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

April 3, 2019

New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Closure Request
Chistera 32 State 1H
Remediation Permit Number 1RP-5338
Lea County, New Mexico

To Whom It May Concern:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing excavation of impacted soil and confirmation soil sampling activities at the Chistera 32 State 1H (Site) located in Unit C, Section 32, Township 20 South, Range 33 East, in Lea County, New Mexico (Figure 1). The purpose of the excavation and soil sampling activities was to address impacts to soil after a hydraulic fracturing tank overflowed.

On January 4, 2019, the hydraulic fracturing tank overflowed into the temporary lined containment. The liner was compromised, and the release breached the temporary lined containment in the northwest and southwest corners. Following removal of the standing fluids, the integrity of the liner was inspected and found to be intact with no evidence of tears or holes through which liquids could migrate vertically. Approximately 6.3 barrels (bbls) of produced water were released at the northwest and southwest corners of the containment. The released fluid impacted the pasture area west of the containment. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 5 bbls of produced water were recovered and returned to the tanks. Approximately 632 square feet of pasture area west of the containment was affected by the release. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on January 18, 2019, and was assigned Remediation Permit (RP) Number 1RP-5338 (Attachment 1). Based on initial response excavation activities and results of the confirmation 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 less than 50 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is United States Geological Survey (USGS) well 323202103425201

20S.32E.36.22311, located approximately 1.63 miles west of the Site. The water well has a depth to groundwater of 45.82 feet and a total depth of 65 feet. The water well is approximately 21 feet lower in elevation than the Site. The nearest continuously flowing water or significant watercourse is an unnamed dry wash located 9,420 feet northwest 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 NMOCD Table 1 closure criteria apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 100 mg/kg total petroleum hydrocarbons (TPH); and 600 mg/kg chloride.

PRELIMINARY SOIL SAMPLING ACTIVITIES

On January 17, 2019, LTE personnel inspected the Site to evaluate the release extents where liquids breached the lined containment. Surface staining was observed in two areas of the pasture west of the hydraulic fracturing tank containment. One release area was located near the northwest corner of the tank containment, and the second release area was located near the southwest corner of the tank containment. The release extents were mapped using a handheld Global Positing System (GPS) unit and are depicted on Figure 2.

LTE personnel collected four preliminary soil samples (SS01 through SS04) within the release areas from a depth of 0.5 feet bgs to assess the lateral extent of soil impacts. Soil samples SS01 and SS02 were collected from the southern release area, and soil samples SS03 and SS04 were collected from the northern release area. The soil samples were screened for volatile aromatic hydrocarbons and chloride 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-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) by USEPA Method 8015M/D, and chloride by USEPA Method 300.0. The soil sample locations are presented on Figure 2.

Laboratory analytical results for soil samples SS01 and SS02 collected from the southern release area indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Laboratory analytical results for soil sample SS03 collected from the northern release area indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Laboratory analytical results for soil sample SS04 collected from the northern release area indicated that the chloride concentration exceeded the NMOCD Table 1 closure criteria. Based on the laboratory analytical results, excavation of impacted soil was required in the northern release area once flowback operations were complete and the

temporary tank containment was removed. The laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the laboratory analytical report is included in Attachment 2.

EXCAVATION AND SOIL SAMPLING ACTIVITIES

On March 25, 2019, upon removal of the temporary hydraulic fracturing tank and containment, LTE personnel returned to the Site to oversee excavation of impacted soil in the northern release area. To delineate impacts to soil and direct excavation activities, LTE screened soil using a PID and Hach® chloride QuanTab® test strips. Impacted soil was excavated to a depth of 0.5 feet to 1 foot bgs in the pasture release area west of the former tank containment and to a depth of 0.5 feet bgs in the area beneath the former tank containment where liquids migrated laterally under the liner. Following removal of impacted soil, LTE collected twelve 5-point composite soil samples (FS01 through FS12) 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. Based on the shallow depth of the excavation, samples FS01 through FS12 were representative of the sidewalls and floor of the excavation. Composite soil sample FS01 was collected from a depth of 0 to 1 foot bgs, and composite soil samples FS02 through FS12 were collected from a depth of 0 to 0.5 feet bgs. The soil sample locations and depths are depicted on Figure 3.

The excavation measured approximately 2,680 square feet in area. The horizontal extent of the excavation is presented on Figure 3. A total of approximately 75 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and disposed of at the Lea Land landfill facility, in Hobbs, New Mexico.

While on-site for excavation activities, LTE personnel collected additional soil samples from the southern release area to confirm the vertical extent of the release. Soil samples SS01A and SS02A were collected from a depth of 1 foot bgs at the preliminary SS01 and SS02 soil sample locations. The soil sample locations are depicted on Figure 2, and soil sample logs are included in Attachment 3. All soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Midland, Texas.

ANALYTICAL RESULTS

Laboratory analytical results indicated that chloride concentrations initially exceeded the NMOCD Table 1 closure criteria in preliminary soil sample SS04 collected from the northern release area. The impacted soil was excavated and laboratory analytical results for soil samples FS01 through FS12 collected from the final excavation extent indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Based on the laboratory analytical results, no further excavation was required in the northern release area.

Laboratory analytical results for soil samples SS01, SS01A, SS02, and SS02A collected from the southern release area indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Based on the laboratory analytical results, no excavation was required in the southern release area. The laboratory analytical results are presented on Figure 2 and Figure 3 and summarized in Table 1, and the complete laboratory analytical reports are included as Attachment 2.

CONCLUSIONS

The impacted soil was excavated from the northern release area and laboratory analytical results for the confirmation soil samples collected from the final excavation extent indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. No excavation was required in the southern release area. Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for RP Number 1RP-5338. Upon approval of the no further action request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing conditions. An updated NMOCD Form C-141 is included in Attachment 1. A photographic log of the Site is included as Attachment 4.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Adrian Baker
Project Geologist

Ashley L. Ager, P.G.
Senior Geologist

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

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (1RP-5338)

Attachment 2 Laboratory Analytical Reports
Attachment 3 Soil Sampling Logs
Attachment 4 Photographic Log

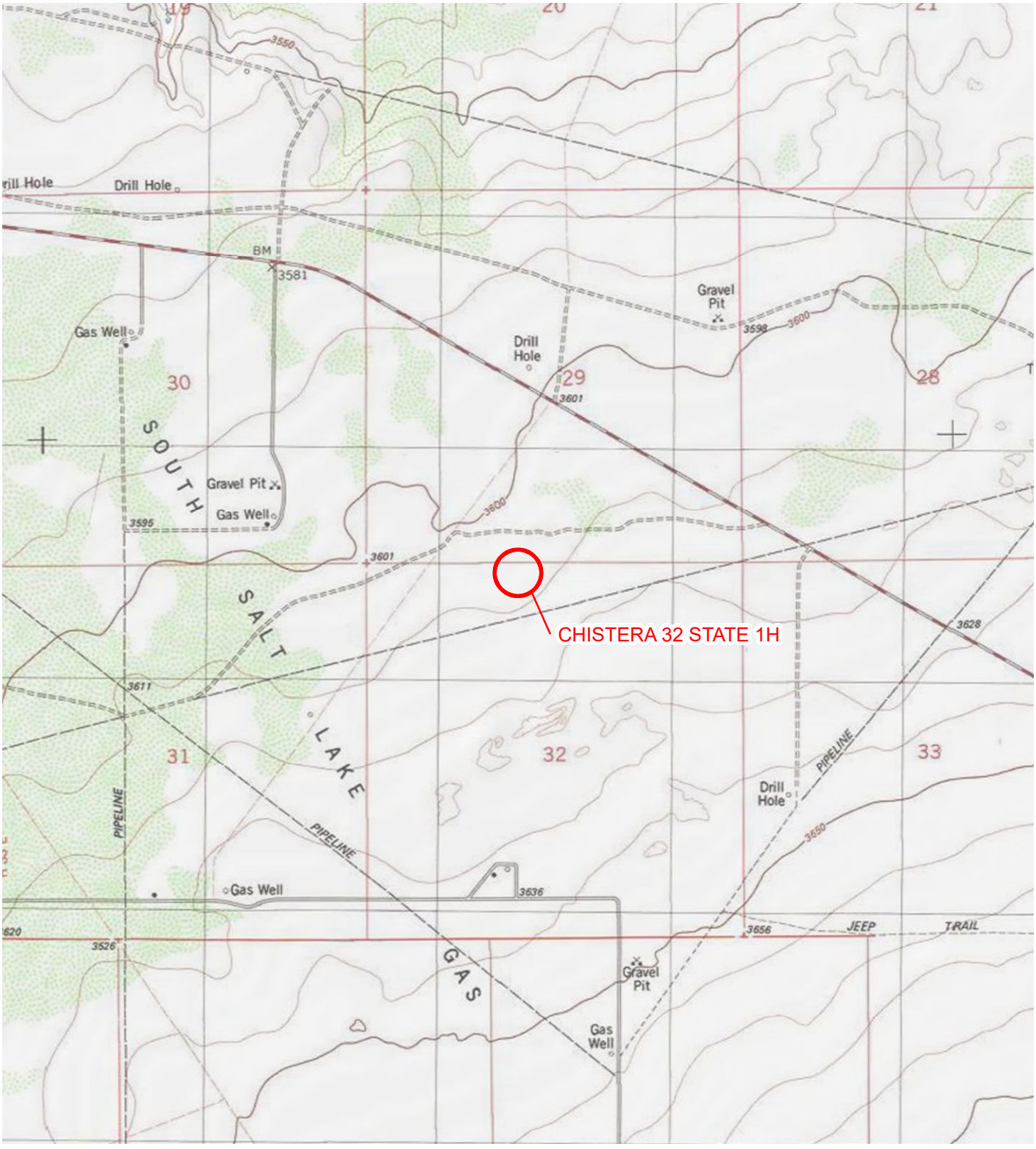


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

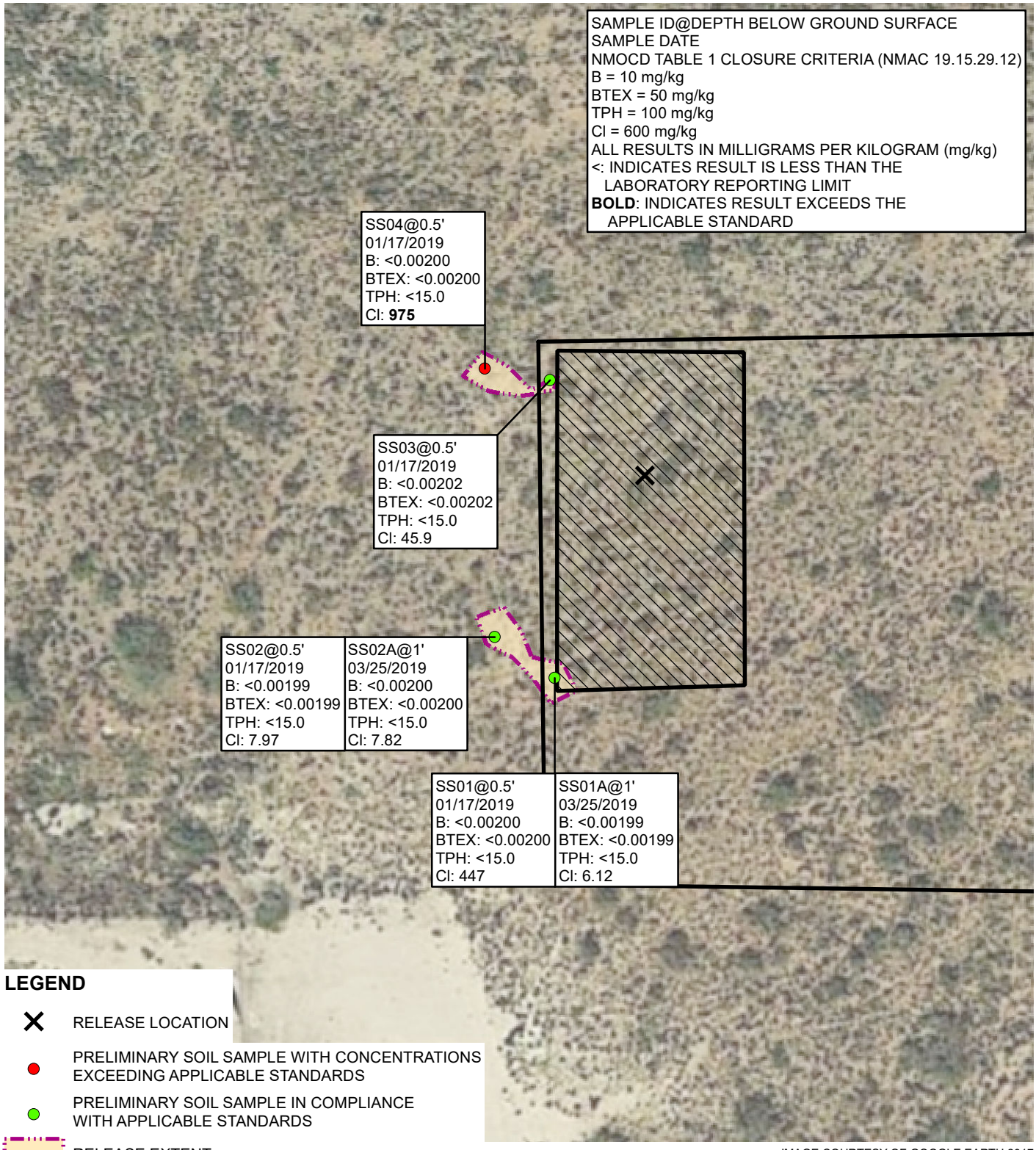
N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 1RP-5338

FIGURE 1
SITE LOCATION MAP
CHISTERA 32 STATE 1H
UNIT C SEC 32 T20S R33E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

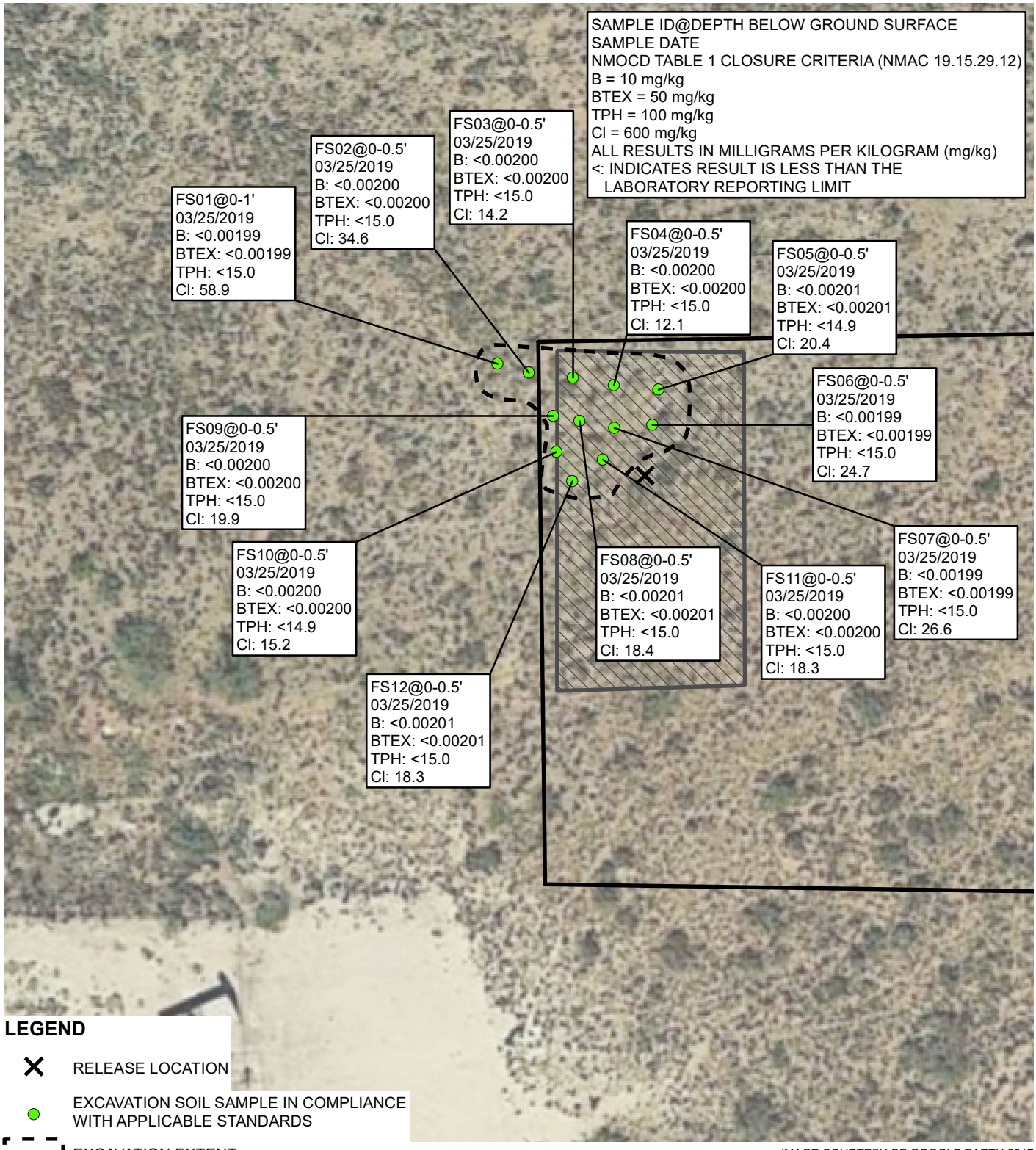
P:\XTO Energy\GIS\MXD\012919010_CHISTERA 32 STATE 1H_NA\012919010_FIG01_SL_2019_NA.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 1RP-5338

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
CHISTERA 32 STATE 1H
UNIT C SEC 32 T20S R33E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919010_CHISTERA 32 STATE 1H_NA\012919010_FIG02_PRELIMINARY SS_2019_NA.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 1RP-5338

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
CHISTERA 32 STATE 1H
UNIT C SEC 32 T20S R33E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919010_CHISTERA 32 STATE 1H_NA\012919010_FIG03_EXCAVATION SS_2019_5338.mxd

TABLE 1
SOIL ANALYTICAL RESULTS

CHISTERA 32 STATE 1H
REMEDIATION PERMIT NUMBER 1RP-5338
LEA 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	01/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	447
SS02	0.5	01/17/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	7.97
SS03	0.5	01/17/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	45.9
SS04	0.5	01/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	**975**
FS01	0 - 1	03/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	58.9
FS02	0 - 0.5	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	34.6
FS03	0 - 0.5	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	14.2
FS04	0 - 0.5	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	12.1
FS05	0 - 0.5	03/25/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	20.4
FS06	0 - 0.5	03/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	24.7
FS07	0 - 0.5	03/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	26.6
FS08	0 - 0.5	03/25/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	18.4
FS09	0 - 0.5	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	19.9
FS10	0 - 0.5	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	15.2
FS11	0 - 0.5	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	18.3
FS12	0 - 0.5	03/25/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	18.3
SS01A	1	03/25/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	6.12
SS02A	1	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	7.82
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	NE	100	600

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

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NCH1903643010
District RP	1RP-5338
Facility ID	
Application ID	pCH1903643266

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)*
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.536242° Longitude -103.687147°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Chistera 32 State 1H	Site Type Production Well
Date Release Discovered 1/4/2019	API# *(if applicable)* 30-025-43694

Unit Letter	Section	Township	Range	County
C	32	20S	33E	Eddy

*Correction - Lea County

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 6.3	Volume Recovered (bbls) 5
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A frac tank overflowed into temporary lined containment. Some fluids escaped compromised containment into west pasture. Free standing fluids were recovered and returned to the tanks. Remediation will begin as soon as flowback operations are complete.

State of New Mexico
Oil Conservation Division

Incident ID	NCH1903643010
District RP	1RP-5338
Facility ID	
Application ID	pCH1903643266

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:
Date: 1-18-19
email: Kyle_Littrell@xtoenergy.com
Telephone: 432-221-7331

OCD Only

Received by:
Date:

Location:	Chistera 32 State 1H (30-025-43694)	
Spill Date:	1/4/2019	

Length of Spill=	44.00	feet
Width of Spill=	5.00	feet
Saturation (or depth) of Spill=	4.00	inches
Approximate Oil %	-	
Porosity Factor=	0.10	
Volume Recovered=	5.00	bbls

VOLUME OF LEAK		
Total Oil=	-	barrels
Total Produced Water=	6.3	barrels

VOLUME RECOVERED

Total Oil=	-	barrels
Total Produced Water=	5.0	barrels

State of New Mexico
Oil Conservation Division

Incident ID	NCH1903643010
District RP	1RP-5338
Facility ID	
Application ID	pCH1903643266

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NCH1903643010
District RP	1RP-5338
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 04/03/2019

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NCH1903643010
District RP	1RP-5338
Facility ID	
Application ID	pCH1903643266

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 04/03/2019

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 611804

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Christera 32 State #1 H

01-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)

01-APR-19

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

Reference: XENCO Report No(s): **611804**
Christera 32 State #1 H
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) 611804. 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. 611804 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 611804

LT Environmental, Inc., Arvada, CO

Christera 32 State #1 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	01-17-19 10:30	0.5 ft	611804-001
SS02	S	01-17-19 10:25	0.5 ft	611804-002
SS03	S	01-17-19 10:50	0.5 ft	611804-003
SS04	S	01-17-19 10:50	0.5 ft	611804-004

Sample receipt non conformances and comments:

04/01/19: revised report to correct sampling date for samples 001-004.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3076760 BTEX by EPA 8021B

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

Certificate of Analysis Summary 611804

LT Environmental, Inc., Arvada, CO

Project Name: Christera 32 State #1 H

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

Date Received in Lab: Fri Jan-18-19 11:15 am
Report Date: 01-APR-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	611804-001		611804-002		611804-003		611804-004					
	Field Id:	SS01		SS02		SS03		SS04					
	Depth:	0.5- ft		0.5- ft		0.5- ft		0.5- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jan-17-19 10:30		Jan-17-19 10:25		Jan-17-19 10:50		Jan-17-19 10:50					
BTEX by EPA 8021B	***Extracted:***	Jan-23-19 09:00		Jan-23-19 09:00		Jan-23-19 09:00		Jan-23-19 09:00					
	Analyzed:	Jan-23-19 18:41		Jan-23-19 19:02		Jan-23-19 19:24		Jan-23-19 19:45					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200				
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200				
m,p-Xylenes		<0.00400	0.00400	<0.00398	0.00398	<0.00403	0.00403	<0.00401	0.00401				
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200				
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200				
Inorganic Anions by EPA 300	***Extracted:***	Jan-22-19 08:00		Jan-22-19 08:00		Jan-22-19 08:00		Jan-22-19 08:00					
	Analyzed:	Jan-22-19 10:02		Jan-22-19 10:08		Jan-22-19 10:15		Jan-22-19 10:21					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		447	4.99	7.97	4.99	45.9	4.99	975	4.99				
TPH by SW8015 Mod	***Extracted:***	Jan-22-19 15:00		Jan-22-19 15:00		Jan-22-19 15:00		Jan-22-19 15:00					
	Analyzed:	Jan-23-19 03:57		Jan-23-19 04:16		Jan-23-19 04:36		Jan-23-19 04:56					
	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				

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

Kalei Stout
Midland Laboratory Director

Certificate of Analytical Results 611804

LT Environmental, Inc., Arvada, CO

Christera 32 State #1 H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	01.18.19 11.15
Lab Sample Id:	611804-001	Date Collected:	01.17.19 10.30	Sample Depth:	0.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.19 08.00	Basis:	Wet Weight
Seq Number:	3076676				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**447**	4.99	mg/kg	01.22.19 10.02		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.22.19 15.00	Basis:	Wet Weight
Seq Number:	3076651				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.23.19 03.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.23.19 03.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.23.19 03.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.23.19 03.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	01.23.19 03.57	
o-Terphenyl	84-15-1	92	%	70-135	01.23.19 03.57	

Certificate of Analytical Results 611804

LT Environmental, Inc., Arvada, CO

Christera 32 State #1 H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	01.18.19 11.15
Lab Sample Id:	611804-001	Date Collected:	01.17.19 10.30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.23.19 09.00	Basis:	Wet Weight
Seq Number:	3076760				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 18.41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 18.41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 18.41	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.23.19 18.41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 18.41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 18.41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 18.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.23.19 18.41	
4-Bromofluorobenzene	460-00-4	92	%	70-130	01.23.19 18.41	

Certificate of Analytical Results 611804

LT Environmental, Inc., Arvada, CO

Christera 32 State #1 H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	01.18.19 11.15
Lab Sample Id:	611804-002	Date Collected:	01.17.19 10.25	Sample Depth:	0.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.19 08.00	Basis:	Wet Weight
Seq Number:	3076676				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.97**	4.99	mg/kg	01.22.19 10.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.22.19 15.00	Basis:	Wet Weight
Seq Number:	3076651				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.23.19 04.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.23.19 04.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.23.19 04.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.23.19 04.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.23.19 04.16	
o-Terphenyl	84-15-1	95	%	70-135	01.23.19 04.16	

Certificate of Analytical Results 611804

LT Environmental, Inc., Arvada, CO

Christera 32 State #1 H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	01.18.19 11.15
Lab Sample Id:	611804-002	Date Collected:	01.17.19 10.25	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.23.19 09.00	Basis:	Wet Weight
Seq Number:	3076760				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.23.19 19.02	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.23.19 19.02	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.23.19 19.02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.23.19 19.02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.23.19 19.02	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.23.19 19.02	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.23.19 19.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	01.23.19 19.02	
4-Bromofluorobenzene	460-00-4	96	%	70-130	01.23.19 19.02	

Certificate of Analytical Results 611804

LT Environmental, Inc., Arvada, CO

Christera 32 State #1 H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	01.18.19 11.15
Lab Sample Id:	611804-003	Date Collected:	01.17.19 10.50	Sample Depth:	0.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.19 08.00	Basis:	Wet Weight
Seq Number:	3076676				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**45.9**	4.99	mg/kg	01.22.19 10.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.22.19 15.00	Basis:	Wet Weight
Seq Number:	3076651				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.23.19 04.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.23.19 04.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.23.19 04.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.23.19 04.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.23.19 04.36	
o-Terphenyl	84-15-1	92	%	70-135	01.23.19 04.36	

Certificate of Analytical Results 611804

LT Environmental, Inc., Arvada, CO

Christera 32 State #1 H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	01.18.19 11.15
Lab Sample Id:	611804-003	Date Collected:	01.17.19 10.50	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.23.19 09.00	Basis:	Wet Weight
Seq Number:	3076760				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.23.19 19.24	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.23.19 19.24	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.23.19 19.24	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.23.19 19.24	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.23.19 19.24	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.23.19 19.24	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.23.19 19.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	01.23.19 19.24	
4-Bromofluorobenzene	460-00-4	94	%	70-130	01.23.19 19.24	

Certificate of Analytical Results 611804

LT Environmental, Inc., Arvada, CO

Christera 32 State #1 H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	01.18.19 11.15
Lab Sample Id:	611804-004	Date Collected:	01.17.19 10.50	Sample Depth:	0.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.19 08.00	Basis:	Wet Weight
Seq Number:	3076676				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**975**	4.99	mg/kg	01.22.19 10.21		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.22.19 15.00	Basis:	Wet Weight
Seq Number:	3076651				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.23.19 04.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.23.19 04.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.23.19 04.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.23.19 04.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	01.23.19 04.56	
o-Terphenyl	84-15-1	94	%	70-135	01.23.19 04.56	

Certificate of Analytical Results 611804

LT Environmental, Inc., Arvada, CO

Christera 32 State #1 H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	01.18.19 11.15
Lab Sample Id:	611804-004	Date Collected:	01.17.19 10.50	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.23.19 09.00	Basis:	Wet Weight
Seq Number:	3076760				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 19.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 19.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 19.45	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.23.19 19.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 19.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 19.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 19.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	01.23.19 19.45	
1,4-Difluorobenzene	540-36-3	88	%	70-130	01.23.19 19.45	

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 611804

LT Environmental, Inc.

Christera 32 State #1 H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3076676 Matrix: Solid Date Prep: 01.22.19
MB Sample Id: 7670160-1-BLK LCS Sample Id: 7670160-1-BKS LCSD Sample Id: 7670160-1-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	241	96	241	96	90-110	0	20	mg/kg	01.22.19 08:39	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3076676 Matrix: Soil Date Prep: 01.22.19
Parent Sample Id: 611803-003 MS Sample Id: 611803-003 S MSD Sample Id: 611803-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	213	248	442	92	434	89	90-110	2	20	mg/kg	01.22.19 08:58	X

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3076676 Matrix: Soil Date Prep: 01.22.19
Parent Sample Id: 611804-004 MS Sample Id: 611804-004 S MSD Sample Id: 611804-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	975	250	1220	98	1240	106	90-110	2	20	mg/kg	01.22.19 10:27	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3076651 Matrix: Solid Date Prep: 01.22.19
MB Sample Id: 7670272-1-BLK LCS Sample Id: 7670272-1-BKS LCSD Sample Id: 7670272-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	899	90	924	92	70-135	3	20	mg/kg	01.22.19 20:57	
Diesel Range Organics (DRO)	<8.13	1000	1010	101	1030	103	70-135	2	20	mg/kg	01.22.19 20:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		114		116		70-135	%	01.22.19 20:57
o-Terphenyl	100		108		105		70-135	%	01.22.19 20:57

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

QC Summary 611804

LT Environmental, Inc.

Christera 32 State #1 H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3076651 Matrix: Soil Date Prep: 01.22.19
Parent Sample Id: 612048-001 MS Sample Id: 612048-001 S MSD Sample Id: 612048-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	955	96	961	96	70-135	1	20	mg/kg	01.22.19 21:57	
Diesel Range Organics (DRO)	<8.12	999	1100	110	1110	111	70-135	1	20	mg/kg	01.22.19 21:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		128		70-135	%	01.22.19 21:57
o-Terphenyl	120		124		70-135	%	01.22.19 21:57

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3076760 Matrix: Solid Date Prep: 01.23.19
MB Sample Id: 7670263-1-BLK LCS Sample Id: 7670263-1-BKS LCSD Sample Id: 7670263-1-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	0.111	111	0.114	113	70-130	3	35	mg/kg	01.23.19 11:15	
Toluene	<0.00200	0.100	0.0957	96	0.0983	97	70-130	3	35	mg/kg	01.23.19 11:15	
Ethylbenzene	<0.00200	0.100	0.119	119	0.123	122	70-130	3	35	mg/kg	01.23.19 11:15	
m,p-Xylenes	<0.00400	0.200	0.242	121	0.243	120	70-130	0	35	mg/kg	01.23.19 11:15	
o-Xylene	<0.00200	0.100	0.114	114	0.116	115	70-130	2	35	mg/kg	01.23.19 11:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		97		108		70-130	%	01.23.19 11:15
4-Bromofluorobenzene	91		81		74		70-130	%	01.23.19 11:15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3076760 Matrix: Soil Date Prep: 01.23.19
Parent Sample Id: 611803-001 MS Sample Id: 611803-001 S MSD Sample Id: 611803-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.107	107	0.102	102	70-130	5	35	mg/kg	01.23.19 11:57	
Toluene	<0.00200	0.100	0.0938	94	0.0888	89	70-130	5	35	mg/kg	01.23.19 11:57	
Ethylbenzene	<0.00200	0.100	0.117	117	0.110	110	70-130	6	35	mg/kg	01.23.19 11:57	
m,p-Xylenes	<0.00400	0.200	0.231	116	0.213	107	70-130	8	35	mg/kg	01.23.19 11:57	
o-Xylene	<0.00200	0.100	0.109	109	0.103	103	70-130	6	35	mg/kg	01.23.19 11:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	129		119		70-130	%	01.23.19 11:57
4-Bromofluorobenzene	79		85		70-130	%	01.23.19 11:57

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

Chain of Custody

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: 611804

www.xenco.com Page 1 of 1

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littel
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432.704.5178	Email:	abaker@ltenv.com, llaumbach@ltenv.com

Work Order Comments

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

Project Name:	Chistera 32 State #1H	Turn Around	
Project Number:		Routine	☑
P.O. Number:	01/04/2019	Rush:	—
Sampler's Name:	Robert McAfee	Due Date:	01/24

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	4.2/4.1	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:		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS01	S	01/17/19	1030	0.5	1	x	x	x
SS02		01/17/19	1025	0.5		x	x	x
SS03		01/17/19	1050	0.5		x	x	x
SS04		01/17/19	1052	0.5		x	x	x

Work Order Notes

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

Sample Comments

discrete

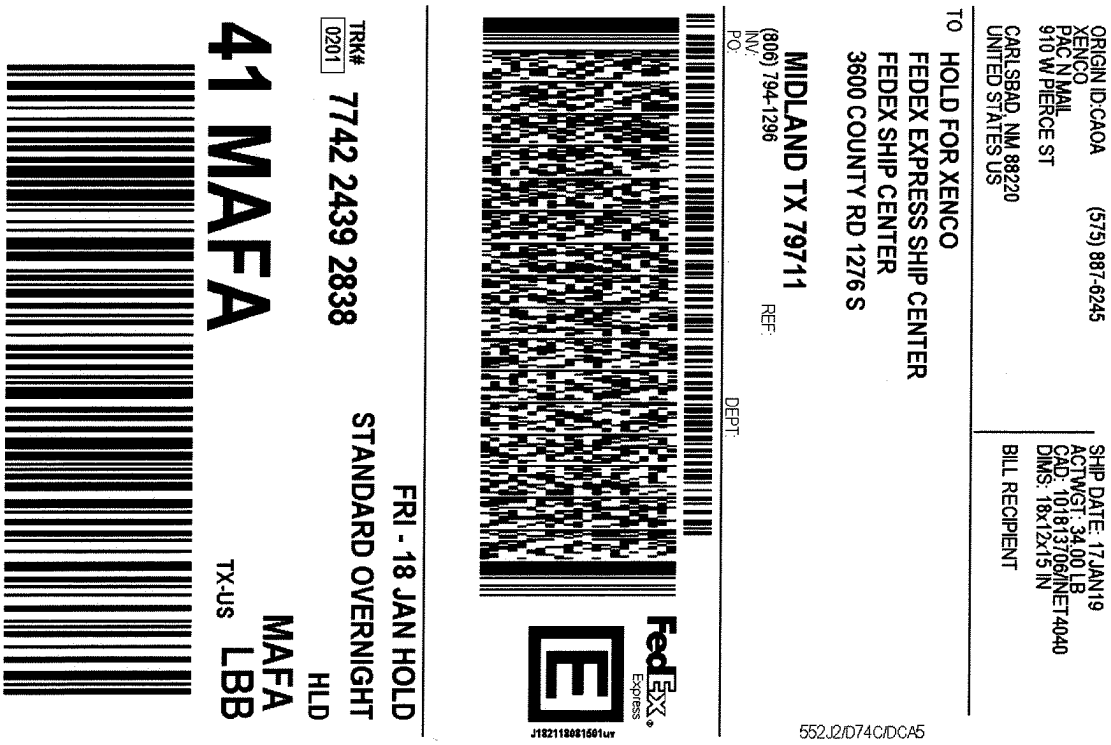
Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Chris Pulke	01/17/2019 13:30	2 Chris Pulke		1/18/19 1115
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

7742 24392858



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: 01/18/2019 11:15:00 AM

Work Order #: 611804

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 01/18/2019

Checklist reviewed by: Jessica Kramer Date: 01/21/2019

Analytical Report 619076

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Christera 32 State 1H

28-MAR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

28-MAR-19

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

Reference: XENCO Report No(s): **619076**
Christera 32 State 1H
Project Address: Delaware Basin

Adrian Baker:

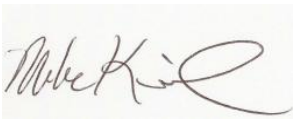
We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 619076. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory 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. 619076 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,



Mike Kimmel
Client Services Manager

Sample Cross Reference 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	03-25-19 09:15	0 - 1 ft	619076-001
FS02	S	03-25-19 09:40	0 - 0.5 ft	619076-002
FS03	S	03-25-19 09:45	0 - 0.5 ft	619076-003
FS04	S	03-25-19 09:50	0 - 0.5 ft	619076-004
FS05	S	03-25-19 09:55	0 - 0.5 ft	619076-005
FS06	S	03-25-19 10:15	0 - 0.5 ft	619076-006
FS07	S	03-25-19 10:10	0 - 0.5 ft	619076-007
FS08	S	03-25-19 10:05	0 - 0.5 ft	619076-008
FS09	S	03-25-19 10:00	0 - 0.5 ft	619076-009
FS10	S	03-25-19 10:20	0 - 0.5 ft	619076-010
FS11	S	03-25-19 10:25	0 - 0.5 ft	619076-011
FS12	S	03-25-19 10:30	0 - 0.5 ft	619076-012
SS01A	S	03-25-19 09:10	1 ft	619076-013
SS02A	S	03-25-19 09:00	1 ft	619076-014

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: Christera 32 State 1H

Project ID:
Work Order Number(s): *619076*

Report Date: *28-MAR-19*
Date Received: *03/27/2019*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:
Batch: LBA-3083673 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3083678 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 619076-014,619076-013.

Certificate of Analysis Summary 619076

LT Environmental, Inc., Arvada, CO

Project Name: Christera 32 State 1H

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

Date Received in Lab: Wed Mar-27-19 11:50 am
Report Date: 28-MAR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	619076-001		619076-002		619076-003		619076-004		619076-005		619076-006	
	Field Id:	FS01		FS02		FS03		FS04		FS05		FS06	
	Depth:	0-1 ft		0-0.5 ft		0-0.5 ft		0-0.5 ft		0-0.5 ft		0-0.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-25-19 09:15		Mar-25-19 09:40		Mar-25-19 09:45		Mar-25-19 09:50		Mar-25-19 09:55		Mar-25-19 10:15	
BTEX by EPA 8021B	***Extracted:***	Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00	
	Analyzed:	Mar-27-19 17:18		Mar-27-19 17:37		Mar-27-19 17:56		Mar-27-19 18:15		Mar-27-19 18:34		Mar-27-19 18:53	
	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	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
m,p-Xylenes		<0.00398	0.00398	<0.00399	0.00399	<0.00401	0.00401	<0.00400	0.00400	<0.00402	0.00402	<0.00398	0.00398
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	Mar-27-19 15:15		Mar-27-19 15:15		Mar-27-19 15:15		Mar-27-19 15:15		Mar-27-19 15:15		Mar-27-19 15:15	
	Analyzed:	Mar-27-19 15:28		Mar-27-19 15:48		Mar-27-19 15:54		Mar-27-19 16:01		Mar-27-19 16:08		Mar-27-19 16:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		58.9	5.00	34.6	4.96	14.2	5.00	12.1	5.00	20.4	5.00	24.7	5.00
TPH by SW8015 Mod	***Extracted:***	Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00	
	Analyzed:	Mar-27-19 12:51		Mar-27-19 13:49		Mar-27-19 14:09		Mar-27-19 14:28		Mar-27-19 14:47		Mar-27-19 15:07	
	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	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<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	<14.9	14.9	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 619076

LT Environmental, Inc., Arvada, CO

Project Name: Christera 32 State 1H

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

Date Received in Lab: Wed Mar-27-19 11:50 am
Report Date: 28-MAR-19
Project Manager: Kalei Stout

Analysis Requested	*Lab Id:*	619076-007		619076-008		619076-009		619076-010		619076-011		619076-012	
	Field Id:	FS07		FS08		FS09		FS10		FS11		FS12	
	Depth:	0-0.5 ft		0-0.5 ft		0-0.5 ft		0-0.5 ft		0-0.5 ft		0-0.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-25-19 10:10		Mar-25-19 10:05		Mar-25-19 10:00		Mar-25-19 10:20		Mar-25-19 10:25		Mar-25-19 10:30	
BTEX by EPA 8021B	*Extracted:*	Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 13:00		Mar-27-19 13:00	
	Analyzed:	Mar-27-19 19:12		Mar-27-19 19:31		Mar-27-19 19:50		Mar-27-19 20:09		Mar-27-19 22:57		Mar-27-19 23:16	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Toluene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00200	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	<0.00400	0.00400	<0.00402	0.00402
o-Xylene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total Xylenes		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total BTEX		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Inorganic Anions by EPA 300	*Extracted:*	Mar-27-19 15:15		Mar-27-19 15:15		Mar-27-19 15:15		Mar-27-19 15:15		Mar-27-19 15:15		Mar-27-19 15:15	
	Analyzed:	Mar-27-19 16:35		Mar-27-19 16:41		Mar-27-19 16:48		Mar-27-19 16:55		Mar-27-19 17:01		Mar-27-19 17:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		26.6	4.97	18.4	5.01	19.9	4.99	15.2	5.03	18.3	4.98	18.3	4.97
TPH by SW8015 Mod	*Extracted:*	Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00		Mar-27-19 12:00	
	Analyzed:	Mar-27-19 15:26		Mar-27-19 15:46		Mar-27-19 16:05		Mar-27-19 16:24		Mar-27-19 17:22		Mar-27-19 17:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 619076

LT Environmental, Inc., Arvada, CO

Project Name: Christera 32 State 1H

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

Date Received in Lab: Wed Mar-27-19 11:50 am
Report Date: 28-MAR-19
Project Manager: Kalei Stout

Analysis Requested									
	Lab Id:	619076-013		619076-014					
	Field Id:	SS01A		SS02A					
	Depth:	1- ft		1- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Mar-25-19 09:10		Mar-25-19 09:00					
BTEX by EPA 8021B	***Extracted:***	Mar-27-19 13:00		Mar-27-19 13:00					
	Analyzed:	Mar-27-19 23:35		Mar-27-19 23:54					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00200	0.00200				
Toluene		<0.00199	0.00199	<0.00200	0.00200				
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200				
m,p-Xylenes		<0.00398	0.00398	<0.00401	0.00401				
o-Xylene		<0.00199	0.00199	<0.00200	0.00200				
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200				
Total BTEX		<0.00199	0.00199	<0.00200	0.00200				
Inorganic Anions by EPA 300	***Extracted:***	Mar-27-19 15:15		Mar-27-19 15:15					
	Analyzed:	Mar-27-19 17:28		Mar-27-19 17:48					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		6.12	4.95	7.82	4.95				
TPH by SW8015 Mod	***Extracted:***	Mar-27-19 12:00		Mar-27-19 12:00					
	Analyzed:	Mar-27-19 18:00		Mar-27-19 18:19					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				

Mike Kimmel
Client Services Manager

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-001	Date Collected:	03.25.19 09.15	Sample Depth:	0 - 1 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**58.9**	5.00	mg/kg	03.27.19 15.28		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 12.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 12.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 12.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 12.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	03.27.19 12.51	
o-Terphenyl	84-15-1	92	%	70-135	03.27.19 12.51	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-001	Date Collected:	03.25.19 09.15	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083673				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.27.19 17.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.27.19 17.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.27.19 17.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.27.19 17.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.27.19 17.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.27.19 17.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.27.19 17.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	03.27.19 17.18	
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.27.19 17.18	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-002	Date Collected:	03.25.19 09.40	Sample Depth:	0 - 0.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**34.6**	4.96	mg/kg	03.27.19 15.48		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 13.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 13.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 13.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 13.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.27.19 13.49	
o-Terphenyl	84-15-1	82	%	70-135	03.27.19 13.49	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-002	Date Collected:	03.25.19 09.40	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083673				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 17.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 17.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 17.37	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.27.19 17.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 17.37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 17.37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 17.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.27.19 17.37	
4-Bromofluorobenzene	460-00-4	115	%	70-130	03.27.19 17.37	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-003	Date Collected:	03.25.19 09.45	Sample Depth:	0 - 0.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.2**	5.00	mg/kg	03.27.19 15.54		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 14.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 14.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 14.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 14.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	03.27.19 14.09	
o-Terphenyl	84-15-1	82	%	70-135	03.27.19 14.09	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-003	Date Collected:	03.25.19 09.45	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083673				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 17.56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 17.56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 17.56	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.27.19 17.56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 17.56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 17.56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 17.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.27.19 17.56	
4-Bromofluorobenzene	460-00-4	126	%	70-130	03.27.19 17.56	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-004	Date Collected:	03.25.19 09.50	Sample Depth:	0 - 0.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.1**	5.00	mg/kg	03.27.19 16.01		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 14.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 14.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 14.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 14.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	03.27.19 14.28	
o-Terphenyl	84-15-1	83	%	70-135	03.27.19 14.28	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-004	Date Collected:	03.25.19 09.50	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083673				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 18.15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 18.15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 18.15	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.27.19 18.15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 18.15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 18.15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 18.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	128	%	70-130	03.27.19 18.15	
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.27.19 18.15	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-005	Date Collected:	03.25.19 09.55	Sample Depth:	0 - 0.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.4**	5.00	mg/kg	03.27.19 16.08		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.27.19 14.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.27.19 14.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.27.19 14.47	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.27.19 14.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	03.27.19 14.47	
o-Terphenyl	84-15-1	83	%	70-135	03.27.19 14.47	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-005	Date Collected:	03.25.19 09.55	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083673				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.27.19 18.34	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.27.19 18.34	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.27.19 18.34	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.27.19 18.34	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.27.19 18.34	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.27.19 18.34	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.27.19 18.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.27.19 18.34	
4-Bromofluorobenzene	460-00-4	127	%	70-130	03.27.19 18.34	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-006	Date Collected:	03.25.19 10.15	Sample Depth:	0 - 0.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24.7**	5.00	mg/kg	03.27.19 16.28		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 15.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 15.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 15.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 15.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	03.27.19 15.07	
o-Terphenyl	84-15-1	83	%	70-135	03.27.19 15.07	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-006	Date Collected:	03.25.19 10.15	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083673				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.27.19 18.53	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.27.19 18.53	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.27.19 18.53	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.27.19 18.53	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.27.19 18.53	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.27.19 18.53	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.27.19 18.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	03.27.19 18.53	
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.27.19 18.53	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-007	Date Collected:	03.25.19 10.10	Sample Depth:	0 - 0.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.6**	4.97	mg/kg	03.27.19 16.35		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 15.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 15.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 15.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 15.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	03.27.19 15.26	
o-Terphenyl	84-15-1	82	%	70-135	03.27.19 15.26	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-007	Date Collected:	03.25.19 10.10	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083673				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.27.19 19.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.27.19 19.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.27.19 19.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.27.19 19.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.27.19 19.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.27.19 19.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.27.19 19.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.27.19 19.12	
4-Bromofluorobenzene	460-00-4	126	%	70-130	03.27.19 19.12	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-008	Date Collected:	03.25.19 10.05	Sample Depth:	0 - 0.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.4**	5.01	mg/kg	03.27.19 16.41		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 15.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 15.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 15.46	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 15.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	03.27.19 15.46	
o-Terphenyl	84-15-1	83	%	70-135	03.27.19 15.46	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-008	Date Collected:	03.25.19 10.05	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083673				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.27.19 19.31	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.27.19 19.31	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.27.19 19.31	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.27.19 19.31	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.27.19 19.31	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.27.19 19.31	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.27.19 19.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.27.19 19.31	
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.27.19 19.31	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-009	Date Collected:	03.25.19 10.00	Sample Depth:	0 - 0.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.9**	4.99	mg/kg	03.27.19 16.48		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 16.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 16.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 16.05	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 16.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	03.27.19 16.05	
o-Terphenyl	84-15-1	79	%	70-135	03.27.19 16.05	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-009	Date Collected:	03.25.19 10.00	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083673				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 19.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 19.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 19.50	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.27.19 19.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 19.50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 19.50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 19.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.27.19 19.50	
4-Bromofluorobenzene	460-00-4	129	%	70-130	03.27.19 19.50	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-010	Date Collected:	03.25.19 10.20	Sample Depth:	0 - 0.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.2**	5.03	mg/kg	03.27.19 16.55		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.27.19 16.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.27.19 16.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.27.19 16.24	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.27.19 16.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	03.27.19 16.24	
o-Terphenyl	84-15-1	79	%	70-135	03.27.19 16.24	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-010	Date Collected:	03.25.19 10.20	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 12.00	Basis:	Wet Weight
Seq Number:	3083673				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 20.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 20.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 20.09	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.27.19 20.09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 20.09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 20.09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 20.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.27.19 20.09	
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.27.19 20.09	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-011	Date Collected:	03.25.19 10.25	Sample Depth:	0 - 0.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.3**	4.98	mg/kg	03.27.19 17.01		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 17.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 17.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 17.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 17.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	03.27.19 17.22	
o-Terphenyl	84-15-1	80	%	70-135	03.27.19 17.22	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-011	Date Collected:	03.25.19 10.25	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 22.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 22.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 22.57	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.27.19 22.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 22.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 22.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 22.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.27.19 22.57	
4-Bromofluorobenzene	460-00-4	127	%	70-130	03.27.19 22.57	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS12**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-012	Date Collected:	03.25.19 10.30	Sample Depth:	0 - 0.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.3**	4.97	mg/kg	03.27.19 17.22		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 17.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 17.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 17.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 17.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	03.27.19 17.41	
o-Terphenyl	84-15-1	80	%	70-135	03.27.19 17.41	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**FS12**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-012	Date Collected:	03.25.19 10.30	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.27.19 23.16	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.27.19 23.16	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.27.19 23.16	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.27.19 23.16	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.27.19 23.16	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.27.19 23.16	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.27.19 23.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.27.19 23.16	
4-Bromofluorobenzene	460-00-4	126	%	70-130	03.27.19 23.16	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-013	Date Collected:	03.25.19 09.10	Sample Depth:	1 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.12**	4.95	mg/kg	03.27.19 17.28		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 18.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 18.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 18.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 18.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	03.27.19 18.00	
o-Terphenyl	84-15-1	80	%	70-135	03.27.19 18.00	

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LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-013	Date Collected:	03.25.19 09.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.27.19 23.35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.27.19 23.35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.27.19 23.35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.27.19 23.35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.27.19 23.35	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.27.19 23.35	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.27.19 23.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	136	%	70-130	03.27.19 23.35	**
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.27.19 23.35	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**SS02A**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-014	Date Collected:	03.25.19 09.00	Sample Depth:	1 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.82**	4.95	mg/kg	03.27.19 17.48		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.27.19 18.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.27.19 18.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.27.19 18.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.27.19 18.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	03.27.19 18.19	
o-Terphenyl	84-15-1	85	%	70-135	03.27.19 18.19	

Certificate of Analytical Results 619076

LT Environmental, Inc., Arvada, CO

Christera 32 State 1H

Sample Id:	**SS02A**	Matrix:	Soil	Date Received:	03.27.19 11.50
Lab Sample Id:	619076-014	Date Collected:	03.25.19 09.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.27.19 13.00	Basis:	Wet Weight
Seq Number:	3083678				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 23.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 23.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 23.54	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.27.19 23.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 23.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 23.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 23.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	139	%	70-130	03.27.19 23.54	**
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.27.19 23.54	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 619076

LT Environmental, Inc.

Christera 32 State 1H

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

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

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

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

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083705 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 619076-011 MS Sample Id: 619076-011 S MSD Sample Id: 619076-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	18.3	249	268	100	263	98	90-110	2	20	mg/kg	03.27.19 17:08	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3083698 Matrix: Solid Date Prep: 03.27.19
MB Sample Id: 7674533-1-BLK LCS Sample Id: 7674533-1-BKS LCSD Sample Id: 7674533-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	946	95	1010	101	70-135	7	20	mg/kg	03.27.19 12:12	
Diesel Range Organics (DRO)	<8.13	1000	982	98	1050	105	70-135	7	20	mg/kg	03.27.19 12:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		126		129		70-135	%	03.27.19 12:12
o-Terphenyl	91		102		109		70-135	%	03.27.19 12:12

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

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

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

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

QC Summary 619076

LT Environmental, Inc.

Christera 32 State 1H

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3083698 | Matrix: Soil | Date Prep: 03.27.19
Parent Sample Id: 619076-001 | MS Sample Id: 619076-001 S | MSD Sample Id: 619076-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	9.02	998	903	90	916	91	70-135	1	20	mg/kg	03.27.19 13:10	
Diesel Range Organics (DRO)	<8.11	998	947	95	956	96	70-135	1	20	mg/kg	03.27.19 13:10	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		121		70-135	%	03.27.19 13:10
o-Terphenyl	100		97		70-135	%	03.27.19 13:10

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3083673 | Matrix: Solid | Date Prep: 03.27.19
MB Sample Id: 7674448-1-BLK | LCS Sample Id: 7674448-1-BKS | LCSD Sample Id: 7674448-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.109	109	0.116	117	70-130	6	35	mg/kg	03.27.19 23:21	
Toluene	<0.000455	0.0998	0.109	109	0.115	116	70-130	5	35	mg/kg	03.27.19 23:21	
Ethylbenzene	<0.000564	0.0998	0.117	117	0.123	124	70-130	5	35	mg/kg	03.27.19 23:21	
m,p-Xylenes	<0.00101	0.200	0.230	115	0.241	121	70-130	5	35	mg/kg	03.27.19 23:21	
o-Xylene	<0.000344	0.0998	0.117	117	0.123	124	70-130	5	35	mg/kg	03.27.19 23:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		101		103		70-130	%	03.27.19 23:21
4-Bromofluorobenzene	107		119		119		70-130	%	03.27.19 23:21

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3083678 | Matrix: Solid | Date Prep: 03.27.19
MB Sample Id: 7674451-1-BLK | LCS Sample Id: 7674451-1-BKS | LCSD Sample Id: 7674451-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.110	110	0.114	114	70-130	4	35	mg/kg	03.27.19 21:05	
Toluene	<0.000457	0.100	0.108	108	0.112	112	70-130	4	35	mg/kg	03.27.19 21:05	
Ethylbenzene	<0.000566	0.100	0.116	116	0.119	119	70-130	3	35	mg/kg	03.27.19 21:05	
m,p-Xylenes	<0.00102	0.200	0.223	112	0.232	116	70-130	4	35	mg/kg	03.27.19 21:05	
o-Xylene	<0.000345	0.100	0.116	116	0.121	121	70-130	4	35	mg/kg	03.27.19 21:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		100		103		70-130	%	03.27.19 21:05
4-Bromofluorobenzene	111		113		124		70-130	%	03.27.19 21:05

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 619076

LT Environmental, Inc.

Christera 32 State 1H

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

Seq Number: 3083673 Matrix: Soil Date Prep: 03.27.19

Parent Sample Id: 618907-039 MS Sample Id: 618907-039 S MSD Sample Id: 618907-039 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	0.122	122	0.113	113	70-130	8	35	mg/kg	03.27.19 23:59	
Toluene	<0.000454	0.0996	0.118	118	0.109	109	70-130	8	35	mg/kg	03.27.19 23:59	
Ethylbenzene	<0.000563	0.0996	0.123	123	0.110	110	70-130	11	35	mg/kg	03.27.19 23:59	
m,p-Xylenes	<0.00101	0.199	0.237	119	0.214	107	70-130	10	35	mg/kg	03.27.19 23:59	
o-Xylene	<0.000343	0.0996	0.122	122	0.110	110	70-130	10	35	mg/kg	03.27.19 23:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	03.27.19 23:59
4-Bromofluorobenzene	124		122		70-130	%	03.27.19 23:59

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

Seq Number: 3083678 Matrix: Soil Date Prep: 03.27.19

Parent Sample Id: 619076-011 MS Sample Id: 619076-011 S MSD Sample Id: 619076-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.109	109	0.115	114	70-130	5	35	mg/kg	03.27.19 21:43	
Toluene	<0.000456	0.100	0.106	106	0.112	111	70-130	6	35	mg/kg	03.27.19 21:43	
Ethylbenzene	<0.000565	0.100	0.112	112	0.118	117	70-130	5	35	mg/kg	03.27.19 21:43	
m,p-Xylenes	<0.00101	0.200	0.215	108	0.228	113	70-130	6	35	mg/kg	03.27.19 21:43	
o-Xylene	<0.000344	0.100	0.112	112	0.119	118	70-130	6	35	mg/kg	03.27.19 21:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		104		70-130	%	03.27.19 21:43
4-Bromofluorobenzene	123		127		70-130	%	03.27.19 21:43

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

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

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

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

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: 190716

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Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	3104 Greene Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432.704.5178	Email:	abyers@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:	Christera 32 State 1H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:		Rush:	same day
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.3 / 0.2	Thermometer ID	98
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)
FS01	S	3/25/19	915	0-1'	1	X	X	X
FS02			0940	0-0.5'	1			
FS03			0945	0-0.5'	1			
FS04			0950	0-0.5'	1			
FS05			0955	0-0.5'	1			
FS06			1015	0-0.5'	1			
FS07			1010	0-0.5'	1			
FS08			1005	0-0.5'	1			
FS09			1000	0-0.5'	1			
FS10			1020	0-0.5'	1			

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			3/25/19 1650	2		3/25/19/1650
3			3/27/19 1150	4		
5				6		

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 6190716

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Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	3104 Greene Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.704.5178 Email:		abayers@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:		Turn Around	
Project Number:		Routine ☐	
P.O. Number:		Rush:	
Sampler's Name:		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 8021)	Chloride (EPA 300.0)
FS11	S	3/25/19	1025	0-0.5'	1			
FS12	S	"	1030	0-0.5'	1			
SS01A	S	"	0910	1'	1			
SS02A	S	"	0900	1'	1			

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			3/25/19	2		3/25/19 1650
3			3/27/19 1150	4		
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/27/2019 11:50:00 AM

Work Order #: 619076

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 03/27/2019

Brianna Teel

Checklist reviewed by: Whitney Capps Date: 03/27/2019

Whitney Capps

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

Identifier:	Date:
SS01	3/25/19
Project Name:	**RP Number:**
Christera 32 State 1H	not assigned
Logged By: Anna Byers	**Method:** shovel
Hole Diameter: 1' x 1'	**Total Depth:** 1'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.536366, -103.6872367
Field Screening: PID
Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	447	0	N	SS01	0	0.5'	SP-SM	moist, dark brown silt sand (m.), low plasticity, poorly graded, root fragments
M	237.8	0	N	SS01A	1	1'	—	
					2			TOT DEPTH
					3			
					4			
					5			
					6			08/25/19
					7			
					8			
					9			
					10			
					11			
					12			

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

Identifier: SS02	Date: 3/25/19
Project Name: Christera 32 State 1 Ht	RP Number: not assigned
Logged By: Anna Byers	Method: Shovel
Hole Diameter: 1' x 1'	Total Depth: 1'
Lat/Long: 32.536401, -103.6872917	Field Screening: PID

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	<300	0	N	SS02	0	0.5'	SP-SM	moist dark brown silt sand (m.), low plasticity, poorly graded, root fragments
M	<300	0	N	SS02A	1	1.0'	—	TOT DEPTH
					2			
					3			
					4			
					5			
					6			3/25/19
					7			
					8			
					9			
					10			
					11			
					12			

Southwestern view of the northern release area prior to excavation activities.

Project: 012919010	XTO Energy, Inc. Chistera 32 State 1H	LTE Advancing Opportunity
January 17, 2019	Photographic Log	

Southwestern view of the final excavation extent.

Project: 012919010	XTO Energy, Inc. Chistera 32 State 1H	LTE Advancing Opportunity
March 25, 2019	Photographic Log	