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

April 22, 2019

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

RE: Closure Request
Poker Lake Unit #192Q
Remediation Permit Number 2RP-5229
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing excavation and soil sampling activities at the Poker Lake Unit #192Q (Site) in Unit H, Section 7, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impacts to soil after fluid was released from a flow line.

On January 22, 2019, approximately 1.34 barrels (bbls) of crude oil and 5.38 bbls of produced water were released into a pasture from a hole in a flow line due to corrosion. Vacuum trucks were used to recover the free-standing fluid: approximately 1 bbl of crude oil and 4 bbls of produced water were recovered. The flow line was clamped and was scheduled to be repaired. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on February 5, 2019, and was assigned Remediation Permit (RP) Number 2RP-5229 (Attachment 1). The site name, latitude, longitude, and unit were incorrect on the initial Form C-141 and have been corrected on the final Form C-141 attached to this report. Based on the excavation activities and results of the soil sampling events, XTO is requesting no further action for this release.

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 greater than 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well is C 02108, located approximately 0.43 miles southeast of the Site, with a depth to groundwater of 186 feet bgs and a total depth of 200 feet bgs. The water well is approximately 31 feet lower in elevation than the Site. The nearest continuously flowing water or significant watercourse is an unnamed dry wash located 0.59 miles southwest of the Site. The Site is greater than 200 feet from a

lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low karst area. Based on these criteria, the following Table 1 to 19.15.29.12 NMAC closure criteria apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 2,500 mg/kg total petroleum hydrocarbons (TPH); 1,000 mg/kg TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO); and 20,000 mg/kg chloride. A closure criteria of 600 mg/kg chloride was applied to the undeveloped pasture area that was impacted by the release, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation.

PRELIMINARY SOIL SAMPLING

On January 29, 2019, LTE personnel inspected the Site to evaluate the release extent. Surface staining was observed in the release area within the process equipment berm. The release extent was mapped using a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. LTE personnel collected five preliminary 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 information provided on the NMOCD Form C-141.

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 the location, date, time, sampler, method of analysis, and immediately placed on ice. The soil samples were shipped at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX by United States Environmental Protection Agency (USEPA) Method 8021B, TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) by USEPA Method 8015M/D, and chloride by USEPA Method 300.0.

Laboratory analytical results for preliminary soil samples SS01 through SS04 indicated that GRO/DRO, TPH, and/or chloride concentrations exceeded the Table 1 closure criteria. Laboratory analytical results for preliminary soil sample SS05 indicated that benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were in compliance with the 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.

DELINEATION SOIL SAMPLING AND EXCAVATION

During April 2019, LTE personnel returned to the Site to simultaneously delineate the release extent via potholing and hand augering and to oversee excavation activities. Potholes were advanced via track hoe at the five preliminary soil sample locations (SS01 through SS05). A

subsequent soil sample was collected from depths ranging from 4 feet to 14 feet bgs in the location of preliminary soil samples SS01 through SS05.

LTE personnel directed excavation activities based on laboratory analytical results for preliminary soil samples and at SS02 through SS04 and visual observations and field screening activities at the subsequent pothole samples. Impacted soil was excavated from the release area to a depth of 4.5 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 FS06 were collected from the floor of the excavation from depths of 4.5 feet bgs. Composite soil samples SW01 through SW06 were collected from the sidewalls of the excavation from depths ranging from the surface to 4.5 feet bgs. The excavation soil sample locations and depths are presented on Figure 3.

Laboratory analytical results indicated that chloride concentrations in soil sample SW05 collected from the sidewall of the excavation exceeded the Table 1 closure criteria. All other samples collected from the floor and sidewall samples of the final excavation extent indicated that BTEX, TPH, and chloride concentrations were compliant with the Table 1 closure criteria.

Impacted soil was excavated to the extent possible. Soil represented by samples SW05 and SS01 was restricted by the presence of active pipelines. XTO safety policy restricts soil disturbing activities to a 2-foot radius of any on-site active pipelines. This XTO safety policy is established to protect workers and to reduce the likelihood of compromising the foundation of the pipeline. This policy was enforced where impacted soil was identified within two feet of an active pipeline.

Laboratory analytical results are presented on Figure 3 and summarized in Table 1, and the laboratory analytical report is included in Attachment 2. The excavation measured approximately 2,300 square feet in area and was completed to a depth of 4.5 feet bgs. The horizontal extent of the excavation is illustrated on Figure 3. A total of approximately 400 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.

To delineate impacted soil left in place at SS01 and SW05, five boreholes (BH01 through BH05) were advanced via hand auger to delineate the lateral and vertical extent of impacted soil. Soil was field screened in each borehole using a PID and Hach® chloride QuanTab® test strips. Two soil samples were collected from each borehole in BH01 through BH05 from depths ranging from 1 foot to 4 feet bgs. Delineation pothole and borehole locations are depicted on Figure 2. All pothole and borehole soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Midland, Texas. Laboratory analytical results are included in Attachment 2, and soil sample logs are included in Attachment 3.

ANALYTICAL RESULTS

Laboratory analytical results indicated that GRO/DRO, TPH, and/or chloride concentrations exceeded the Table 1 closure criteria in preliminary soil samples SS01 through SS04. Laboratory analytical results indicated that chloride concentrations exceeded the Table 1 closure criteria in sidewall samples SW05. Laboratory analytical results indicated that BTEX, TPH, and chloride concentrations were compliant with the Table 1 closure criteria in all other pothole, borehole, and excavation soil samples.

CONCLUSIONS

A total of approximately 400 cubic yards of impacted soil were removed from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth moving activities within two feet of active pipelines. Laboratory analytical results for preliminary soil sample SS01 and excavation sidewall sample SW05 indicated that soil with BTEX, DRO/GRO, TPH and/or chloride concentrations exceeding the Table 1 closure criteria was left in place within two feet of an active pipeline. An estimated 320 cubic yards of impacted soil remain in place, assuming a maximum 4 foot depth based on soil samples collected from the delineation boreholes and the excavation samples that were compliant with the Table 1 closure criteria. Lateral delineation was defined by soil samples from boreholes BH01, BH02, BH03, BH04, and BH05. Vertical delineation was defined at 4 feet bgs in boreholes BH01A, BH02A, BH03A, BH04A, and BH05A.

XTO requests to backfill the existing excavations and complete remediation during any future major pipeline construction/alteration or final abandonment, whichever occurs first. LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. Free-standing fluids were recovered during initial response activities, the majority of the impacted soil has been excavated, and no saturated soil remains in place. The impacted soil remaining in place is delineated vertically and laterally by soil samples collected from boreholes BH01 through BH05 and excavation sidewall and floor samples to the south.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for release number 2RP-5229 at this time. Upon approval of this closure 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.

Sincerely,
LT ENVIRONMENTAL, INC.

Adrian Baker
Project Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Jim Amos, U.S. Bureau of Land Management
Crystal Weaver, U.S. Bureau of Land Management
Robert Hamlet, NMOCD

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary and Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Forms C-141 (2RP-5229)
Attachment 2	Laboratory Analytical Reports
Attachment 3	Soil Sample Logs
Attachment 4	Photographic Log

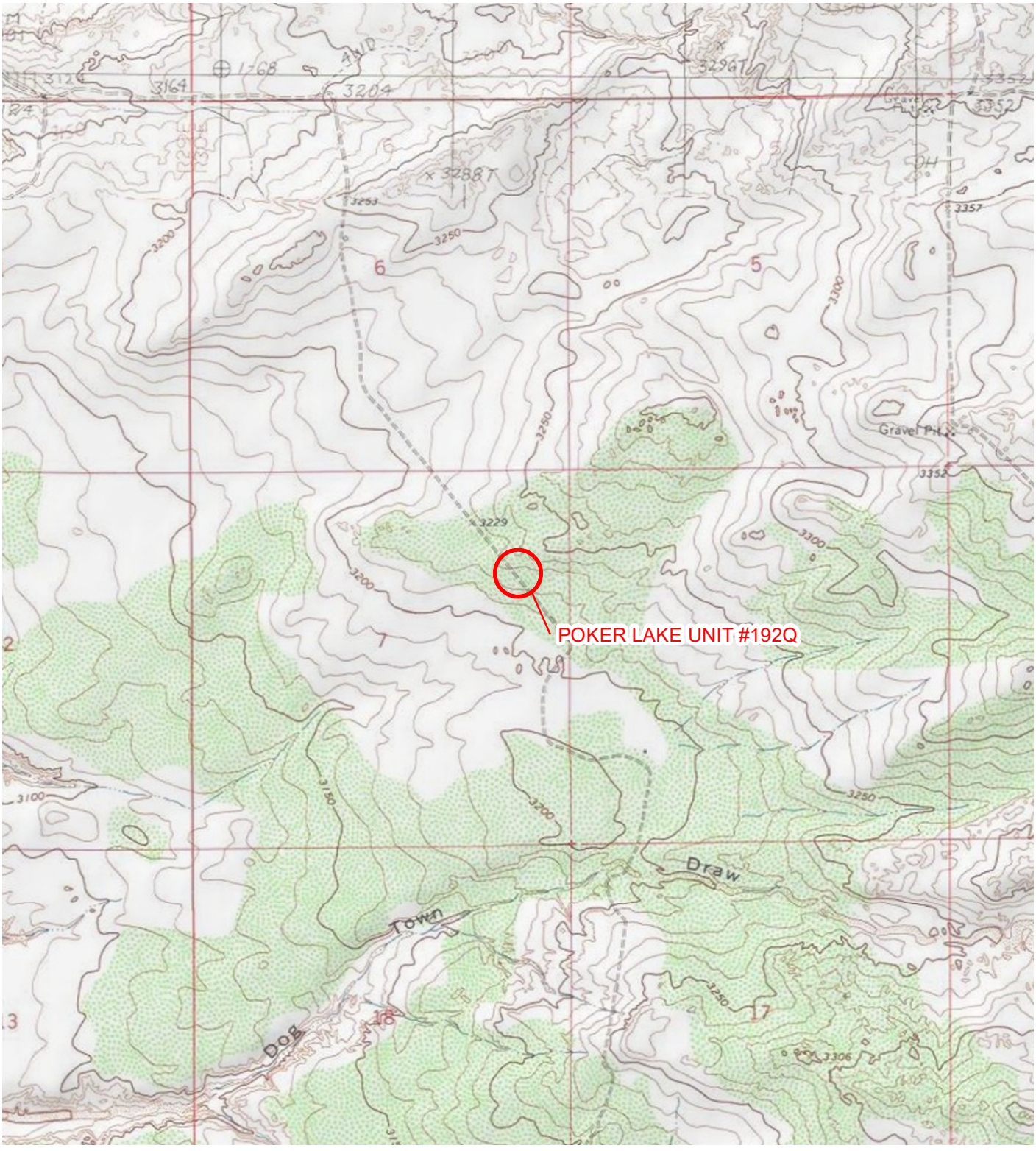


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

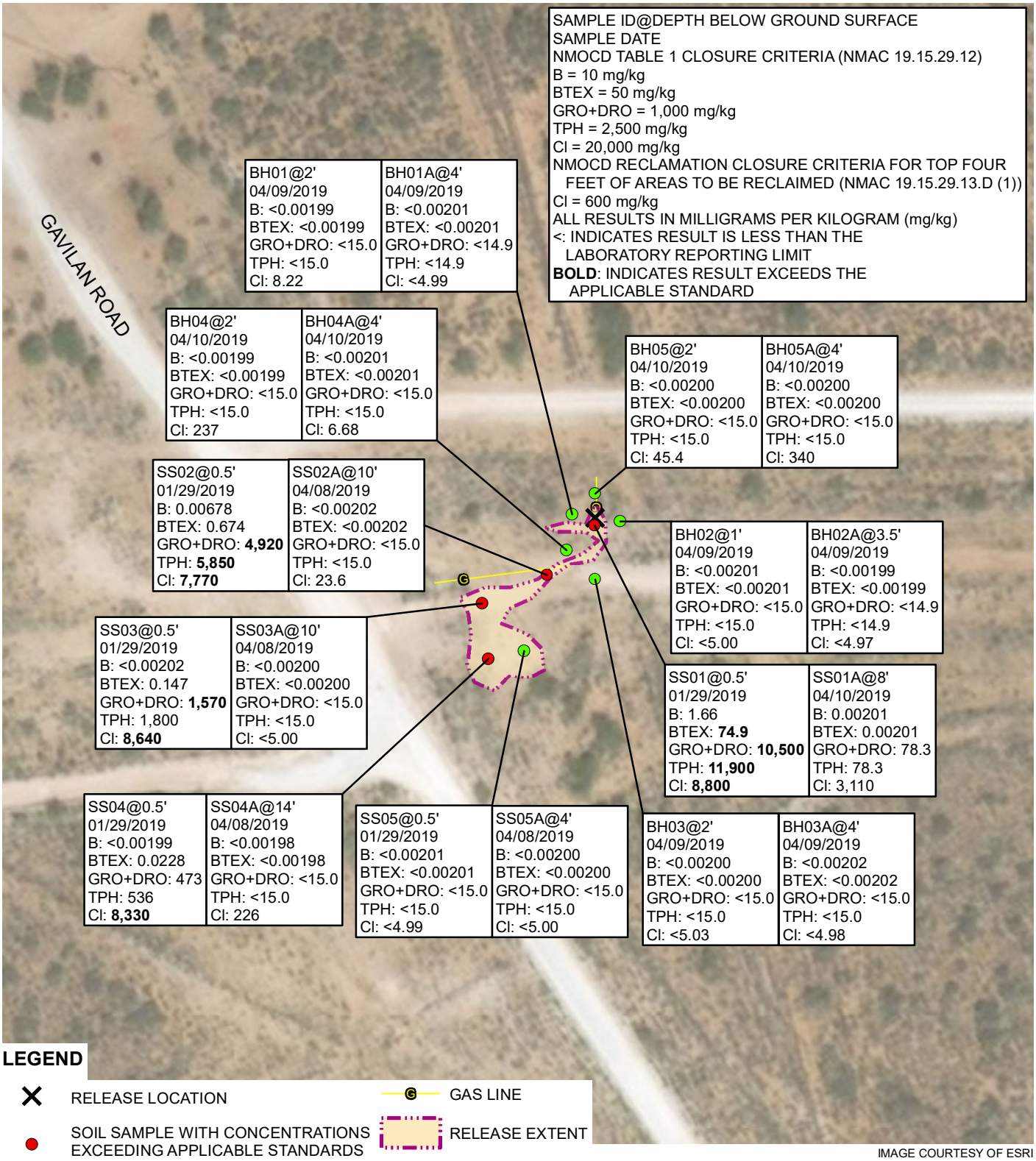
N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-5229

FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT #192Q
UNIT H SEC 7 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

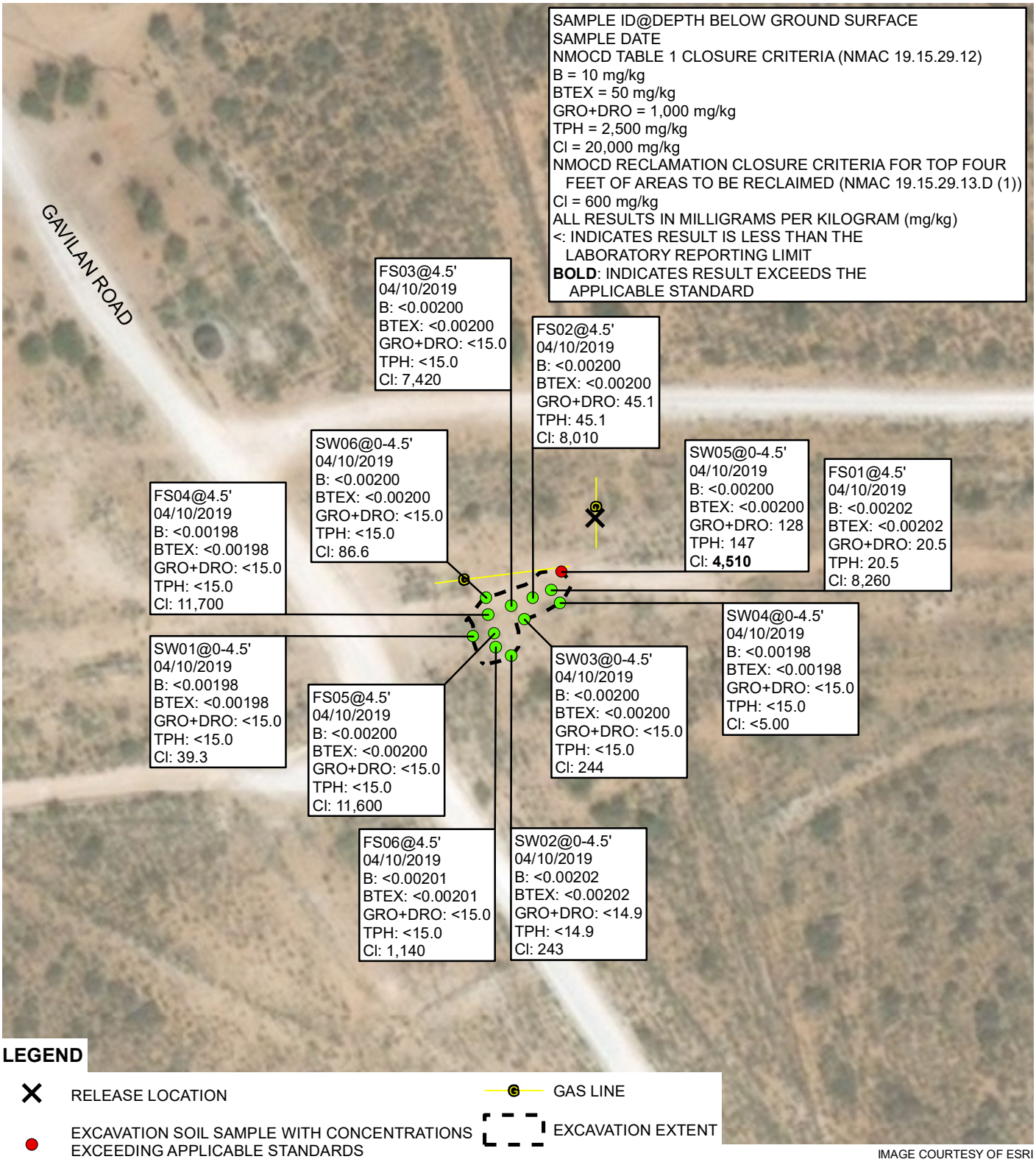
P:\XTO Energy\GIS\MXD\012919022_POKER LAKE UNIT #192Q_5229\012919022_FIG01_SL_2019_5229.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO – GASOLINE RANGE ORGANICS
DRO – DIESEL RANGE ORGANICS
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5229

FIGURE 2
PRELIMINARY AND DELINEATION
SOIL SAMPLE LOCATIONS
POKER LAKE UNIT #192Q
UNIT H SEC 7 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919022_POKER LAKE UNIT #192Q_5229\012919022_FIG02_PRELIMINARY SS_2019_5229_1.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO – GASOLINE RANGE ORGANICS
DRO – DIESEL RANGE ORGANICS
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5229

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT #192Q
UNIT H SEC 7 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919022_POKER LAKE UNIT #192Q_5229\012919022_FIG03_EXC_2019_5229.mxd

TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT #192Q
REMEDIATION PERMIT NUMBER 2RP-5229
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	01/29/2019	1.66	15.7	15.9	41.7	**74.9**	2,350	8,170	1,420	**10,500**	**11,900**	**8,800***
SS02	0.5	01/29/2019	0.00678	0.116	0.0137	0.538	0.674	353	4,570	928	**4,920**	**5,850**	**7,770***
SS03	0.5	01/29/2019	<0.00202	0.00425	0.00378	0.139	0.147	86.5	1,480	234	**1,570**	1,800	**8,640***
SS04	0.5	01/29/2019	<0.00199	<0.00199	<0.00199	0.0228	0.0228	37.2	436	63.2	473	536	**8,330***
SS05	0.5	01/29/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<4.99*
SS02A	10	04/08/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	23.6
SS03A	10	04/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
SS04A	14	04/08/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	226
SS05A	4	04/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00*
BH01	2	04/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	8.22*
BH01A	4	04/09/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	<4.99*
BH02	1	04/09/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00*
BH02A	3.5	04/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	<4.97*
BH03	2	04/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.03*
BH03A	4	04/09/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	<4.98*
BH04	2	04/10/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	237*
BH04A	4	04/10/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	6.68*
BH05	2	04/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	45.4*
BH05A	4	04/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	340*
FS01	4.5	04/10/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	20.5	<15.0	20.5	20.5	8,260
FS02	4.5	04/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	45.1	<15.0	45.1	45.1	8,010
FS03	4.5	04/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	7,420
FS04	4.5	04/10/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	11,700
FS05	4.5	04/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	11,600
FS06	4.5	04/10/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	1,140
SS01A	8	04/10/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	78.3	<15.0	78.3	78.3	3,110
SW01	0 - 4.5	04/10/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	39.3*

TABLE 1 (Continued)
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT #192Q
REMEDIATION PERMIT NUMBER 2RP-5229
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)
SW02	0 - 4.5	04/10/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	<14.9	243*
SW03	0 - 4.5	04/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	244*
SW04	0 - 4.5	04/10/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00*
SW05	0 - 4.5	04/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	128	19.2	128	147	**4,510***
SW06	0 - 4.5	04/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	86.6*
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000

Notes:
bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
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

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-5229)

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	NAB1904243351
District RP	2 2RP-5229
Facility ID	
Application ID	pAB1904241958

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)* NAB1904243351
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude ~~32.236761°~~ 32.235452 Longitude ~~-103.914771°~~ 103.914534

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit #158 Battery	Site Type Production flow line near battery facility
Date Release Discovered 1/22/2019	API# *(if applicable)* 30-015-33362 (Poker Lake Unit #192Q)

Unit Letter	Section	Township	Range	County
~~A~~ H	7	24S	30E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 1.34	Volume Recovered (bbls) 1
☒ Produced Water	Volume Released (bbls) 5.38	Volume Recovered (bbls) 4
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Fluid was released from a hole in the flow line due to corrosion. Vacuum truck recovered standing fluid. The flow line was clamped and is scheduled to be repaired. An environmental contractor has been retained to assist with remediation efforts.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1904243351
District RP	2 2RP-5229
Facility ID	
Application ID	pAB1904241958

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

Initial Response

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Kyle Littrell Date: 02/05/2019

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

OCD Only

Received by: Amalia Barrameda Date: 2/11/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5229
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5229
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: 4/22/2019

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5229
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: 4/22/2019

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

OCD Only

Received by: Date:

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5229
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 4/22/2019

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 613079

for

LT Environmental, Inc.

Project Manager: Adrian Baker

PLU 158

11-FEB-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)
Xenco-Lakeland: Florida (E84098)

11-FEB-19

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

Reference: XENCO Report No(s): **613079**
PLU 158
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) 613079. 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. 613079 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 613079

LT Environmental, Inc., Arvada, CO

PLU 158

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	01-29-19 11:15	0.5 ft	613079-001
SS02	S	01-29-19 11:20	0.5 ft	613079-002
SS03	S	01-29-19 11:25	0.5 ft	613079-003
SS04	S	01-29-19 11:30	0.5 ft	613079-004
SS05	S	01-29-19 11:40	0.5 ft	613079-005

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3078191 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 1,4-Difluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 613079-001.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 613079-003,613079-002.

Batch: LBA-3078222 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 613079-001.

Certificate of Analysis Summary 613079

LT Environmental, Inc., Arvada, CO

Project Name: PLU 158

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

Date Received in Lab: Thu Jan-31-19 02:02 pm
Report Date: 11-FEB-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	613079-001		613079-002		613079-003		613079-004		613079-005	
	Field Id:	SS01		SS02		SS03		SS04		SS05	
	Depth:	0.5- ft		0.5- ft		0.5- ft		0.5- ft		0.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-29-19 11:15		Jan-29-19 11:20		Jan-29-19 11:25		Jan-29-19 11:30		Jan-29-19 11:40	
BTEX by EPA 8021B	***Extracted:***	Feb-05-19 13:00		Feb-05-19 13:00		Feb-05-19 13:00		Feb-05-19 13:00		Feb-05-19 13:00	
	Analyzed:	Feb-06-19 00:43		Feb-05-19 20:18		Feb-05-19 22:49		Feb-05-19 21:52		Feb-05-19 22:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		1.66	0.0200	0.00678	0.00199	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201
Toluene		15.7 D	0.499	0.116	0.00199	0.00425	0.00202	<0.00199	0.00199	<0.00201	0.00201
Ethylbenzene		15.9 D	0.499	0.0137	0.00199	0.00378	0.00202	<0.00199	0.00199	<0.00201	0.00201
m,p-Xylenes		39.4 D	0.998	0.449	0.00398	0.105	0.00403	0.00497	0.00398	<0.00402	0.00402
o-Xylene		2.27	0.0200	0.0888	0.00199	0.0337	0.00202	0.0178	0.00199	<0.00201	0.00201
Total Xylenes		41.7	0.0200	0.538	0.00199	0.139	0.00202	0.0228	0.00199	<0.00201	0.00201
Total BTEX		74.9	0.0200	0.674	0.00199	0.147	0.00202	0.0228	0.00199	<0.00201	0.00201
Inorganic Anions by EPA 300	***Extracted:***	Feb-04-19 16:00		Feb-04-19 16:00		Feb-04-19 16:00		Feb-04-19 16:00		Feb-04-19 16:00	
	Analyzed:	Feb-05-19 00:48		Feb-05-19 01:09		Feb-05-19 01:15		Feb-05-19 01:22		Feb-05-19 00:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8800	49.8	7770	49.8	8640	49.8	8330	50.0	<4.99	4.99
TPH by SW8015 Mod	***Extracted:***	Feb-05-19 10:00		Feb-05-19 10:00		Feb-05-19 10:00		Feb-05-19 10:00		Feb-05-19 10:00	
	Analyzed:	Feb-05-19 16:15		Feb-05-19 16:35		Feb-05-19 16:56		Feb-05-19 17:16		Feb-05-19 17:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		2350	74.8	353	74.7	86.5	15.0	37.2	15.0	<15.0	15.0
Diesel Range Organics (DRO)		8170	74.8	4570	74.7	1480	15.0	436	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		1420	74.8	928	74.7	234	15.0	63.2	15.0	<15.0	15.0
Total TPH		11900	74.8	5850	74.7	1800	15.0	536	15.0	<15.0	15.0

Certificate of Analytical Results 613079

LT Environmental, Inc., Arvada, CO

PLU 158

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	01.31.19 14.02
Lab Sample Id:	613079-001	Date Collected:	01.29.19 11.15	Sample Depth:	0.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.04.19 16.00	Basis:	Wet Weight
Seq Number:	3078028				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8800**	49.8	mg/kg	02.05.19 00.48		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.05.19 10.00	Basis:	Wet Weight
Seq Number:	3078222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**2350**	74.8	mg/kg	02.05.19 16.15		5
Diesel Range Organics (DRO)	C10C28DRO	**8170**	74.8	mg/kg	02.05.19 16.15		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1420**	74.8	mg/kg	02.05.19 16.15		5
Total TPH	PHC635	**11900**	74.8	mg/kg	02.05.19 16.15		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	02.05.19 16.15	
o-Terphenyl	84-15-1	238	%	70-135	02.05.19 16.15	**

Certificate of Analytical Results 613079

LT Environmental, Inc., Arvada, CO

PLU 158

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	01.31.19 14.02
Lab Sample Id:	613079-001	Date Collected:	01.29.19 11.15	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.05.19 13.00	Basis:	Wet Weight
Seq Number:	3078191				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**1.66**	0.0200	mg/kg	02.06.19 00.43		10
Toluene	108-88-3	**15.7**	0.499	mg/kg	02.06.19 12.05	D	250
Ethylbenzene	100-41-4	**15.9**	0.499	mg/kg	02.06.19 12.05	D	250
m,p-Xylenes	179601-23-1	**39.4**	0.998	mg/kg	02.06.19 12.05	D	250
o-Xylene	95-47-6	**2.27**	0.0200	mg/kg	02.06.19 00.43		10
Total Xylenes	1330-20-7	**41.7**	0.0200	mg/kg	02.06.19 12.05		250
Total BTEX		**74.9**	0.0200	mg/kg	02.06.19 12.05		250

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	159	%	70-130	02.06.19 00.43	**
4-Bromofluorobenzene	460-00-4	127	%	70-130	02.06.19 00.43	

Certificate of Analytical Results 613079

LT Environmental, Inc., Arvada, CO

PLU 158

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	01.31.19 14.02
Lab Sample Id:	613079-002	Date Collected:	01.29.19 11.20	Sample Depth:	0.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.04.19 16.00	Basis:	Wet Weight
Seq Number:	3078028				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7770**	49.8	mg/kg	02.05.19 01.09		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.05.19 10.00	Basis:	Wet Weight
Seq Number:	3078222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**353**	74.7	mg/kg	02.05.19 16.35		5
Diesel Range Organics (DRO)	C10C28DRO	**4570**	74.7	mg/kg	02.05.19 16.35		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**928**	74.7	mg/kg	02.05.19 16.35		5
Total TPH	PHC635	**5850**	74.7	mg/kg	02.05.19 16.35		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.05.19 16.35	
o-Terphenyl	84-15-1	129	%	70-135	02.05.19 16.35	

Certificate of Analytical Results 613079

LT Environmental, Inc., Arvada, CO

PLU 158

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	01.31.19 14.02
Lab Sample Id:	613079-002	Date Collected:	01.29.19 11.20	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.05.19 13.00	Basis:	Wet Weight
Seq Number:	3078191				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00678**	0.00199	mg/kg	02.05.19 20.18		1
Toluene	108-88-3	**0.116**	0.00199	mg/kg	02.05.19 20.18		1
Ethylbenzene	100-41-4	**0.0137**	0.00199	mg/kg	02.05.19 20.18		1
m,p-Xylenes	179601-23-1	**0.449**	0.00398	mg/kg	02.05.19 20.18		1
o-Xylene	95-47-6	**0.0888**	0.00199	mg/kg	02.05.19 20.18		1
Total Xylenes	1330-20-7	**0.538**	0.00199	mg/kg	02.05.19 20.18		1
Total BTEX		**0.674**	0.00199	mg/kg	02.05.19 20.18		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.05.19 20.18	
4-Bromofluorobenzene	460-00-4	191	%	70-130	02.05.19 20.18	**

Certificate of Analytical Results 613079

LT Environmental, Inc., Arvada, CO

PLU 158

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	01.31.19 14.02
Lab Sample Id:	613079-003	Date Collected:	01.29.19 11.25	Sample Depth:	0.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.04.19 16.00	Basis:	Wet Weight
Seq Number:	3078028				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8640**	49.8	mg/kg	02.05.19 01.15		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.05.19 10.00	Basis:	Wet Weight
Seq Number:	3078222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**86.5**	15.0	mg/kg	02.05.19 16.56		1
Diesel Range Organics (DRO)	C10C28DRO	**1480**	15.0	mg/kg	02.05.19 16.56		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**234**	15.0	mg/kg	02.05.19 16.56		1
Total TPH	PHC635	**1800**	15.0	mg/kg	02.05.19 16.56		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.05.19 16.56	
o-Terphenyl	84-15-1	112	%	70-135	02.05.19 16.56	

Certificate of Analytical Results 613079

LT Environmental, Inc., Arvada, CO

PLU 158

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	01.31.19 14.02
Lab Sample Id:	613079-003	Date Collected:	01.29.19 11.25	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.05.19 13.00	Basis:	Wet Weight
Seq Number:	3078191				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.05.19 22.49	U	1
Toluene	108-88-3	**0.00425**	0.00202	mg/kg	02.05.19 22.49		1
Ethylbenzene	100-41-4	**0.00378**	0.00202	mg/kg	02.05.19 22.49		1
m,p-Xylenes	179601-23-1	**0.105**	0.00403	mg/kg	02.05.19 22.49		1
o-Xylene	95-47-6	**0.0337**	0.00202	mg/kg	02.05.19 22.49		1
Total Xylenes	1330-20-7	**0.139**	0.00202	mg/kg	02.05.19 22.49		1
Total BTEX		**0.147**	0.00202	mg/kg	02.05.19 22.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	141	%	70-130	02.05.19 22.49	**
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.05.19 22.49	

Certificate of Analytical Results 613079

LT Environmental, Inc., Arvada, CO

PLU 158

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	01.31.19 14.02
Lab Sample Id:	613079-004	Date Collected:	01.29.19 11.30	Sample Depth:	0.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.04.19 16.00	Basis:	Wet Weight
Seq Number:	3078028				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8330**	50.0	mg/kg	02.05.19 01.22		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.05.19 10.00	Basis:	Wet Weight
Seq Number:	3078222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**37.2**	15.0	mg/kg	02.05.19 17.16		1
Diesel Range Organics (DRO)	C10C28DRO	**436**	15.0	mg/kg	02.05.19 17.16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**63.2**	15.0	mg/kg	02.05.19 17.16		1
Total TPH	PHC635	**536**	15.0	mg/kg	02.05.19 17.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.05.19 17.16	
o-Terphenyl	84-15-1	104	%	70-135	02.05.19 17.16	

Certificate of Analytical Results 613079

LT Environmental, Inc., Arvada, CO

PLU 158

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	01.31.19 14.02
Lab Sample Id:	613079-004	Date Collected:	01.29.19 11.30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.05.19 13.00	Basis:	Wet Weight
Seq Number:	3078191				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.05.19 21.52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.05.19 21.52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.05.19 21.52	U	1
m,p-Xylenes	179601-23-1	**0.00497**	0.00398	mg/kg	02.05.19 21.52		1
o-Xylene	95-47-6	**0.0178**	0.00199	mg/kg	02.05.19 21.52		1
Total Xylenes	1330-20-7	**0.0228**	0.00199	mg/kg	02.05.19 21.52		1
Total BTEX		**0.0228**	0.00199	mg/kg	02.05.19 21.52		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	02.05.19 21.52	
1,4-Difluorobenzene	540-36-3	99	%	70-130	02.05.19 21.52	

LT Environmental, Inc., Arvada, CO

PLU 158

Sample Id: **SS05** Matrix: Soil Date Received:01.31.19 14.02

Lab Sample Id: 613079-005 Date Collected: 01.29.19 11.40 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.04.19 16.00 Basis: Wet Weight

Seq Number: 3078028

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	02.05.19 00.23	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.05.19 10.00 Basis: Wet Weight

Seq Number: 3078222

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.05.19 17.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.05.19 17.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.05.19 17.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.05.19 17.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	02.05.19 17.37	
o-Terphenyl	84-15-1	88	%	70-135	02.05.19 17.37	

Certificate of Analytical Results 613079

LT Environmental, Inc., Arvada, CO

PLU 158

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	01.31.19 14.02
Lab Sample Id:	613079-005	Date Collected:	01.29.19 11.40	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.05.19 13.00	Basis:	Wet Weight
Seq Number:	3078191				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.05.19 22.11	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.05.19 22.11	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.05.19 22.11	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.05.19 22.11	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.05.19 22.11	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.05.19 22.11	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.05.19 22.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	02.05.19 22.11	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.05.19 22.11	

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 613079

LT Environmental, Inc.

PLU 158

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3078028 Matrix: Solid Date Prep: 02.04.19
MB Sample Id: 7671039-1-BLK LCS Sample Id: 7671039-1-BKS LCSD Sample Id: 7671039-1-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	261	104	267	107	90-110	2	20	mg/kg	02.04.19 22:41	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3078028 Matrix: Soil Date Prep: 02.04.19
Parent Sample Id: 612994-001 MS Sample Id: 612994-001 S MSD Sample Id: 612994-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	254	102	268	107	90-110	5	20	mg/kg	02.04.19 23:00	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3078028 Matrix: Soil Date Prep: 02.04.19
Parent Sample Id: 613079-005 MS Sample Id: 613079-005 S MSD Sample Id: 613079-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.857	250	248	99	253	101	90-110	2	20	mg/kg	02.05.19 00:29	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3078222 Matrix: Solid Date Prep: 02.05.19
MB Sample Id: 7671160-1-BLK LCS Sample Id: 7671160-1-BKS LCSD Sample Id: 7671160-1-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	851	85	878	88	70-135	3	20	mg/kg	02.05.19 12:29	
Diesel Range Organics (DRO)	<8.13	1000	953	95	978	98	70-135	3	20	mg/kg	02.05.19 12:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		123		127		70-135	%	02.05.19 12:29
o-Terphenyl	93		119		122		70-135	%	02.05.19 12:29

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 613079

LT Environmental, Inc.

PLU 158

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3078222 Matrix: Soil Date Prep: 02.05.19
Parent Sample Id: 613229-021 MS Sample Id: 613229-021 S MSD Sample Id: 613229-021 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	927	93	923	92	70-135	0	20	mg/kg	02.05.19 13:54	
Diesel Range Organics (DRO)	<8.12	999	1070	107	1060	106	70-135	1	20	mg/kg	02.05.19 13:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		130		70-135	%	02.05.19 13:54
o-Terphenyl	124		127		70-135	%	02.05.19 13:54

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3078191 Matrix: Solid Date Prep: 02.05.19
MB Sample Id: 7671150-1-BLK LCS Sample Id: 7671150-1-BKS LCSD Sample Id: 7671150-1-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	0.124	124	0.126	126	70-130	2	35	mg/kg	02.05.19 10:55	
Toluene	<0.000457	0.100	0.110	110	0.110	110	70-130	0	35	mg/kg	02.05.19 10:55	
Ethylbenzene	<0.000567	0.100	0.104	104	0.104	104	70-130	0	35	mg/kg	02.05.19 10:55	
m,p-Xylenes	<0.00102	0.201	0.207	103	0.207	104	70-130	0	35	mg/kg	02.05.19 10:55	
o-Xylene	<0.000346	0.100	0.102	102	0.102	102	70-130	0	35	mg/kg	02.05.19 10:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		106		106		70-130	%	02.05.19 10:55
4-Bromofluorobenzene	95		103		103		70-130	%	02.05.19 10:55

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3078191 Matrix: Soil Date Prep: 02.05.19
Parent Sample Id: 612979-001 MS Sample Id: 612979-001 S MSD Sample Id: 612979-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000770	0.200	0.127	64	0.0925	93	70-130	31	35	mg/kg	02.05.19 11:33	X
Toluene	<0.000911	0.200	0.112	56	0.0797	80	70-130	34	35	mg/kg	02.05.19 11:33	X
Ethylbenzene	<0.00113	0.200	0.103	52	0.0742	74	70-130	33	35	mg/kg	02.05.19 11:33	X
m,p-Xylenes	<0.00203	0.400	0.207	52	0.148	74	70-130	33	35	mg/kg	02.05.19 11:33	X
o-Xylene	<0.000689	0.200	0.103	52	0.0733	73	70-130	34	35	mg/kg	02.05.19 11:33	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	02.05.19 11:33
4-Bromofluorobenzene	108		106		70-130	%	02.05.19 11:33

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: 613079

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:		bbelill@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:	PLU 158	Turn Around	
Project Number:	RP Not Assigned	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Benjamin Belill	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.3/0.2	Thermometer ID:	IR6
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01	S	1/29/19	1115	0.5'	1	X	X	X
SS02			1120					
SS03			1125					
SS04			1130					
SS05	↓	↓	1140	↓	↓	↓	↓	↓
				1/29/19	5	5	5	

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

Discrete type

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			1/30/19 1300	2		
3			1/31/19 1402	4		01/30/19 1353
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.001

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

SHIP DATE: 30JAN19
ACTWGT: 10.00 LB
CAD: 101813706/INET4100
DIMS: 16x13x11 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

REF:
INV:
PO:
DEPT:

565J2/0E3D/23AD

J1910190101701uv

FedEx Express

THU - 31 JAN HOLD
STANDARD OVERNIGHT
HLD

TRK# 0201 7743 5373 5121

41 MAFA

MAFA
LBB
TX-US

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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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: 01/31/2019 02:02:00 PM

Work Order #: 613079

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: 01/31/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 02/01/2019
Jessica Kramer

Analytical Report 620635

for

LT Environmental, Inc.

Project Manager: Adrian Baker

PLU 192 Q Flowline

012919022

15-APR-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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)

15-APR-19

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

Reference: XENCO Report No(s): **620635**
PLU 192 Q Flowline
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) 620635. 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. 620635 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,

Kalei Stout
Carlsbad Laboratory Director

Sample Cross Reference 620635

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS04A	S	04-08-19 11:30	14 ft	620635-001
SS05A	S	04-08-19 12:10	4 ft	620635-002
SS03A	S	04-08-19 12:30	10 ft	620635-003
SS02A	S	04-08-19 14:00	10 ft	620635-004

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3085485 BTEX by EPA 8021B

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

Certificate of Analysis Summary 620635

LT Environmental, Inc., Arvada, CO

Project Name: PLU 192 Q Flowline

Project Id: 012919022
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Wed Apr-10-19 11:54 am
Report Date: 15-APR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	620635-001		620635-002		620635-003		620635-004					
	Field Id:	SS04A		SS05A		SS03A		SS02A					
	Depth:	14- ft		4- ft		10- ft		10- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Apr-08-19 11:30		Apr-08-19 12:10		Apr-08-19 12:30		Apr-08-19 14:00					
BTEX by EPA 8021B **SUB: T104704400-18-16**	***Extracted:***	Apr-11-19 08:15		Apr-11-19 08:15		Apr-11-19 08:15		Apr-11-19 08:15					
	Analyzed:	Apr-11-19 15:58		Apr-11-19 16:17		Apr-11-19 16:36		Apr-11-19 16:55					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202				
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202				
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202				
m,p-Xylenes		<0.00397	0.00397	<0.00400	0.00400	<0.00400	0.00400	<0.00403	0.00403				
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202				
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202				
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202				
Chloride by EPA 300 **SUB: T104704400-18-16**	***Extracted:***	Apr-11-19 17:00		Apr-11-19 17:00		Apr-11-19 17:00		Apr-11-19 17:00					
	Analyzed:	Apr-12-19 19:41		Apr-12-19 19:47		Apr-12-19 19:54		Apr-12-19 20:01					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		226	5.00	<5.00	5.00	<5.00	5.00	23.6	5.03				
TPH by SW8015 Mod **SUB: T104704400-18-16**	***Extracted:***	Apr-11-19 16:00		Apr-11-19 16:00		Apr-11-19 16:00		Apr-11-19 16:00					
	Analyzed:	Apr-11-19 22:24		Apr-11-19 22:44		Apr-12-19 23:03		Apr-12-19 23:22					
	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				
Total GRO-DRO		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				

Kalei Stout
Carlsbad Laboratory Director

Certificate of Analytical Results 620635

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	04.10.19 11.54
Lab Sample Id:	620635-001	Date Collected:	04.08.19 11.30	Sample Depth:	14 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.11.19 17.00	Basis:	Wet Weight
Seq Number:	3085626			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**226**	5.00	mg/kg	04.12.19 19.41		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.11.19 16.00	Basis:	Wet Weight
Seq Number:	3085437			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.11.19 22.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.11.19 22.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.11.19 22.24	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.11.19 22.24	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.11.19 22.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	04.11.19 22.24	
o-Terphenyl	84-15-1	96	%	70-135	04.11.19 22.24	

Certificate of Analytical Results 620635

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	04.10.19 11.54
Lab Sample Id:	620635-001	Date Collected:	04.08.19 11.30	Sample Depth:	14 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.11.19 08.15	Basis:	Wet Weight
Seq Number:	3085485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.11.19 15.58	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.11.19 15.58	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.11.19 15.58	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.11.19 15.58	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.11.19 15.58	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.11.19 15.58	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.11.19 15.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	04.11.19 15.58	
1,4-Difluorobenzene	540-36-3	95	%	70-130	04.11.19 15.58	

Certificate of Analytical Results 620635

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SS05A**	Matrix:	Soil	Date Received:	04.10.19 11.54
Lab Sample Id:	620635-002	Date Collected:	04.08.19 12.10	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.11.19 17.00	Basis:	Wet Weight
Seq Number:	3085626			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	04.12.19 19.47	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.11.19 16.00	Basis:	Wet Weight
Seq Number:	3085437			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.11.19 22.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.11.19 22.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.11.19 22.44	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.11.19 22.44	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.11.19 22.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	04.11.19 22.44	
o-Terphenyl	84-15-1	96	%	70-135	04.11.19 22.44	

Certificate of Analytical Results 620635

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SS05A**	Matrix:	Soil	Date Received:	04.10.19 11.54
Lab Sample Id:	620635-002	Date Collected:	04.08.19 12.10	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.11.19 08.15	Basis:	Wet Weight
Seq Number:	3085485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.11.19 16.17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.11.19 16.17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.11.19 16.17	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.11.19 16.17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.11.19 16.17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.11.19 16.17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.11.19 16.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.11.19 16.17	
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.11.19 16.17	

Certificate of Analytical Results 620635

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SS03A**	Matrix:	Soil	Date Received:	04.10.19 11.54
Lab Sample Id:	620635-003	Date Collected:	04.08.19 12.30	Sample Depth:	10 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.11.19 17.00	Basis:	Wet Weight
Seq Number:	3085626			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	04.12.19 19.54	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.11.19 16.00	Basis:	Wet Weight
Seq Number:	3085437			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.12.19 23.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.12.19 23.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.12.19 23.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.12.19 23.03	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.12.19 23.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	04.12.19 23.03	
o-Terphenyl	84-15-1	91	%	70-135	04.12.19 23.03	

Certificate of Analytical Results 620635

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SS03A**	Matrix:	Soil	Date Received:	04.10.19 11.54
Lab Sample Id:	620635-003	Date Collected:	04.08.19 12.30	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.11.19 08.15	Basis:	Wet Weight
Seq Number:	3085485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.11.19 16.36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.11.19 16.36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.11.19 16.36	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.11.19 16.36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.11.19 16.36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.11.19 16.36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.11.19 16.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.11.19 16.36	
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.11.19 16.36	

Certificate of Analytical Results 620635

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SS02A**	Matrix:	Soil	Date Received:	04.10.19 11.54
Lab Sample Id:	620635-004	Date Collected:	04.08.19 14.00	Sample Depth:	10 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.11.19 17.00	Basis:	Wet Weight
Seq Number:	3085626			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.6**	5.03	mg/kg	04.12.19 20.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.11.19 16.00	Basis:	Wet Weight
Seq Number:	3085437			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.12.19 23.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.12.19 23.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.12.19 23.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.12.19 23.22	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.12.19 23.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	04.12.19 23.22	
o-Terphenyl	84-15-1	93	%	70-135	04.12.19 23.22	

Certificate of Analytical Results 620635

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SS02A**	Matrix:	Soil	Date Received:	04.10.19 11.54
Lab Sample Id:	620635-004	Date Collected:	04.08.19 14.00	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.11.19 08.15	Basis:	Wet Weight
Seq Number:	3085485			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.11.19 16.55	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.11.19 16.55	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.11.19 16.55	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.11.19 16.55	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.11.19 16.55	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.11.19 16.55	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.11.19 16.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.11.19 16.55	
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.11.19 16.55	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 620635

LT Environmental, Inc.

PLU 192 Q Flowline

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085626 Matrix: Solid Date Prep: 04.11.19
MB Sample Id: 7675684-1-BLK LCS Sample Id: 7675684-1-BKS LCSD Sample Id: 7675684-1-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	257	103	255	102	90-110	1	20	mg/kg	04.12.19 16:42	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085626 Matrix: Soil Date Prep: 04.11.19
Parent Sample Id: 620725-004 MS Sample Id: 620725-004 S MSD Sample Id: 620725-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.33	249	256	100	257	101	90-110	0	20	mg/kg	04.12.19 18:39	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085626 Matrix: Soil Date Prep: 04.11.19
Parent Sample Id: 620779-001 MS Sample Id: 620779-001 S MSD Sample Id: 620779-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	48.6	252	310	104	313	105	90-110	1	20	mg/kg	04.12.19 17:03	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3085437 Matrix: Solid Date Prep: 04.11.19
MB Sample Id: 7675578-1-BLK LCS Sample Id: 7675578-1-BKS LCSD Sample Id: 7675578-1-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	1000	100	70-135	6	20	mg/kg	04.11.19 20:31	
Diesel Range Organics (DRO)	<8.13	1000	1180	118	1120	112	70-135	5	20	mg/kg	04.11.19 20:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		128		129		70-135	%	04.11.19 20:31
o-Terphenyl	111		128		123		70-135	%	04.11.19 20:31

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 620635

LT Environmental, Inc.

PLU 192 Q Flowline

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3085437 Matrix: Soil Date Prep: 04.11.19
Parent Sample Id: 620611-001 MS Sample Id: 620611-001 S MSD Sample Id: 620611-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	907	91	919	92	70-135	1	20	mg/kg	04.11.19 21:28	
Diesel Range Organics (DRO)	<8.11	998	986	99	1010	101	70-135	2	20	mg/kg	04.11.19 21:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		124		70-135	%	04.11.19 21:28
o-Terphenyl	121		118		70-135	%	04.11.19 21:28

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3085485 Matrix: Solid Date Prep: 04.11.19
MB Sample Id: 7675643-1-BLK LCS Sample Id: 7675643-1-BKS LCSD Sample Id: 7675643-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000382	0.0992	0.0969	98	0.0971	97	70-130	0	35	mg/kg	04.11.19 13:01	
Toluene	<0.000452	0.0992	0.0985	99	0.0983	98	70-130	0	35	mg/kg	04.11.19 13:01	
Ethylbenzene	<0.000560	0.0992	0.0926	93	0.0924	92	70-130	0	35	mg/kg	04.11.19 13:01	
m,p-Xylenes	<0.00101	0.198	0.185	93	0.184	92	70-130	1	35	mg/kg	04.11.19 13:01	
o-Xylene	<0.000342	0.0992	0.0923	93	0.0925	93	70-130	0	35	mg/kg	04.11.19 13:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		99		100		70-130	%	04.11.19 13:01
4-Bromofluorobenzene	86		91		98		70-130	%	04.11.19 13:01

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3085485 Matrix: Soil Date Prep: 04.11.19
Parent Sample Id: 620635-004 MS Sample Id: 620635-004 S MSD Sample Id: 620635-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.0785	79	0.0827	83	70-130	5	35	mg/kg	04.11.19 14:43	
Toluene	<0.000454	0.0996	0.0784	79	0.0836	84	70-130	6	35	mg/kg	04.11.19 14:43	
Ethylbenzene	0.000756	0.0996	0.0747	74	0.0788	79	70-130	5	35	mg/kg	04.11.19 14:43	
m,p-Xylenes	<0.00101	0.199	0.150	75	0.158	79	70-130	5	35	mg/kg	04.11.19 14:43	
o-Xylene	0.000353	0.0996	0.0735	73	0.0786	79	70-130	7	35	mg/kg	04.11.19 14:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		100		70-130	%	04.11.19 14:43
4-Bromofluorobenzene	93		97		70-130	%	04.11.19 14:43

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

Chain of Custody

Work Order No: 620635

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:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178 Email:		abaker@ltenv.com, llaumbach@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:	PLU 192Q Flowline	Turn Around	
Project Number:	012919022	Routine	☒
P.O. Number:	2RP-5229	Rush:	
Sampler's Name:	L. Laumbach	Due Date:	04/17/2019

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.3 | 0.2	Thermometer ID	IR	
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)
SS04A	S	04/08/2019	11:30	14'	2	X	X	X
SS05A	S	04/08/2019	12:10	4'	2	X	X	X
SS03A	S	04/08/2019	12:30	10'	2	X	X	X
SS02A	S	04/08/2019	14:00	10'	2	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		Ann Byl	04/09/19 @ 1400	2 Ann Byl		04.09.19 14:30
3				4		4/10/19 14:35
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Page 17 of 19

Inter-Office Shipment

IOS Number **126343**

Date/Time: 04/10/19 12:54
Lab# From: **Carlsbad**
Lab# To: **Midland**

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

Please send report to: Kalei Stout
Address: 1089 N Canal Street
E-Mail: kalei.stout@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
620635-001	S	SS04A	04/08/19 11:30	E300_CL	Chloride by EPA 300	04/16/19	05/06/19	KLS	CL	
620635-001	S	SS04A	04/08/19 11:30	SW8015MOD_NM	TPH by SW8015 Mod	04/16/19	04/22/19	KLS	GRO-DRO PHCC10C28 PI	
620635-001	S	SS04A	04/08/19 11:30	SW8021B	BTEX by EPA 8021B	04/16/19	04/22/19	KLS	BR4FBZ BZ BZME EBZ X	
620635-002	S	SS05A	04/08/19 12:10	SW8015MOD_NM	TPH by SW8015 Mod	04/16/19	04/22/19	KLS	GRO-DRO PHCC10C28 PI	
620635-002	S	SS05A	04/08/19 12:10	E300_CL	Chloride by EPA 300	04/16/19	05/06/19	KLS	CL	
620635-002	S	SS05A	04/08/19 12:10	SW8021B	BTEX by EPA 8021B	04/16/19	04/22/19	KLS	BR4FBZ BZ BZME EBZ X	
620635-003	S	SS03A	04/08/19 12:30	SW8015MOD_NM	TPH by SW8015 Mod	04/16/19	04/22/19	KLS	GRO-DRO PHCC10C28 PI	
620635-003	S	SS03A	04/08/19 12:30	E300_CL	Chloride by EPA 300	04/16/19	05/06/19	KLS	CL	
620635-003	S	SS03A	04/08/19 12:30	SW8021B	BTEX by EPA 8021B	04/16/19	04/22/19	KLS	BR4FBZ BZ BZME EBZ X	
620635-004	S	SS02A	04/08/19 14:00	SW8015MOD_NM	TPH by SW8015 Mod	04/16/19	04/22/19	KLS	GRO-DRO PHCC10C28 PI	
620635-004	S	SS02A	04/08/19 14:00	SW8021B	BTEX by EPA 8021B	04/16/19	04/22/19	KLS	BR4FBZ BZ BZME EBZ X	
620635-004	S	SS02A	04/08/19 14:00	E300_CL	Chloride by EPA 300	04/16/19	05/06/19	KLS	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Brianna Teel
Brianna Teel

Date Relinquished: 04/10/2019

Received By:

Date Received:

Cooler Temperature:

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04/10/2019 11:54:00 AM

Work Order #: 620635

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)?	**Yes**	Xenco Midland
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 04/10/2019
Brianna Teel

Checklist reviewed by: Kalei Stout Date: 04/10/2019
Kalei Stout

Analytical Report 621041

for

LT Environmental, Inc.

Project Manager: Adrian Baker

PLU 192 Q Flowline

012919022

16-APR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

16-APR-19

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

Reference: XENCO Report No(s): **621041**
PLU 192 Q Flowline
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) 621041. 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. 621041 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,

Kalei Stout
Midland Laboratory Director

Sample Cross Reference 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	04-09-19 09:30	2 ft	621041-001
BH01A	S	04-09-19 09:40	4 ft	621041-002
BH02	S	04-09-19 10:00	1 ft	621041-003
BH02A	S	04-09-19 10:15	3.5 ft	621041-004
BH03	S	04-09-19 13:20	2 ft	621041-005
BH03A	S	04-09-19 13:40	4 ft	621041-006
BH04	S	04-10-19 09:30	2 ft	621041-007
BH04A	S	04-10-19 09:40	4 ft	621041-008
BH05	S	04-10-19 11:00	2 ft	621041-009
BH05A	S	04-10-19 11:10	4 ft	621041-010
SS01A	S	04-10-19 10:45	8 ft	621041-011

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3085799 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 620880-001 S.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3085827 Chloride by EPA 300
Lab Sample ID 621041-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 621041-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3085873 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 621041

LT Environmental, Inc., Arvada, CO

Project Name: PLU 192 Q Flowline

Project Id: 012919022
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Mon Apr-15-19 07:45 am
Report Date: 16-APR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	621041-001		621041-002		621041-003		621041-004		621041-005		621041-006	
	Field Id:	BH01		BH01A		BH02		BH02A		BH03		BH03A	
	Depth:	2- ft		4- ft		1- ft		3.5- ft		2- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-09-19 09:30		Apr-09-19 09:40		Apr-09-19 10:00		Apr-09-19 10:15		Apr-09-19 13:20		Apr-09-19 13:40	
BTEX by EPA 8021B	***Extracted:***	Apr-15-19 08:00		Apr-15-19 08:00		Apr-15-19 08:00		Apr-15-19 08:00		Apr-15-19 08:00		Apr-15-19 08:00	
	Analyzed:	Apr-15-19 20:06		Apr-15-19 20:25		Apr-15-19 20:44		Apr-15-19 21:03		Apr-15-19 21:22		Apr-15-19 21:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Toluene		<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Ethylbenzene		<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
m,p-Xylenes		<0.00398	0.00398	<0.00402	0.00402	<0.00402	0.00402	<0.00398	0.00398	<0.00399	0.00399	<0.00403	0.00403
o-Xylene		<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Total Xylenes		<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Total BTEX		<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	Apr-15-19 14:00		Apr-15-19 14:00		Apr-15-19 14:00		Apr-15-19 14:00		Apr-15-19 14:00		Apr-15-19 14:00	
	Analyzed:	Apr-15-19 19:19		Apr-15-19 19:25		Apr-15-19 19:32		Apr-15-19 19:38		Apr-15-19 19:58		Apr-15-19 20:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8.22	4.98	<4.99	4.99	<5.00	5.00	<4.97	4.97	<5.03	5.03	<4.98	4.98
TPH by SW8015 Mod	***Extracted:***	Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00	
	Analyzed:	Apr-15-19 17:42		Apr-15-19 18:01		Apr-15-19 18:20		Apr-15-19 18:39		Apr-15-19 18:58		Apr-15-19 19:18	
	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	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9	<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	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Total GRO-DRO		<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0

Kalei Stout
Midland Laboratory Director

Certificate of Analysis Summary 621041

LT Environmental, Inc., Arvada, CO

Project Name: PLU 192 Q Flowline

Project Id: 012919022
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Mon Apr-15-19 07:45 am
Report Date: 16-APR-19
Project Manager: Kalei Stout

Analysis Requested																	
	Lab Id:	621041-007		621041-008		621041-009		621041-010		621041-011							
	Field Id:	BH04		BH04A		BH05		BH05A		SS01A							
	Depth:	2- ft		4- ft		2- ft		4- ft		8- ft							
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL							
	Sampled:	Apr-10-19 09:30		Apr-10-19 09:40		Apr-10-19 11:00		Apr-10-19 11:10		Apr-10-19 10:45							
BTEX by EPA 8021B	***Extracted:***	Apr-15-19 08:00		Apr-15-19 08:00		Apr-15-19 08:00		Apr-16-19 08:45		Apr-16-19 08:45							
	Analyzed:	Apr-15-19 22:00		Apr-15-19 22:19		Apr-15-19 22:38		Apr-16-19 10:56		Apr-16-19 11:15							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201						
Toluene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201						
Ethylbenzene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201						
m,p-Xylenes		<0.00398	0.00398	<0.00402	0.00402	<0.00400	0.00400	<0.00400	0.00400	<0.00402	0.00402						
o-Xylene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201						
Total Xylenes		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201						
Total BTEX		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201						
Chloride by EPA 300	***Extracted:***	Apr-15-19 14:00		Apr-15-19 14:00		Apr-15-19 14:00		Apr-15-19 14:00		Apr-15-19 14:00							
	Analyzed:	Apr-15-19 20:24		Apr-15-19 20:31		Apr-15-19 20:37		Apr-15-19 20:44		Apr-15-19 20:50							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		237	4.95	6.68	4.95	45.4	5.01	340	4.99	3110	24.9						
TPH by SW8015 Mod	***Extracted:***	Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 16:00		Apr-15-19 16:00		Apr-15-19 16:00							
	Analyzed:	Apr-15-19 19:37		Apr-15-19 19:57		Apr-16-19 00:07		Apr-16-19 00:26		Apr-16-19 00:46							
	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	<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	78.3	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						
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	78.3	15.0						
Total GRO-DRO		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	78.3	15.0						

Kalei Stout
Midland Laboratory Director

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-001	Date Collected:	04.09.19 09.30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.22**	4.98	mg/kg	04.15.19 19.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 17.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 17.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 17.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 17.42	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 17.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	04.15.19 17.42	
o-Terphenyl	84-15-1	98	%	70-135	04.15.19 17.42	

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-001	Date Collected:	04.09.19 09.30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.15.19 08.00	Basis:	Wet Weight
Seq Number:	3085799				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.15.19 20.06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.15.19 20.06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.15.19 20.06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.15.19 20.06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.15.19 20.06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.15.19 20.06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.15.19 20.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	04.15.19 20.06	
4-Bromofluorobenzene	460-00-4	110	%	70-130	04.15.19 20.06	

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-002	Date Collected:	04.09.19 09.40	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	04.15.19 19.25	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.15.19 18.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.15.19 18.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.15.19 18.01	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.15.19 18.01	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.15.19 18.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	04.15.19 18.01	
o-Terphenyl	84-15-1	97	%	70-135	04.15.19 18.01	

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-002	Date Collected:	04.09.19 09.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.15.19 08.00	Basis:	Wet Weight
Seq Number:	3085799				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.15.19 20.25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.15.19 20.25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.15.19 20.25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.15.19 20.25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.15.19 20.25	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.15.19 20.25	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.15.19 20.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	04.15.19 20.25	
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.15.19 20.25	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-003	Date Collected:	04.09.19 10.00	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	04.15.19 19.32	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 18.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 18.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 18.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 18.20	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 18.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	04.15.19 18.20	
o-Terphenyl	84-15-1	97	%	70-135	04.15.19 18.20	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-003	Date Collected:	04.09.19 10.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.15.19 08.00	Basis:	Wet Weight
Seq Number:	3085799				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.15.19 20.44	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.15.19 20.44	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.15.19 20.44	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.15.19 20.44	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.15.19 20.44	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.15.19 20.44	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.15.19 20.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	04.15.19 20.44	
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.15.19 20.44	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-004	Date Collected:	04.09.19 10.15	Sample Depth:	3.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	04.15.19 19.38	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.15.19 18.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.15.19 18.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.15.19 18.39	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.15.19 18.39	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.15.19 18.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	04.15.19 18.39	
o-Terphenyl	84-15-1	98	%	70-135	04.15.19 18.39	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-004	Date Collected:	04.09.19 10.15	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.15.19 08.00	Basis:	Wet Weight
Seq Number:	3085799				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.15.19 21.03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.15.19 21.03	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.15.19 21.03	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.15.19 21.03	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.15.19 21.03	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.15.19 21.03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.15.19 21.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.15.19 21.03	
4-Bromofluorobenzene	460-00-4	121	%	70-130	04.15.19 21.03	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-005	Date Collected:	04.09.19 13.20	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.03	5.03	mg/kg	04.15.19 19.58	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 18.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 18.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 18.58	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 18.58	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 18.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	04.15.19 18.58	
o-Terphenyl	84-15-1	98	%	70-135	04.15.19 18.58	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-005	Date Collected:	04.09.19 13.20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.15.19 08.00	Basis:	Wet Weight
Seq Number:	3085799				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.15.19 21.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.15.19 21.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.15.19 21.22	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.15.19 21.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.15.19 21.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.15.19 21.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.15.19 21.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	04.15.19 21.22	
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.15.19 21.22	

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH03A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-006	Date Collected:	04.09.19 13.40	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	04.15.19 20.04	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 19.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 19.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 19.18	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 19.18	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 19.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	04.15.19 19.18	
o-Terphenyl	84-15-1	95	%	70-135	04.15.19 19.18	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH03A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-006	Date Collected:	04.09.19 13.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.15.19 08.00	Basis:	Wet Weight
Seq Number:	3085799				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.15.19 21.41	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.15.19 21.41	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.15.19 21.41	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.15.19 21.41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.15.19 21.41	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.15.19 21.41	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.15.19 21.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	04.15.19 21.41	
1,4-Difluorobenzene	540-36-3	104	%	70-130	04.15.19 21.41	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-007	Date Collected:	04.10.19 09.30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**237**	4.95	mg/kg	04.15.19 20.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 19.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 19.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 19.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 19.37	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 19.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.15.19 19.37	
o-Terphenyl	84-15-1	97	%	70-135	04.15.19 19.37	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-007	Date Collected:	04.10.19 09.30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.15.19 08.00	Basis:	Wet Weight
Seq Number:	3085799				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.15.19 22.00	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.15.19 22.00	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.15.19 22.00	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.15.19 22.00	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.15.19 22.00	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.15.19 22.00	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.15.19 22.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.15.19 22.00	
4-Bromofluorobenzene	460-00-4	119	%	70-130	04.15.19 22.00	

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH04A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-008	Date Collected:	04.10.19 09.40	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.68**	4.95	mg/kg	04.15.19 20.31		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 19.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 19.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 19.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 19.57	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 19.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	04.15.19 19.57	
o-Terphenyl	84-15-1	98	%	70-135	04.15.19 19.57	

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH04A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-008	Date Collected:	04.10.19 09.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.15.19 08.00	Basis:	Wet Weight
Seq Number:	3085799				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.15.19 22.19	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.15.19 22.19	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.15.19 22.19	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.15.19 22.19	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.15.19 22.19	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.15.19 22.19	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.15.19 22.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	04.15.19 22.19	
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.15.19 22.19	

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH05**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-009	Date Collected:	04.10.19 11.00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**45.4**	5.01	mg/kg	04.15.19 20.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 16.00	Basis:	Wet Weight
Seq Number:	3085760				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.16.19 00.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.16.19 00.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.16.19 00.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.16.19 00.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.16.19 00.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	04.16.19 00.07	
o-Terphenyl	84-15-1	92	%	70-135	04.16.19 00.07	

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH05**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-009	Date Collected:	04.10.19 11.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.15.19 08.00	Basis:	Wet Weight
Seq Number:	3085799				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.15.19 22.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.15.19 22.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.15.19 22.38	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.15.19 22.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.15.19 22.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.15.19 22.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.15.19 22.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	127	%	70-130	04.15.19 22.38	
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.15.19 22.38	

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH05A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-010	Date Collected:	04.10.19 11.10	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**340**	4.99	mg/kg	04.15.19 20.44		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 16.00	Basis:	Wet Weight
Seq Number:	3085760				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.16.19 00.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.16.19 00.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.16.19 00.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.16.19 00.26	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.16.19 00.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	04.16.19 00.26	
o-Terphenyl	84-15-1	103	%	70-135	04.16.19 00.26	

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**BH05A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-010	Date Collected:	04.10.19 11.10	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.45	Basis:	Wet Weight
Seq Number:	3085873				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.16.19 10.56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.16.19 10.56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.16.19 10.56	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.16.19 10.56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.16.19 10.56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.16.19 10.56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.16.19 10.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	04.16.19 10.56	
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.16.19 10.56	

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-011	Date Collected:	04.10.19 10.45	Sample Depth:	8 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3110**	24.9	mg/kg	04.15.19 20.50		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 16.00	Basis:	Wet Weight
Seq Number:	3085760				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.16.19 00.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	**78.3**	15.0	mg/kg	04.16.19 00.46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.16.19 00.46	U	1
Total TPH	PHC635	**78.3**	15.0	mg/kg	04.16.19 00.46		1
Total GRO-DRO	PHC628	**78.3**	15.0	mg/kg	04.16.19 00.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.16.19 00.46	
o-Terphenyl	84-15-1	105	%	70-135	04.16.19 00.46	

Certificate of Analytical Results 621041

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621041-011	Date Collected:	04.10.19 10.45	Sample Depth:	8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.45	Basis:	Wet Weight
Seq Number:	3085873				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.16.19 11.15	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.16.19 11.15	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.16.19 11.15	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.16.19 11.15	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.16.19 11.15	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.16.19 11.15	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.16.19 11.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	04.16.19 11.15	
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.16.19 11.15	

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 621041

LT Environmental, Inc.

PLU 192 Q Flowline

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085827 Matrix: Solid Date Prep: 04.15.19
MB Sample Id: 7675826-1-BLK LCS Sample Id: 7675826-1-BKS LCSD Sample Id: 7675826-1-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	273	109	274	110	90-110	0	20	mg/kg	04.15.19 17:54	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085827 Matrix: Soil Date Prep: 04.15.19
Parent Sample Id: 621040-006 MS Sample Id: 621040-006 S MSD Sample Id: 621040-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	86.6	250	370	113	368	113	90-110	1	20	mg/kg	04.15.19 18:13	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085827 Matrix: Soil Date Prep: 04.15.19
Parent Sample Id: 621041-004 MS Sample Id: 621041-004 S MSD Sample Id: 621041-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.11	249	285	114	285	114	90-110	0	20	mg/kg	04.15.19 19:45	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3085759 Matrix: Solid Date Prep: 04.15.19
MB Sample Id: 7675793-1-BLK LCS Sample Id: 7675793-1-BKS LCSD Sample Id: 7675793-1-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	977	98	1000	100	70-135	2	20	mg/kg	04.15.19 11:55	
Diesel Range Organics (DRO)	<8.13	1000	1030	103	1060	106	70-135	3	20	mg/kg	04.15.19 11:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		129		124		70-135	%	04.15.19 11:55
o-Terphenyl	115		122		128		70-135	%	04.15.19 11:55

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

QC Summary 621041

LT Environmental, Inc.

PLU 192 Q Flowline

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3085760 Matrix: Solid Date Prep: 04.15.19
MB Sample Id: 7675794-1-BLK LCS Sample Id: 7675794-1-BKS LCSD Sample Id: 7675794-1-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	1010	101	981	98	70-135	3	20	mg/kg	04.15.19 20:55	
Diesel Range Organics (DRO)	<8.13	1000	1080	108	1040	104	70-135	4	20	mg/kg	04.15.19 20:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		129		128		70-135	%	04.15.19 20:55
o-Terphenyl	116		129		128		70-135	%	04.15.19 20:55

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3085759 Matrix: Soil Date Prep: 04.15.19
Parent Sample Id: 621040-001 MS Sample Id: 621040-001 S MSD Sample Id: 621040-001 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)	12.7	999	942	93	950	94	70-135	1	20	mg/kg	04.15.19 12:53	
Diesel Range Organics (DRO)	<8.12	999	1040	104	1060	106	70-135	2	20	mg/kg	04.15.19 12:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		123		70-135	%	04.15.19 12:53
o-Terphenyl	116		112		70-135	%	04.15.19 12:53

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3085760 Matrix: Soil Date Prep: 04.15.19
Parent Sample Id: 620947-001 MS Sample Id: 620947-001 S MSD Sample Id: 620947-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	14.9	1000	951	94	948	93	70-135	0	20	mg/kg	04.15.19 21:53	
Diesel Range Organics (DRO)	14.5	1000	1060	105	1060	105	70-135	0	20	mg/kg	04.15.19 21:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		122		70-135	%	04.15.19 21:53
o-Terphenyl	111		110		70-135	%	04.15.19 21:53

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 621041

LT Environmental, Inc.

PLU 192 Q Flowline

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3085799 Matrix: Solid Date Prep: 04.14.19
MB Sample Id: 7675831-1-BLK LCS Sample Id: 7675831-1-BKS LCSD Sample Id: 7675831-1-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	0.0979	98	0.0918	92	70-130	6	35	mg/kg	04.15.19 14:08	
Toluene	<0.00200	0.100	0.0940	94	0.0888	89	70-130	6	35	mg/kg	04.15.19 14:08	
Ethylbenzene	<0.00200	0.100	0.0973	97	0.0914	92	70-130	6	35	mg/kg	04.15.19 14:08	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.182	91	70-130	6	35	mg/kg	04.15.19 14:08	
o-Xylene	<0.00200	0.100	0.0987	99	0.0941	95	70-130	5	35	mg/kg	04.15.19 14:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		99		99		70-130	%	04.15.19 14:08
4-Bromofluorobenzene	109		104		105		70-130	%	04.15.19 14:08

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3085873 Matrix: Solid Date Prep: 04.16.19
MB Sample Id: 7675873-1-BLK LCS Sample Id: 7675873-1-BKS LCSD Sample Id: 7675873-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000381	0.0990	0.0974	98	0.0993	99	70-130	2	35	mg/kg	04.16.19 09:03	
Toluene	0.000579	0.0990	0.0995	101	0.102	102	70-130	2	35	mg/kg	04.16.19 09:03	
Ethylbenzene	<0.000559	0.0990	0.105	106	0.108	108	70-130	3	35	mg/kg	04.16.19 09:03	
m,p-Xylenes	<0.00100	0.198	0.213	108	0.217	109	70-130	2	35	mg/kg	04.16.19 09:03	
o-Xylene	0.000439	0.0990	0.107	108	0.109	109	70-130	2	35	mg/kg	04.16.19 09:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		95		96		70-130	%	04.16.19 09:03
4-Bromofluorobenzene	109		106		108		70-130	%	04.16.19 09:03

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3085799 Matrix: Soil Date Prep: 04.14.19
Parent Sample Id: 620880-001 MS Sample Id: 620880-001 S MSD Sample Id: 620880-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0561	56	0.0363	37	70-130	43	35	mg/kg	04.15.19 14:46	XF
Toluene	0.000461	0.0996	0.0724	72	0.0506	51	70-130	35	35	mg/kg	04.15.19 14:46	X
Ethylbenzene	<0.000563	0.0996	0.0771	77	0.0562	57	70-130	31	35	mg/kg	04.15.19 14:46	X
m,p-Xylenes	<0.00101	0.199	0.163	82	0.109	55	70-130	40	35	mg/kg	04.15.19 14:46	XF
o-Xylene	<0.000343	0.0996	0.0883	89	0.0601	61	70-130	38	35	mg/kg	04.15.19 14:46	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		95		70-130	%	04.15.19 14:46
4-Bromofluorobenzene	131	**	129		70-130	%	04.15.19 14:46

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

QC Summary 621041

LT Environmental, Inc.

PLU 192 Q Flowline

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

Seq Number: 3085873 Matrix: Soil Date Prep: 04.16.19

Parent Sample Id: 621041-010 MS Sample Id: 621041-010 S MSD Sample Id: 621041-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0899	89	0.0919	92	70-130	2	35	mg/kg	04.16.19 09:41	
Toluene	<0.000460	0.101	0.0892	88	0.0900	91	70-130	1	35	mg/kg	04.16.19 09:41	
Ethylbenzene	<0.000570	0.101	0.0923	91	0.0930	94	70-130	1	35	mg/kg	04.16.19 09:41	
m,p-Xylenes	<0.00102	0.202	0.185	92	0.186	93	70-130	1	35	mg/kg	04.16.19 09:41	
o-Xylene	<0.00202	0.101	0.0932	92	0.0936	94	70-130	0	35	mg/kg	04.16.19 09:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		100		70-130	%	04.16.19 09:41
4-Bromofluorobenzene	110		110		70-130	%	04.16.19 09:41

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

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: 621041 delineation

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 Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	abafus@ltenv.com, llaumbach@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:	PLU 192Q Flowline	Turn Around	
Project Number:	01291902	Routine	☐
P.O. Number:	2RP-5229	Rush:	1 day
Sampler's Name:	L. Laumbach	Due Date:	04/12/2019

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	3.1 / 3.0	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)
BH01	S	04/09/2019	9:30	2'	2	X	X	X
BH01A	S		9:40	4'	2	X	X	X
BH02	S		10:00	1'	2	X	X	X
BH02A	S		10:15	3.5'	2	X	X	X
BH03	S		13:20	2'	2	X	X	X
BH03A	S		13:40	4'	2	X	X	X
BH04	S	04/10/2019	9:30	2'	1	X	X	X
BH04A	S		9:40	4'	1	X	X	X
BH05	S		11:00	2'	1	X	X	X
BH05A	S		11:10	4'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			04/11/2019 15:55	2		4/15/19 0745
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

7749 6249 3057

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)

Work Order No: 602104,1 deliveration

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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:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	abaker@ltenv.com,
Phone:	432.704.5178	Email:	

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:	PLU 192 Q flow line	Turn Around	
Project Number:	012919022	Routine ☐	
P.O. Number:	2RP-5229	Rush: 1 day	
Sampler's Name:	L Lawrence	Due Date: 04/12/19	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	3.1/3.0	Thermometer ID	
Received Intact:	(Yes) No	R8	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS01A	S	04/10/19	10:45	8'	1	X	X	X

Work Order Notes

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

Sample Comments

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

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

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

Revised Date 051418 Rev. 2018.1

7749 6249 3007

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.

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: 04/15/2019 07:45:00 AM

Work Order #: 621041

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 *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: 04/15/2019

Brianna Teel

Checklist reviewed by: Kalei Stout Date: 04/15/2019

Kalei Stout

Analytical Report 621040

for

LT Environmental, Inc.

Project Manager: Adrian Baker

PLU 192 Q Flowline

012919022

16-APR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

16-APR-19

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

Reference: XENCO Report No(s): **621040**
PLU 192 Q Flowline
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) 621040. 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. 621040 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,

Kalei Stout
Midland Laboratory Director

Sample Cross Reference 621040

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	04-10-19 11:30	0 - 4.5 ft	621040-001
SW02	S	04-10-19 11:40	0 - 4.5 ft	621040-002
SW03	S	04-10-19 12:10	0 - 4.5 ft	621040-003
SW04	S	04-10-19 12:20	0 - 4.5 ft	621040-004
SW05	S	04-10-19 12:30	0 - 4.5 ft	621040-005
SW06	S	04-10-19 12:40	0 - 4.5 ft	621040-006
FS01	S	04-10-19 12:50	4.5 ft	621040-007
FS02	S	04-10-19 13:00	4.5 ft	621040-008
FS03	S	04-10-19 13:10	4.5 ft	621040-009
FS04	S	04-10-19 13:25	4.5 ft	621040-010
FS05	S	04-10-19 13:35	4.5 ft	621040-011
FS06	S	04-10-19 13:45	4.5 ft	621040-012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3085827 Chloride by EPA 300

Lab Sample ID 621041-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 621040-006, -007, -008, -009, -010, -011, -012.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3085867 BTEX by EPA 8021B

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

Certificate of Analysis Summary 621040

LT Environmental, Inc., Arvada, CO

Project Name: PLU 192 Q Flowline

Project Id: 012919022
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Mon Apr-15-19 07:45 am
Report Date: 16-APR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	621040-001		621040-002		621040-003		621040-004		621040-005		621040-006	
	Field Id:	SW01		SW02		SW03		SW04		SW05		SW06	
	Depth:	0-4.5 ft		0-4.5 ft		0-4.5 ft		0-4.5 ft		0-4.5 ft		0-4.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-10-19 11:30		Apr-10-19 11:40		Apr-10-19 12:10		Apr-10-19 12:20		Apr-10-19 12:30		Apr-10-19 12:40	
BTEX by EPA 8021B	***Extracted:***	Apr-16-19 08:30		Apr-16-19 08:30		Apr-16-19 08:30		Apr-16-19 08:30		Apr-16-19 08:30		Apr-16-19 08:30	
	Analyzed:	Apr-16-19 13:25		Apr-16-19 13:44		Apr-16-19 14:03		Apr-16-19 14:22		Apr-16-19 14:41		Apr-16-19 15:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00396	0.00396	<0.00403	0.00403	<0.00399	0.00399	<0.00397	0.00397	<0.00401	0.00401	<0.00399	0.00399
o-Xylene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Apr-15-19 12:00		Apr-15-19 12:00		Apr-15-19 12:00		Apr-15-19 12:00		Apr-15-19 12:00		Apr-15-19 14:00	
	Analyzed:	Apr-15-19 17:01		Apr-15-19 17:08		Apr-15-19 17:14		Apr-15-19 17:21		Apr-15-19 17:27		Apr-15-19 18:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		39.3	4.96	243	4.98	244	5.00	<5.00	5.00	4510	50.0	86.6	5.00
TPH by SW8015 Mod	***Extracted:***	Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00	
	Analyzed:	Apr-15-19 12:34		Apr-15-19 13:32		Apr-15-19 13:52		Apr-15-19 14:11		Apr-15-19 14:30		Apr-15-19 14:49	
	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	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	128	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	19.2	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	147	15.0	<15.0	15.0
Total GRO-DRO		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	128	15.0	<15.0	15.0

Kalei Stout
Midland Laboratory Director

Certificate of Analysis Summary 621040

LT Environmental, Inc., Arvada, CO

Project Name: PLU 192 Q Flowline

Project Id: 012919022
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Mon Apr-15-19 07:45 am
Report Date: 16-APR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	621040-007		621040-008		621040-009		621040-010		621040-011		621040-012	
	Field Id:	FS01		FS02		FS03		FS04		FS05		FS06	
	Depth:	4.5- ft		4.5- ft		4.5- ft		4.5- ft		4.5- ft		4.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-10-19 12:50		Apr-10-19 13:00		Apr-10-19 13:10		Apr-10-19 13:25		Apr-10-19 13:35		Apr-10-19 13:45	
BTEX by EPA 8021B	***Extracted:***	Apr-16-19 08:30		Apr-16-19 08:30		Apr-16-19 08:30		Apr-16-19 08:30		Apr-16-19 08:30		Apr-16-19 08:30	
	Analyzed:	Apr-16-19 15:19		Apr-16-19 15:38		Apr-16-19 15:57		Apr-16-19 16:16		Apr-16-19 17:30		Apr-16-19 17:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
Toluene		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
m,p-Xylenes		<0.00403	0.00403	<0.00400	0.00400	<0.00401	0.00401	<0.00397	0.00397	<0.00401	0.00401	<0.00402	0.00402
o-Xylene		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
Total Xylenes		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
Total BTEX		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
Chloride by EPA 300	***Extracted:***	Apr-15-19 14:00		Apr-15-19 14:00		Apr-15-19 14:00		Apr-15-19 14:00		Apr-15-19 14:00		Apr-15-19 14:00	
	Analyzed:	Apr-15-19 18:26		Apr-15-19 18:33		Apr-15-19 18:39		Apr-15-19 18:46		Apr-15-19 19:06		Apr-15-19 19:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8260	49.5	8010	49.5	7420	49.5	11700	99.0	11600	101	1140	4.96
TPH by SW8015 Mod	***Extracted:***	Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00		Apr-15-19 10:00	
	Analyzed:	Apr-15-19 15:09		Apr-15-19 15:28		Apr-15-19 15:47		Apr-15-19 16:06		Apr-15-19 17:04		Apr-15-19 17:23	
	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)		20.5	15.0	45.1	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		20.5	15.0	45.1	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total GRO-DRO		20.5	15.0	45.1	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Kalei Stout
Midland Laboratory Director

Certificate of Analytical Results 621040

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-001	Date Collected:	04.10.19 11.30	Sample Depth:	0 - 4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 12.00	Basis:	Wet Weight
Seq Number:	3085790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.3**	4.96	mg/kg	04.15.19 17.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 12.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 12.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 12.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 12.34	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 12.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	04.15.19 12.34	
o-Terphenyl	84-15-1	90	%	70-135	04.15.19 12.34	

Certificate of Analytical Results 621040

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-001	Date Collected:	04.10.19 11.30	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.16.19 13.25	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.16.19 13.25	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.16.19 13.25	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	04.16.19 13.25	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.16.19 13.25	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.16.19 13.25	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.16.19 13.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	04.16.19 13.25	
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.16.19 13.25	

Certificate of Analytical Results 621040

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-002	Date Collected:	04.10.19 11.40	Sample Depth:	0 - 4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 12.00	Basis:	Wet Weight
Seq Number:	3085790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**243**	4.98	mg/kg	04.15.19 17.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.15.19 13.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.15.19 13.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.15.19 13.32	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.15.19 13.32	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.15.19 13.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	04.15.19 13.32	
o-Terphenyl	84-15-1	97	%	70-135	04.15.19 13.32	

Certificate of Analytical Results 621040

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-002	Date Collected:	04.10.19 11.40	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.16.19 13.44	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.16.19 13.44	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.16.19 13.44	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.16.19 13.44	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.16.19 13.44	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.16.19 13.44	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.16.19 13.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.16.19 13.44	
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.16.19 13.44	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-003	Date Collected:	04.10.19 12.10	Sample Depth:	0 - 4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 12.00	Basis:	Wet Weight
Seq Number:	3085790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**244**	5.00	mg/kg	04.15.19 17.14		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 13.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 13.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 13.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 13.52	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 13.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.15.19 13.52	
o-Terphenyl	84-15-1	96	%	70-135	04.15.19 13.52	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-003	Date Collected:	04.10.19 12.10	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.16.19 14.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.16.19 14.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.16.19 14.03	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.16.19 14.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.16.19 14.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.16.19 14.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.16.19 14.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	70-130	04.16.19 14.03	
1,4-Difluorobenzene	540-36-3	94	%	70-130	04.16.19 14.03	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-004	Date Collected:	04.10.19 12.20	Sample Depth:	0 - 4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 12.00	Basis:	Wet Weight
Seq Number:	3085790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	04.15.19 17.21	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 14.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 14.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 14.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 14.11	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 14.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	04.15.19 14.11	
o-Terphenyl	84-15-1	99	%	70-135	04.15.19 14.11	

Certificate of Analytical Results 621040

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-004	Date Collected:	04.10.19 12.20	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.16.19 14.22	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.16.19 14.22	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.16.19 14.22	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.16.19 14.22	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.16.19 14.22	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.16.19 14.22	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.16.19 14.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.16.19 14.22	
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.16.19 14.22	

Certificate of Analytical Results 621040

LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-005	Date Collected:	04.10.19 12.30	Sample Depth:	0 - 4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 12.00	Basis:	Wet Weight
Seq Number:	3085790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4510**	50.0	mg/kg	04.15.19 17.27		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 14.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	**128**	15.0	mg/kg	04.15.19 14.30		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**19.2**	15.0	mg/kg	04.15.19 14.30		1
Total TPH	PHC635	**147**	15.0	mg/kg	04.15.19 14.30		1
Total GRO-DRO	PHC628	**128**	15.0	mg/kg	04.15.19 14.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	04.15.19 14.30	
o-Terphenyl	84-15-1	105	%	70-135	04.15.19 14.30	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-005	Date Collected:	04.10.19 12.30	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.16.19 14.41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.16.19 14.41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.16.19 14.41	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.16.19 14.41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.16.19 14.41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.16.19 14.41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.16.19 14.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.16.19 14.41	
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.16.19 14.41	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-006	Date Collected:	04.10.19 12.40	Sample Depth:	0 - 4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**86.6**	5.00	mg/kg	04.15.19 18.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 14.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 14.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 14.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 14.49	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 14.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	04.15.19 14.49	
o-Terphenyl	84-15-1	99	%	70-135	04.15.19 14.49	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-006	Date Collected:	04.10.19 12.40	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.16.19 15.00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.16.19 15.00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.16.19 15.00	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.16.19 15.00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.16.19 15.00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.16.19 15.00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.16.19 15.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.16.19 15.00	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.16.19 15.00	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-007	Date Collected:	04.10.19 12.50	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8260**	49.5	mg/kg	04.15.19 18.26		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 15.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	**20.5**	15.0	mg/kg	04.15.19 15.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 15.09	U	1
Total TPH	PHC635	**20.5**	15.0	mg/kg	04.15.19 15.09		1
Total GRO-DRO	PHC628	**20.5**	15.0	mg/kg	04.15.19 15.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	04.15.19 15.09	
o-Terphenyl	84-15-1	103	%	70-135	04.15.19 15.09	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-007	Date Collected:	04.10.19 12.50	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.16.19 15.19	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.16.19 15.19	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.16.19 15.19	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.16.19 15.19	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.16.19 15.19	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.16.19 15.19	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.16.19 15.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.16.19 15.19	
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.16.19 15.19	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-008	Date Collected:	04.10.19 13.00	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8010**	49.5	mg/kg	04.15.19 18.33		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 15.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	**45.1**	15.0	mg/kg	04.15.19 15.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 15.28	U	1
Total TPH	PHC635	**45.1**	15.0	mg/kg	04.15.19 15.28		1
Total GRO-DRO	PHC628	**45.1**	15.0	mg/kg	04.15.19 15.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	04.15.19 15.28	
o-Terphenyl	84-15-1	104	%	70-135	04.15.19 15.28	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-008	Date Collected:	04.10.19 13.00	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.16.19 15.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.16.19 15.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.16.19 15.38	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.16.19 15.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.16.19 15.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.16.19 15.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.16.19 15.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.16.19 15.38	
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.16.19 15.38	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-009	Date Collected:	04.10.19 13.10	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7420**	49.5	mg/kg	04.15.19 18.39		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 15.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 15.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 15.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 15.47	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 15.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.15.19 15.47	
o-Terphenyl	84-15-1	105	%	70-135	04.15.19 15.47	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-009	Date Collected:	04.10.19 13.10	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.16.19 15.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.16.19 15.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.16.19 15.57	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.16.19 15.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.16.19 15.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.16.19 15.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.16.19 15.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.16.19 15.57	
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.16.19 15.57	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-010	Date Collected:	04.10.19 13.25	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11700**	99.0	mg/kg	04.15.19 18.46		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 16.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 16.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 16.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 16.06	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 16.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.15.19 16.06	
o-Terphenyl	84-15-1	104	%	70-135	04.15.19 16.06	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-010	Date Collected:	04.10.19 13.25	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.16.19 16.16	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.16.19 16.16	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.16.19 16.16	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.16.19 16.16	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.16.19 16.16	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.16.19 16.16	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.16.19 16.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.16.19 16.16	
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.16.19 16.16	

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LT Environmental, Inc., Arvada, CO

PLU 192 Q Flowline

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-011	Date Collected:	04.10.19 13.35	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11600**	101	mg/kg	04.15.19 19.06		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 17.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 17.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 17.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 17.04	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 17.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.15.19 17.04	
o-Terphenyl	84-15-1	104	%	70-135	04.15.19 17.04	

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PLU 192 Q Flowline

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-011	Date Collected:	04.10.19 13.35	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.16.19 17.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.16.19 17.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.16.19 17.30	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.16.19 17.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.16.19 17.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.16.19 17.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.16.19 17.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.16.19 17.30	
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.16.19 17.30	

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PLU 192 Q Flowline

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-012	Date Collected:	04.10.19 13.45	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	04.15.19 14.00	Basis:	Wet Weight
Seq Number:	3085827				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1140**	4.96	mg/kg	04.15.19 19.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.15.19 10.00	Basis:	Wet Weight
Seq Number:	3085759				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.15.19 17.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.15.19 17.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.15.19 17.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.15.19 17.23	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.15.19 17.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.15.19 17.23	
o-Terphenyl	84-15-1	104	%	70-135	04.15.19 17.23	

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PLU 192 Q Flowline

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	04.15.19 07.45
Lab Sample Id:	621040-012	Date Collected:	04.10.19 13.45	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.16.19 08.30	Basis:	Wet Weight
Seq Number:	3085867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.16.19 17.49	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.16.19 17.49	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.16.19 17.49	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.16.19 17.49	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.16.19 17.49	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.16.19 17.49	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.16.19 17.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.16.19 17.49	
4-Bromofluorobenzene	460-00-4	89	%	70-130	04.16.19 17.49	

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 621040

LT Environmental, Inc.

PLU 192 Q Flowline

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085790 Matrix: Solid Date Prep: 04.15.19
MB Sample Id: 7675824-1-BLK LCS Sample Id: 7675824-1-BKS LCSD Sample Id: 7675824-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	266	106	266	106	90-110	0	20	mg/kg	04.15.19 13:35	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085827 Matrix: Solid Date Prep: 04.15.19
MB Sample Id: 7675826-1-BLK LCS Sample Id: 7675826-1-BKS LCSD Sample Id: 7675826-1-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	273	109	274	110	90-110	0	20	mg/kg	04.15.19 17:54	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085790 Matrix: Soil Date Prep: 04.15.19
Parent Sample Id: 620657-013 MS Sample Id: 620657-013 S MSD Sample Id: 620657-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.3	248	291	110	293	110	90-110	1	20	mg/kg	04.15.19 16:09	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085790 Matrix: Soil Date Prep: 04.15.19
Parent Sample Id: 620657-015 MS Sample Id: 620657-015 S MSD Sample Id: 620657-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	277	252	550	108	553	110	90-110	1	20	mg/kg	04.15.19 13:55	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085827 Matrix: Soil Date Prep: 04.15.19
Parent Sample Id: 621040-006 MS Sample Id: 621040-006 S MSD Sample Id: 621040-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	86.6	250	370	113	368	113	90-110	1	20	mg/kg	04.15.19 18:13	X

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 621040

LT Environmental, Inc.

PLU 192 Q Flowline

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085827 Matrix: Soil Date Prep: 04.15.19
Parent Sample Id: 621041-004 MS Sample Id: 621041-004 S MSD Sample Id: 621041-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.11	249	285	114	285	114	90-110	0	20	mg/kg	04.15.19 19:45	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3085759 Matrix: Solid Date Prep: 04.15.19
MB Sample Id: 7675793-1-BLK LCS Sample Id: 7675793-1-BKS LCSD Sample Id: 7675793-1-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	977	98	1000	100	70-135	2	20	mg/kg	04.15.19 11:55	
Diesel Range Organics (DRO)	<8.13	1000	1030	103	1060	106	70-135	3	20	mg/kg	04.15.19 11:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		129		124		70-135	%	04.15.19 11:55
o-Terphenyl	115		122		128		70-135	%	04.15.19 11:55

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3085759 Matrix: Soil Date Prep: 04.15.19
Parent Sample Id: 621040-001 MS Sample Id: 621040-001 S MSD Sample Id: 621040-001 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)	12.7	999	942	93	950	94	70-135	1	20	mg/kg	04.15.19 12:53	
Diesel Range Organics (DRO)	<8.12	999	1040	104	1060	106	70-135	2	20	mg/kg	04.15.19 12:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		123		70-135	%	04.15.19 12:53
o-Terphenyl	116		112		70-135	%	04.15.19 12:53

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 621040

LT Environmental, Inc.

PLU 192 Q Flowline

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

Seq Number: 3085867 Matrix: Solid Date Prep: 04.16.19

MB Sample Id: 7675871-1-BLK LCS Sample Id: 7675871-1-BKS LCSD Sample Id: 7675871-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000387	0.101	0.0990	98	0.0994	100	70-130	0	35	mg/kg	04.16.19 08:57	
Toluene	<0.000458	0.101	0.0996	99	0.100	100	70-130	0	35	mg/kg	04.16.19 08:57	
Ethylbenzene	<0.000568	0.101	0.0914	90	0.0918	92	70-130	0	35	mg/kg	04.16.19 08:57	
m,p-Xylenes	<0.00102	0.201	0.182	91	0.182	91	70-130	0	35	mg/kg	04.16.19 08:57	
o-Xylene	<0.000346	0.101	0.0919	91	0.0921	92	70-130	0	35	mg/kg	04.16.19 08:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		100		101		70-130	%	04.16.19 08:57
4-Bromofluorobenzene	82		95		96		70-130	%	04.16.19 08:57

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

Seq Number: 3085867 Matrix: Soil Date Prep: 04.16.19

Parent Sample Id: 621040-001 MS Sample Id: 621040-001 S MSD Sample Id: 621040-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0994	0.0887	89	0.0929	93	70-130	5	35	mg/kg	04.16.19 09:35	
Toluene	<0.000453	0.0994	0.0894	90	0.0929	93	70-130	4	35	mg/kg	04.16.19 09:35	
Ethylbenzene	<0.000561	0.0994	0.0827	83	0.0842	84	70-130	2	35	mg/kg	04.16.19 09:35	
m,p-Xylenes	<0.00101	0.199	0.163	82	0.167	84	70-130	2	35	mg/kg	04.16.19 09:35	
o-Xylene	<0.000342	0.0994	0.0831	84	0.0850	85	70-130	2	35	mg/kg	04.16.19 09:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		70-130	%	04.16.19 09:35
4-Bromofluorobenzene	97		102		70-130	%	04.16.19 09:35

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

Work Order No: 627090 Excavation

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:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	abaker@ltenv.com

Work Order Comments

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

Project Name:	PLU 192Q Flowline	Turn Around	
Project Number:	01291022	Routine ☐	
P.O. Number:	2RP-5229	Rush: 1 day	
Sampler's Name:	L. Lambuth	Due Date: 04/12/19	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	3.1 / 3.0	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)
SW01	S	04/10/2019	11:30	0-4.5'	1	X	X	X
SW02	S		11:40		1	X	X	X
SW03	S		12:10		1	X	X	X
SW04	S		12:20		1	X	X	X
SW05	S		12:30		1	X	X	X
SW06	S		12:40		1	X	X	X
FS01	S		12:50	4.5'	1	X	X	X
FS02	S		13:00	4.5'	1	X	X	X
FS03	S		13:10	4.5'	1	X	X	X
FS04	S		13:25	4.5'	1	X	X	X

Work Order Notes

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

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		04/11/19 15:15	2		4/15/19 7:45
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

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Chain of Custody

Work Order No: 602040 excavation

XENCO LABORATORIES

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

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

Work Order Comments

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

Project Name:	PLU 192 Q Flowline	Turn Around	
Project Number:	012919022	Routine ☐	
P.O. Number:	2RP5229	Rush: 1 day	
Sampler's Name:	L. Lambuth	Due Date: 04/12/2019	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	3.1 | 3.0	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)
FS05	S	04/10/2019	13:35	4.5'	1	X	X	X
FS06	S	↓	13:45	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			04/11/2019 15:15	2		4/5/19 1745
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

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Final 1.000

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

SHIP DATE: 12APR19
ACTWGT: 39.00 LB
CAD: 101813706/INET4100
DIMS: 26x16x16 IN

BILL RECIPIENT

TO HOLD FOR XENCO

200 W INTERSTATE 20

MIDLAND TX 79701

(806) 674-0639

INV:
PO:

REF: XENCO

DEPT:

565J1/D7E5/23AD

J191619016761uv

FedEx Express

SATURDAY HOLD
PRIORITY OVERNIGHT

TRK# 0201 7749 6249 3057

HLD

79701
TX-US LBB

41 MAFA

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04/15/2019 07:45:00 AM

Work Order #: 621040

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 *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: 04/15/2019

Brianna Teel

Checklist reviewed by: Kalei Stout Date: 04/15/2019

Kalei Stout

ATTACHMENT 3: SOIL SAMPLE LOGS

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

Identifier:	Date:
SS01	04/10/2019
Project Name:	**RP Number:**
PLU 192 Q	2RP 5229
Logged By:	**Method:**
	Hand Auger
Lat/Long:	**Field Screening:** / **Hole Diameter:** / **Total Depth:**
	PID, chloride / 2.5" / 8'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			Dry - sand - blow away
					1			odor, brown sand, course,
M	2.2(L)	265.7			2			odor deep / 10% fines
					3			odor
M	3.0(L)	15000			4			clayey sand, odor
					5			rocky, sand, hard to get out of auger odor, odor brown
					6			odor brown
					7			odor brown
M	4.8(L)	326.4		SS01A	8'			odor brown / light, rocky, course, few (2%) fines
					9			Auger Refusal
					10			
					11			
					12			

LT Environmental, Inc.

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

Compliance · Engineering · Remediation

Identifier: SS02	Date: 04/08/2019
Project Name: PLU 192 Q	RP Number: 2RP 5229
Logged By: L. Lambach	Method: trowel
Hole Diameter: bucket	Total Depth: 10'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening: PID chloride

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			dry sand
M	3.8(h)	15000	Y		1			sand, odor, brown, felt grease 10% fines
M					2			
M		15000	N		3			
M					4			clayey sand low plasticity, sticky easily moldable / easily broken odor
M	5.0(h)	11.0	N		5			
M					6			
M	5.2(h)	4.7	N		7			
M					8			caliche layer rocky Nodor
M					9			sand / coarse, brown / flecked black damp moist, Nodor
M	<1(h)	1.0	N		10			
					11			deepest depth
					12			

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

Compliance · Engineering · Remediation

Identifier: 5503	Date: 04/08/2019
Project Name: PLU 192 Q	RP Number: 2RP 5229
Logged By: L. Lambreth	Method: Drainbe
Hole Diameter: bucket	Total Depth: 10'

Lat/Long:

Field Screening: PID Chloride

Comments:

LITHOLOGIC / SOIL SAMPLING LOG

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D					0			dry sand, course
M	5.4(h)	60.1			1			sand, color, brown, 10% fines
M					2			
M	4.4(h)	43.2			3			
M					4			clayey sand, low plasticity, shiny
M	5.8(h)	26.2			5			
M					6			
M					7			
M	2.4(h)	12.2			8			caliche layer - rocky
M					9			color
M	<1(h) (<152)	11.1		SS03A	10			sand coarse, brown/flecked black, oil fines damp/moist
					11			deepest depth
					12			

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

Identifier: SS04	Date: 04/03/2019
Project Name: PLU 192 flowline	RP Number: 2RP 5229
Logged By: L. Laumbach	Method: hand Auger
Lat/Long:	Field Screening: Chloride PID
Hole Diameter: 2.5"	Total Depth: 7'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: delineation Sampling

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			↓6" dry, coarse sand, Rhos,
					1			
M	2.8				2'			damp/moist, odor-TPH brown, sand fine/coarse sand, gritty
					3			
M	1.6				4'			stiff, low plasticity, moldable, damp, red brown, dull, N odor
					5			↓
M	6.8				6			stiff, low plasticity
	7.6 13,236				(7')			6.5' caliche, rocky, tan, dark, odor, gritty
					8			7' Auger Refusal
					9			
					10			
					11			
					12			

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

Compliance · Engineering · Remediation

Identifier: SS-4	Date: 04/08/2019
Project Name: PLU 192 Q	RP Number: 2RP 5229
Logged By: L. Lambach	Method: hand Auger / trackhoe
Hole Diameter: 2.5" (bucket)	Total Depth: 14'

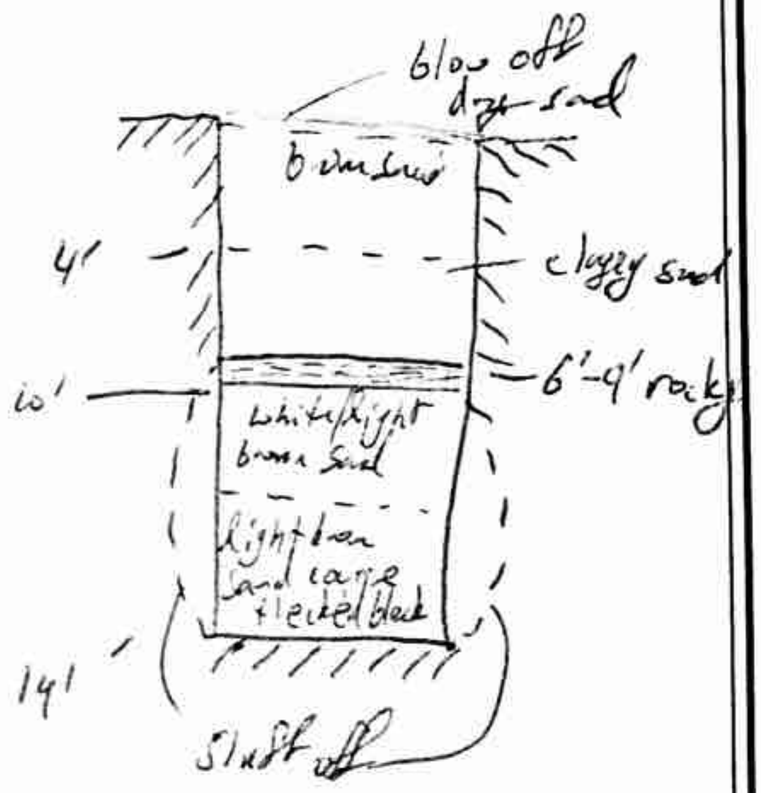
LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening: PID, chlorides

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
					1			
					2			
					3			
					4			
					5			
					6			
					7			
M	9.(2)	30.7			8'			
M	6.8(2)				9'			
M	~~6.8(2)~~				10'			
M	4.8(2)	2.4			11'			
M	5.8(2)	3.6			12'			
M	1.6(2)	2.1		SS-4A 14'				11:30



Odor Sand, rocky, course river stones

Sand, course, brown, black flecks
Odor, moist/damp

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Identifier: SS05	Date: 04/08/2019
Project Name: PLU 192 Q	RP Number: 2RP 5229
Logged By: L. Lambert	Method: trackhoe
Hole Diameter: bucket	Total Depth: 4'

Lat/Long:

Field Screening: PID chloride

Comments:

LITHOLOGIC / SOIL SAMPLING LOG

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D					0			
M	<15	2.4						no odor brown
M		5.2			1			10% fines dry/moist
					(2')			
M		6.1			3			
M		2.2		SS05A	(4')			sand fine plasticity, shrug
					5			deepest depth
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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Identifier: BH01	Date: 04/09/2019
Project Name: PLU 192Q	RP Number: 2RP-5229
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: L. Lambert / Method: Hand Auger
Lat/Long: / Field Screening: PID, chloride	Hole Diameter: 2.5" / Total Depth: 4'
Comments: 9:30	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			Dry sand
M	<1	58.1	N	BH01	(1')			sand, dry, N odor,
M	<1	66.6	N		2			
M	<1 ↓	58.6 ↓	N		3			
M	<1	63.7	N	BH01	(4')			deepest depth
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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Identifier:	Date:
BH02	04/09/2019
Project Name:	**RP Number:**
PLU 192Q	2RP-5229
Logged By: L. Lambert	**Method:** hand Auger
Hole Diameter: 2.5"	**Total Depth:** 3.5'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening: PID, chloride

Comments: 10:00

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			dry sand
M	<1(L)	31.2		BH02	1			dry/moist
					2			
					3			
M	<1(L)	23.2		BH02A	3.5'			rocky, caliche white flecks,
					4			Auger Refusal
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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Identifier: BH03	Date: 04/09/2019
Project Name: PLU 192Q	RP Number: 2RP 5229
Logged By: L. Lambert	Method: Hand Auger
Lat/Long:	Field Screening: PID Chlorides
Hole Diameter: 2.5"	Total Depth: 4'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry					0			dry sand
					1			Nodor brown coarse sand,
M		44.9		BH03	(2')			
					3			
M		34.4		BH03A	(4')		S	~~Sandy Clay~~ clayey sand
					5			deepest depth
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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Identifier:	Date:
BH-3	04/10/2019
Project Name:	**RP Number:**
PLU #192Q	2RP-5229
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: / Method:
Lat/Long: / Field Screening: PID, chloride	Hole Diameter: 2.5" / Total Depth: 4'
Comments:	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			dry sand
					1			Nodular brn sand coarse
M	2.0	25.2		BH03 9:10	(2')			10% f. les
					3			
M	<1	21.6		BH03A 9:40	(4')			
					5			deepest depth
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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Identifier: BH05	Date: 04/10/2019		
Project Name: PLU 192Q	RP Number: LRP 5229		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: L. Lambaith	Method: hand Auger	
Lat/Long:	Field Screening: PID chloride	Hole Diameter: 2.5"	Total Depth: 4'
Comments:			

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D					0			dug sand
M	<1 <192	20.2	N		1			sand/damp, mist, no odor
M	<1 <192	18.1	N		(2')			
M	<1 <192	32.2	N		3			
M	<1 <192	18.9	N		(4')			clayey sand, difficult to get out of hand auger shiny, low plasticity
					5			
					6			deepest depth
					7			
					8			
					9			
					10			
					11			
					12			

Southern view of release area prior to excavation.

Project: 012919022	XTO Energy, Inc. Poker Lake Unit #192Q	LTE Advancing Opportunity
January 29, 2019	Photographic Log	

Eastern view of final excavation extent.

Project: 012919022	XTO Energy, Inc. Poker Lake Unit #192Q	LTE Advancing Opportunity
April 10, 2019	Photographic Log	