.00	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.28.19 04.00	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.28.19 04.00	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.28.19 04.00	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.28.19 04.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.28.19 04.00	
4-Bromofluorobenzene	460-00-4	141	%	70-130	03.28.19 04.00	**

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LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-006	Date Collected:	03.25.19 17.32	Sample Depth:	7 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**70.6**	4.96	mg/kg	03.27.19 19.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.28.19 00.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.28.19 00.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.28.19 00.01	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.28.19 00.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	03.28.19 00.01	
o-Terphenyl	84-15-1	86	%	70-135	03.28.19 00.01	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**FS07**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-006	Date Collected:	03.25.19 17.32	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.28.19 04.19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.28.19 04.19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.28.19 04.19	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.28.19 04.19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.28.19 04.19	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.28.19 04.19	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.28.19 04.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.28.19 04.19	
4-Bromofluorobenzene	460-00-4	144	%	70-130	03.28.19 04.19	**

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Sample Id:	**FS08**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-007	Date Collected:	03.25.19 17.35	Sample Depth:	7 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**76.7**	5.03	mg/kg	03.27.19 20.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.28.19 00.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.28.19 00.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.28.19 00.20	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.28.19 00.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.28.19 00.20	
o-Terphenyl	84-15-1	84	%	70-135	03.28.19 00.20	

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LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-007	Date Collected:	03.25.19 17.35	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.28.19 04.38	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.28.19 04.38	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.28.19 04.38	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.28.19 04.38	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.28.19 04.38	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.28.19 04.38	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.28.19 04.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	143	%	70-130	03.28.19 04.38	**
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.28.19 04.38	

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LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-008	Date Collected:	03.25.19 17.38	Sample Depth:	7 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**184**	4.99	mg/kg	03.27.19 20.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.28.19 00.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.28.19 00.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.28.19 00.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.28.19 00.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	03.28.19 00.39	
o-Terphenyl	84-15-1	84	%	70-135	03.28.19 00.39	

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LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-008	Date Collected:	03.25.19 17.38	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.28.19 04.57	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.28.19 04.57	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.28.19 04.57	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.28.19 04.57	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.28.19 04.57	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.28.19 04.57	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.28.19 04.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	141	%	70-130	03.28.19 04.57	**
1,4-Difluorobenzene	540-36-3	99	%	70-130	03.28.19 04.57	

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Remuda North 25 State 122H

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-009	Date Collected:	03.25.19 17.40	Sample Depth:	7 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**200**	4.97	mg/kg	03.27.19 20.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.28.19 00.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.28.19 00.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.28.19 00.58	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.28.19 00.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.28.19 00.58	
o-Terphenyl	84-15-1	83	%	70-135	03.28.19 00.58	

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Sample Id:	**FS10**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-009	Date Collected:	03.25.19 17.40	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.28.19 05.16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.28.19 05.16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.28.19 05.16	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.28.19 05.16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.28.19 05.16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.28.19 05.16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.28.19 05.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	141	%	70-130	03.28.19 05.16	**
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.28.19 05.16	

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Sample Id:	**FS11**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-010	Date Collected:	03.25.19 17.43	Sample Depth:	7 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**175**	5.00	mg/kg	03.27.19 20.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.28.19 01.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.28.19 01.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.28.19 01.17	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.28.19 01.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	03.28.19 01.17	
o-Terphenyl	84-15-1	83	%	70-135	03.28.19 01.17	

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Sample Id:	**FS11**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-010	Date Collected:	03.25.19 17.43	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.28.19 05.35	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.28.19 05.35	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.28.19 05.35	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.28.19 05.35	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.28.19 05.35	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.28.19 05.35	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.28.19 05.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	03.28.19 05.35	
4-Bromofluorobenzene	460-00-4	138	%	70-130	03.28.19 05.35	**

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Remuda North 25 State 122H

Sample Id:	**FS12**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-011	Date Collected:	03.25.19 17.45	Sample Depth:	7 - 10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**88.1**	5.00	mg/kg	03.27.19 20.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.28.19 02.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.28.19 02.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.28.19 02.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.28.19 02.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	03.28.19 02.14	
o-Terphenyl	84-15-1	87	%	70-135	03.28.19 02.14	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS12**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-011	Date Collected:	03.25.19 17.45	Sample Depth:	7 - 10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.28.19 05.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.28.19 05.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.28.19 05.54	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.28.19 05.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.28.19 05.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.28.19 05.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.28.19 05.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.28.19 05.54	
4-Bromofluorobenzene	460-00-4	141	%	70-130	03.28.19 05.54	**

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS13**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-012	Date Collected:	03.26.19 09.50	Sample Depth:	7 - 10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**223**	5.00	mg/kg	03.27.19 20.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.28.19 02.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.28.19 02.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.28.19 02.33	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.28.19 02.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	03.28.19 02.33	
o-Terphenyl	84-15-1	82	%	70-135	03.28.19 02.33	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS13**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-012	Date Collected:	03.26.19 09.50	Sample Depth:	7 - 10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 15.00	Basis:	Wet Weight
Seq Number:	3083682				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 22.15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 22.15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 22.15	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.27.19 22.15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 22.15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 22.15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 22.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	03.27.19 22.15	
4-Bromofluorobenzene	460-00-4	119	%	70-130	03.27.19 22.15	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS14**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-013	Date Collected:	03.26.19 11.35	Sample Depth:	7 - 10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**186**	5.00	mg/kg	03.27.19 21.02		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.28.19 02.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.28.19 02.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.28.19 02.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.28.19 02.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	03.28.19 02.52	
o-Terphenyl	84-15-1	82	%	70-135	03.28.19 02.52	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS14**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-013	Date Collected:	03.26.19 11.35	Sample Depth:	7 - 10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 15.00	Basis:	Wet Weight
Seq Number:	3083682				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.27.19 22.34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.27.19 22.34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.27.19 22.34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.27.19 22.34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.27.19 22.34	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.27.19 22.34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.27.19 22.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	70-130	03.27.19 22.34	
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.27.19 22.34	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS15**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-014	Date Collected:	03.26.19 11.40	Sample Depth:	7 - 10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**170**	5.00	mg/kg	03.27.19 21.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.28.19 03.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.28.19 03.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.28.19 03.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.28.19 03.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	03.28.19 03.12	
o-Terphenyl	84-15-1	79	%	70-135	03.28.19 03.12	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS15**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-014	Date Collected:	03.26.19 11.40	Sample Depth:	7 - 10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 15.00	Basis:	Wet Weight
Seq Number:	3083682				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.27.19 22.53	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.27.19 22.53	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.27.19 22.53	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	03.27.19 22.53	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.27.19 22.53	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.27.19 22.53	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.27.19 22.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	03.27.19 22.53	
1,4-Difluorobenzene	540-36-3	116	%	70-130	03.27.19 22.53	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS16**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-015	Date Collected:	03.26.19 11.50	Sample Depth:	7 - 10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**188**	4.99	mg/kg	03.27.19 21.29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.28.19 03.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.28.19 03.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.28.19 03.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.28.19 03.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	03.28.19 03.31	
o-Terphenyl	84-15-1	80	%	70-135	03.28.19 03.31	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS16**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-015	Date Collected:	03.26.19 11.50	Sample Depth:	7 - 10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 15.00	Basis:	Wet Weight
Seq Number:	3083682				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 23.12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 23.12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 23.12	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.27.19 23.12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 23.12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 23.12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 23.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	03.27.19 23.12	
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.27.19 23.12	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS17**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-016	Date Collected:	03.26.19 09.55	Sample Depth:	10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 15.40	Basis:	Wet Weight
Seq Number:	3083706				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**132**	4.95	mg/kg	03.27.19 21.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.27.19 17.00	Basis:	Wet Weight
Seq Number:	3083699				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.28.19 03.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.28.19 03.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.28.19 03.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.28.19 03.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.28.19 03.50	
o-Terphenyl	84-15-1	82	%	70-135	03.28.19 03.50	

Certificate of Analytical Results 619078

LT Environmental, Inc., Arvada, CO

Remuda North 25 State 122H

Sample Id:	**FS17**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619078-016	Date Collected:	03.26.19 09.55	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 15.00	Basis:	Wet Weight
Seq Number:	3083682				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 23.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 23.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 23.31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.27.19 23.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 23.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 23.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 23.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	03.27.19 23.31	
1,4-Difluorobenzene	540-36-3	114	%	70-130	03.27.19 23.31	

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 619078

LT Environmental, Inc.

Remuda North 25 State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083705 Matrix: Solid Date Prep: 03.27.19
MB Sample Id: 7674464-1-BLK LCS Sample Id: 7674464-1-BKS LCSD Sample Id: 7674464-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	232	93	240	96	90-110	3	20	mg/kg	03.27.19 15:15	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083706 Matrix: Solid Date Prep: 03.27.19
MB Sample Id: 7674465-1-BLK LCS Sample Id: 7674465-1-BKS LCSD Sample Id: 7674465-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	256	102	249	100	90-110	3	20	mg/kg	03.27.19 18:55	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083705 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 619076-001 MS Sample Id: 619076-001 S MSD Sample Id: 619076-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	58.9	250	296	95	301	97	90-110	2	20	mg/kg	03.27.19 15:34	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083705 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 619076-011 MS Sample Id: 619076-011 S MSD Sample Id: 619076-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	18.3	249	268	100	263	98	90-110	2	20	mg/kg	03.27.19 17:08	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083706 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 619078-002 MS Sample Id: 619078-002 S MSD Sample Id: 619078-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	131	252	377	98	390	103	90-110	3	20	mg/kg	03.27.19 19:15	

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

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

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

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

QC Summary 619078

LT Environmental, Inc.

Remuda North 25 State 122H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083706 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 619078-012 MS Sample Id: 619078-012 S MSD Sample Id: 619078-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	223	250	474	100	467	98	90-110	1	20	mg/kg	03.27.19 20:48	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3083699 Matrix: Solid Date Prep: 03.27.19
MB Sample Id: 7674534-1-BLK LCS Sample Id: 7674534-1-BKS LCSD Sample Id: 7674534-1-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	1000	100	951	95	70-135	5	20	mg/kg	03.27.19 21:10	
Diesel Range Organics (DRO)	<8.13	1000	1040	104	1010	101	70-135	3	20	mg/kg	03.27.19 21:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	87		124		118		70-135	%	03.27.19 21:10
o-Terphenyl	90		109		103		70-135	%	03.27.19 21:10

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3083699 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 619078-001 MS Sample Id: 619078-001 S MSD Sample Id: 619078-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	11.4	999	890	88	901	89	70-135	1	20	mg/kg	03.27.19 22:07	
Diesel Range Organics (DRO)	<8.12	999	923	92	943	95	70-135	2	20	mg/kg	03.27.19 22:07	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		113		70-135	%	03.27.19 22:07
o-Terphenyl	88		90		70-135	%	03.27.19 22:07

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 619078

LT Environmental, Inc.

Remuda North 25 State 122H

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3083678 — Matrix: Solid — Date Prep: 03.27.19
MB Sample Id: 7674451-1-BLK — LCS Sample Id: 7674451-1-BKS — LCSD Sample Id: 7674451-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.110	110	0.114	114	70-130	4	35	mg/kg	03.27.19 21:05	
Toluene	<0.000457	0.100	0.108	108	0.112	112	70-130	4	35	mg/kg	03.27.19 21:05	
Ethylbenzene	<0.000566	0.100	0.116	116	0.119	119	70-130	3	35	mg/kg	03.27.19 21:05	
m,p-Xylenes	<0.00102	0.200	0.223	112	0.232	116	70-130	4	35	mg/kg	03.27.19 21:05	
o-Xylene	<0.000345	0.100	0.116	116	0.121	121	70-130	4	35	mg/kg	03.27.19 21:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		100		103		70-130	%	03.27.19 21:05
4-Bromofluorobenzene	111		113		124		70-130	%	03.27.19 21:05

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3083682 — Matrix: Solid — Date Prep: 03.27.19
MB Sample Id: 7674452-1-BLK — LCS Sample Id: 7674452-1-BKS — LCSD Sample Id: 7674452-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.130	129	0.123	123	70-130	6	35	mg/kg	03.27.19 20:22	
Toluene	<0.00201	0.101	0.129	128	0.123	123	70-130	5	35	mg/kg	03.27.19 20:22	
Ethylbenzene	<0.000568	0.101	0.110	109	0.105	105	70-130	5	35	mg/kg	03.27.19 20:22	
m,p-Xylenes	<0.00102	0.201	0.215	107	0.208	105	70-130	3	35	mg/kg	03.27.19 20:22	
o-Xylene	<0.00201	0.101	0.109	108	0.105	105	70-130	4	35	mg/kg	03.27.19 20:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	117		109		109		70-130	%	03.27.19 20:22
4-Bromofluorobenzene	116		110		108		70-130	%	03.27.19 20:22

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3083678 — Matrix: Soil — Date Prep: 03.27.19
Parent Sample Id: 619076-011 — MS Sample Id: 619076-011 S — MSD Sample Id: 619076-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.109	109	0.115	114	70-130	5	35	mg/kg	03.27.19 21:43	
Toluene	<0.000456	0.100	0.106	106	0.112	111	70-130	6	35	mg/kg	03.27.19 21:43	
Ethylbenzene	<0.000565	0.100	0.112	112	0.118	117	70-130	5	35	mg/kg	03.27.19 21:43	
m,p-Xylenes	<0.00101	0.200	0.215	108	0.228	113	70-130	6	35	mg/kg	03.27.19 21:43	
o-Xylene	<0.000344	0.100	0.112	112	0.119	118	70-130	6	35	mg/kg	03.27.19 21:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		104		70-130	%	03.27.19 21:43
4-Bromofluorobenzene	123		127		70-130	%	03.27.19 21:43

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 619078

LT Environmental, Inc.

Remuda North 25 State 122H

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

Seq Number: 3083682 Matrix: Soil Date Prep: 03.27.19

Parent Sample Id: 619078-012 MS Sample Id: 619078-012 S MSD Sample Id: 619078-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.117	117	0.120	119	70-130	3	35	mg/kg	03.27.19 21:00	
Toluene	<0.000457	0.100	0.117	117	0.118	117	70-130	1	35	mg/kg	03.27.19 21:00	
Ethylbenzene	<0.000567	0.100	0.0999	100	0.100	99	70-130	0	35	mg/kg	03.27.19 21:00	
m,p-Xylenes	<0.00102	0.201	0.197	98	0.198	98	70-130	1	35	mg/kg	03.27.19 21:00	
o-Xylene	<0.000346	0.100	0.0991	99	0.0997	99	70-130	1	35	mg/kg	03.27.19 21:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		112		70-130	%	03.27.19 21:00
4-Bromofluorobenzene	114		115		70-130	%	03.27.19 21:00

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

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

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

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

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: 619078

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Project Manager:	Adrian Baker	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 Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.704.5178	Email:	abyers@ltenv.com & abaker@ltenv.com

Work Order Comments

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

Project Name:	Remuda North 25 State 122H	Turn Around	
Project Number:		Routine	☐
P.O. Number:	JRP 4968	Rush:	same day
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT			
Temperature (°C):	0.3/0.2	Temp Blank:	Yes (No)
Received Intact:	(Yes) No	Wet Ice:	(Yes) No
Cooler Custody Seals:	Yes (No) N/A	Thermometer ID:	IR
Sample Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1
		Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SW15	S	3/25/19	1445	0-6.5'	1	X	X	X
SW16	S		1450	0-6.5'	1	X	X	X
SW17	S		1510	0-6.5'	1	X	X	X
SW18	S		1520	0-6.5'	1	X	X	X
FS06	S		1730	7'	1	X	X	X
FS07	S		1732	7'	1	X	X	X
FS08	S		1735	7'	1	X	X	X
FS09	S		1738	7'	1	X	X	X
FS10	S		1740	7'	1	X	X	X
FS11	S		1743	7'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Anna Byers	Timothy R. Elliott	3/26/19 @1350	2	Taylor Rogers	3/27/19 11:50
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)

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	Adrian Baker	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 Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.704.5178	Email:	abyers@ltenv.com & abaker@ltenv.com

Work Order Comments

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

Project Name:	Remuda North 25 State 127H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	JRP 4968	Rush:	same day
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT			
Temperature (°C):	0.3 | 0.2	Temp Blank: Yes (No)	Wet Ice: (Yes) No
Received Intact:	(Yes) No	Thermometer ID:	D8
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
FS12	S	3/25/19	1745	7'	1	X	X	X
FS13	S	3/26/19	0950	7-10'	1	X	X	X
FS14	S	3/26/19	1135	7-10'	1	X	X	X
FS15	S	3/26/19	1140	7-10'	1	X	X	X
FS16	S	3/26/19	1150	7-10'	1	X	X	X
FS17	S	3/26/19	0955	7-10'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

08/26/19

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Anna Byers	Timothy R. Elliott	3/26/19 @1350	2	Taylor Lacy		3/27/19 1150
3				4			
5				6			

Revised Date 051418 Rev. 2018.1

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/27/2019 11:50:00 AM

Work Order #: 619078

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 03/27/2019

Brianna Teel

Checklist reviewed by: Allison Johnson Date: 03/27/2019

Allison Johnson

ATTACHMENT 3: SOIL SAMPLE LOGS

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

Compliance · Engineering · Remediation

Identifier:	Date:
SS01	3/21/2019
Project Name:	RP Number:
Remuda North 25	2RP-4968

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: MAW	Method: Backhoe

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
32.27535, -103.94429	PID	NA	4.5 feet

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			CALICHE, buff, dry, loose, hard, no odor, no stain
	310	0.2		SS01A	1		ML	SANDY SILT, red-brown, dry, loose, no odor, no stain, 30% fine-grained sand, roots
					2			
					3			
					4			
	73	0.7		SS01B	5			TD @ 4.5 feet bgs
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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

Compliance · Engineering · Remediation

Identifier:	Date:
SS02	3/20/2019
Project Name:	RP Number:
Remuda North 25	2RP-4968

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: MAW	Method: Backhoe

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
32.27535, -103.94429	PID	NA	4.5 feet

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			CALICHE, buff, dry, loose, hard, no odor, no stain
	<28	0.1		SS02A	1		ML	SILT, red-brown, dry/slightly moist, loose, no odor, no stain, some fine-grained sand, roots
					2			
					3			CALICHE, faint pink, dry, loose, hard, no odor, no stain
					4			
	<28	0.6		SS02B	5			TD @ 4.5 feet bgs
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc. *508 West Stevens Street* *Carlsbad, New Mexico 88220* *Compliance · Engineering · Remediation*		Identifier: SS03	Date: 3/20/2019
		Project Name: Remuda North 25	RP Number: 2RP-4968
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: MAW	Method: Backhoe
Lat/Long: 32.27535, -103.94429	Field Screening: PID	Hole Diameter: NA	Total Depth: 4.5 feet
Comments:			

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			CALICHE, buff, dry, loose, hard
	6.4	0.1		SS03A	1		ML	SILT, red-brown, dry/slightly moist, loose, no odor, no stain, some fine-grained sand
					2			
					3			
					4			
	<28	0.8		SS03B	5			TD @ 4.5 feet bgs
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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

Compliance · Engineering · Remediation

Identifier:	Date:
SS04	3/20/2019
Project Name:	RP Number:
Remuda North 25	2RP-4968

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: MAW	Method: Backhoe

Lat/Long:	Field Screening:	Hole Diameter:	Total Depth:
32.27535, -103.94429	PID	NA	4.5 feet

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			CALICHE, buff, dry, loose, hard, no odor, no stain
	200	0.1		SS04A	1		ML	SILT, red-brown, dry/slightly moist, loose, no odor, no stain, some fine-grained sand, roots
					2			
					3			
					4			
	<28	0.6		SS04B	5			TD @ 4.5 feet bgs
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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

Identifier:	Date:
PH01	3/19/19
Project Name: Remuda North 25 State 122H	**RP Number:** 2RP4968
Logged By: Anna Byers	**Method:** Backhoe
Hole Diameter: 2ft x 3ft	**Total Depth:** 2.0 ft

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.27546092, -103.94456543
Field Screening: PID
Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	200	10.8	N		0			caliche, no staining
M	282	3.1	N	PH01	1	0.5' 1.0'	SM	reddish brown, poorly graded, (f.-c.) silt sand, low plasticity
M	<200	6.9	N	PH01A	2	2.0'	SM	↓ TOT DEPTH
					3			
					4			
					5			
					6			
					7			
					8			03/19/19
					9			
					10			
					11			
					12			

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

Identifier:	Date:
PH02	3/20/19
Project Name:	**RP Number:**
Remuda North 25 State 122H	2RP 4968
Logged By: Anna Byers	**Method:** Back hoe
Hole Diameter: 2ft x 3ft	**Total Depth:** 2 ft

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.27545246, -103.94445327
Field Screening: PID
Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	<200	5.2	N	PH02	0	0.5'		caliche reddish brown, poorly graded (m.)
D	<200	4.6	N		1	1.0'	SM	silt sand, no plasticity
D	<200	7.2	N	PH02A	2	2.0'	SM	compact (not easily broken with fingers), reddish brown silt sand (f.) or silt stone, well sorted
					3			TOT DEPTH
					4			
					5			
					6			
					7			CB 03/20/19
					8			
					9			
					10			
					11			
					12			

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

Compliance · Engineering · Remediation

Identifier:	Date:
PH03	3/20/19
Project Name:	**RP Number:**
Remuda North 25 State 122H	2RP 4968
Logged By: Anna Byers	**Method:** Backhoe
Hole Diameter: 2ft x 3ft	**Total Depth:** 2ft

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.054527, -103.9446342

Field Screening: PID

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	<200	4.6	N	PH03	0	0.5'		caliche
M	<200	3.2	N		1	1.0'	SM	silt sand (m.), moist, low plasticity, ~~well~~ poorly graded,
M	<200	2.8	N	PH03A	2	2.0'	SM	↓ TOT DEPTH
					3			
					4			
					5			
					6			
					7			
					8			03/20/19
					9			
					10			
					11			
					12			

View of release area during delineation activities, prior to excavation activities.

Project: 012918154	XTO Energy, Inc. Remuda North 25 State 122H	LTE Advancing Opportunity
February 20, 2019	Photographic Log	

Western view of final excavation extent.

Project: 012918154	XTO Energy, Inc. Remuda North 25 State 122H	LTE Advancing Opportunity
March 26, 2019	Photographic Log	