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	NAB1923250266
District RP	2RP-5590
Facility ID	
Application ID	pAB1923249821

Release Notification

SO90U-190802-C-1410

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)* NAB1923250266
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.154350° Longitude -104.016485°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Goldenchild Central Tank Battery	Site Type Bulk Storage and Separation Facility
Date Release Discovered 7/21/2019	API# *(if applicable)* 30-015-41846 (Goldenchild 6 St SWD)

Unit Letter	Section	Township	Range	County
P	6	25S	29E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 7.19	Volume Recovered (bbls) 6
	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

Contract truck neglected to close a valve after loading. Fluid was released to the lined facility containment and well pad. A vacuum truck recovered free fluids from the well pad and containment (1 barrel from well pad and 5 barrels from containment). Additional third party resources have been retained to assist with remediation.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1923250266
District RP	2Rp-5590
Facility ID	
Application ID	pAB1923249821

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: Amy C. Ruth
Title: SH&E Coordinator
Signature:
Date: 8/2/2019
email: Amy_Ruth@xtoenergy.com
Telephone: 575-689-3380

OCD Only

Received by: Amalia Bustamante
Date: 8/20/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5590
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5590
Facility ID	
Application ID	

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

Printed Name: _____Kyle Littrell_____ Title: ____SH&E Supervisor_____

Signature:_____ Date: __10/18/2019_____

email: _____Kyle_Littrell@xtoenergy.com_____ Telephone: ___432-221-7331_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5590
Facility ID	
Application ID	

Closure

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

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

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

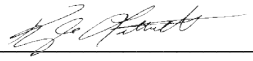
☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 10/18/2019

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

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

October 18, 2019

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

RE: Closure Request
Goldenchild Central Tank Battery
Remediation Permit Number 2RP-5590
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing site assessment, excavation, and soil sampling activities at the Goldenchild Central Tank Battery (Site) located in Unit P, Section 6, Township 25 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil following a release of produced water at the Site. Based on excavation activities and results of the soil sampling events, XTO is submitting this Closure Request and respectfully requesting no further action for Remediation Permit (RP) Number 2RP-5590.

RELEASE BACKGROUND

On July 21, 2019, a contract truck neglected to close a valve after loading, which resulted in the release of 7.19 barrels (bbls) of produced water into the lined facility containment and onto the caliche well pad. A vacuum truck was dispatched to the Site to recover free-standing fluid; approximately 6 bbls of produced water were recovered from within the facility containment. All remaining fluid remained on the caliche well pad outside of the containment. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on August 2, 2019, and was subsequently assigned RP Number 2RP-5590 (Attachment 1).

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be between 51 and 100 feet below ground surface (bgs) based on the nearest water well data. The closest permitted water well with depth to water data is New Mexico Office of the Sate Engineer (NM OSE) Well #C01880, located

approximately 2,814 feet northwest of the Site. According to the NM OSE database, the well was installed and depth to water was measured in 1979. Based on the age of the well, LTE field personnel field-verified the presence or absence of the well. The well could not be located within an approximate 1,000 foot radius from the coordinates provided by the NM OSE. As part of remediation efforts at a nearby site, Corral Canyon #1H flow line (2RP-5201), LTE installed six monitoring wells (MW01 through MW06) to assess depth to groundwater. The groundwater monitoring wells are located approximately 5,608 feet east-southeast of the Site. Static water level measured in monitoring wells MW01 through MW06 on September 13, 2019, ranged from 57.26 feet bgs in monitoring well MW04 to 62.29 feet bgs in monitoring well MW02 with an average depth to water of 58.80 feet bgs. The depth to water measurements are provided in the table below and the location of the monitoring wells is identified on Figure 1.

MONITORING WELL INFORMATION

Sample Name	Total Depth (feet bgs)	Depth to Water (feet bgs)	Sample Date
MW01	68.44	58.17	09/13/2019
MW02	68.10	62.29	09/13/2019
MW03	75.58	58.30	09/13/2019
MW04	69.08	57.26	09/13/2019
MW05	64.80	58.54	09/13/2019
MW06	64.11	58.25	09/13/2019

Notes:
bgs – below ground surface

Based on depth to water measured recently in the nearby monitoring wells, depth to water at the Site is estimated to be between 51 and 100 feet bgs. The closest continuously flowing water or significant watercourse to the Site is the Pecos River, located approximately 1,850 feet west 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 not located in an unstable geological area, such as karst formations.

CLOSURE CRITERIA

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg);
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg;

- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg;
- TPH: 2,500 mg/kg; and
- Chloride: 10,000 mg/kg.

SITE ASSESSMENT, EXCAVATION, AND SOIL SAMPLING ACTIVITIES

On August 8, 2019, LTE personnel was at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. LTE personnel field screened soil from within the release extent for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Due to elevated field screening results, additional assessment activities and excavation of impacted soil appeared warranted and were scheduled.

From August 9 through September 25, 2019, LTE personnel was at the Site to oversee excavation of impacted soil via hydrovacuum, as indicated by visual observations and field screening results. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride. Following removal of impacted soil, LTE collected 5-point composite samples every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil sample SW01 was collected from the sidewalls of the excavation from approximately 0.3 feet to 1 foot bgs. Composite soil sample FS01 was collected from the floor of the excavation at a depth of approximately 1 foot bgs. The excavation extent and excavation soil samples locations are depicted on Figure 2. Photographic documentation was conducted during excavation activities. Photographs are included in Attachment 2.

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

The final excavation extent measured approximately 50 square feet in area. A total of approximately 2 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the R360 landfill facility located in Hobbs, New Mexico.

On September 27, 2019, LTE personnel returned to the Site to oversee soil assessment activities in the area of the release extent that was not excavated. Boreholes were advanced via hand auger at three locations (BH01 through BH03), immediately surrounding the point of release. Boreholes BH01 through BH03 were advanced to a depth of approximately 1 foot bgs. Two soil samples were collected from each borehole at depths of approximately 0.5 feet and 1 foot bgs. Soil from the boreholes was field screened for volatile aromatic hydrocarbons and chloride. Field screening results and observations for each borehole were logged on lithologic/soil sampling logs, which are included in Attachment 3. The delineation soil samples were collected, handled, and analyzed as described above. The boreholes were backfilled with the soil removed. The release extent and the borehole and delineation soil sample locations are depicted on Figure 3.

ANALYTICAL RESULTS

Laboratory analytical results indicated benzene, BTEX, TPH-GRO and TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in confirmation soil samples SW01 and FS01 and in delineation borehole soil samples BH01/BH01A through BH03/BH03A. Laboratory analytical results are presented on Figure 2 and Figure 3, and summarized in Table 1. The complete laboratory analytical reports are included as Attachment 4.

CONCLUSIONS

Field screening results indicated soil with elevated chloride concentrations within the release extent. As a result, soil within the release extent was excavated. A total of 2 cubic yards of impacted soil were excavated, and laboratory analytical results for the confirmation soil samples collected from the final excavation extent indicated benzene, BTEX, TPH-GRO and TPH-DRO TPH, and chloride concentrations were compliant with the Closure Criteria and no further excavation activities were warranted. Additional delineation soil sampling activities were conducted in the area of the release extent that was not excavated. Laboratory analytical results for the delineation soil samples indicated that benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and no further excavation was required.

Based on initial response efforts, excavation of soil, and soil analytical results compliant with the Closure Criteria, XTO requests no further action for RP Number 2RP-5590. Upon approval of this closure request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included as Attachment 1.

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

Sincerely,

LT ENVIRONMENTAL, INC.

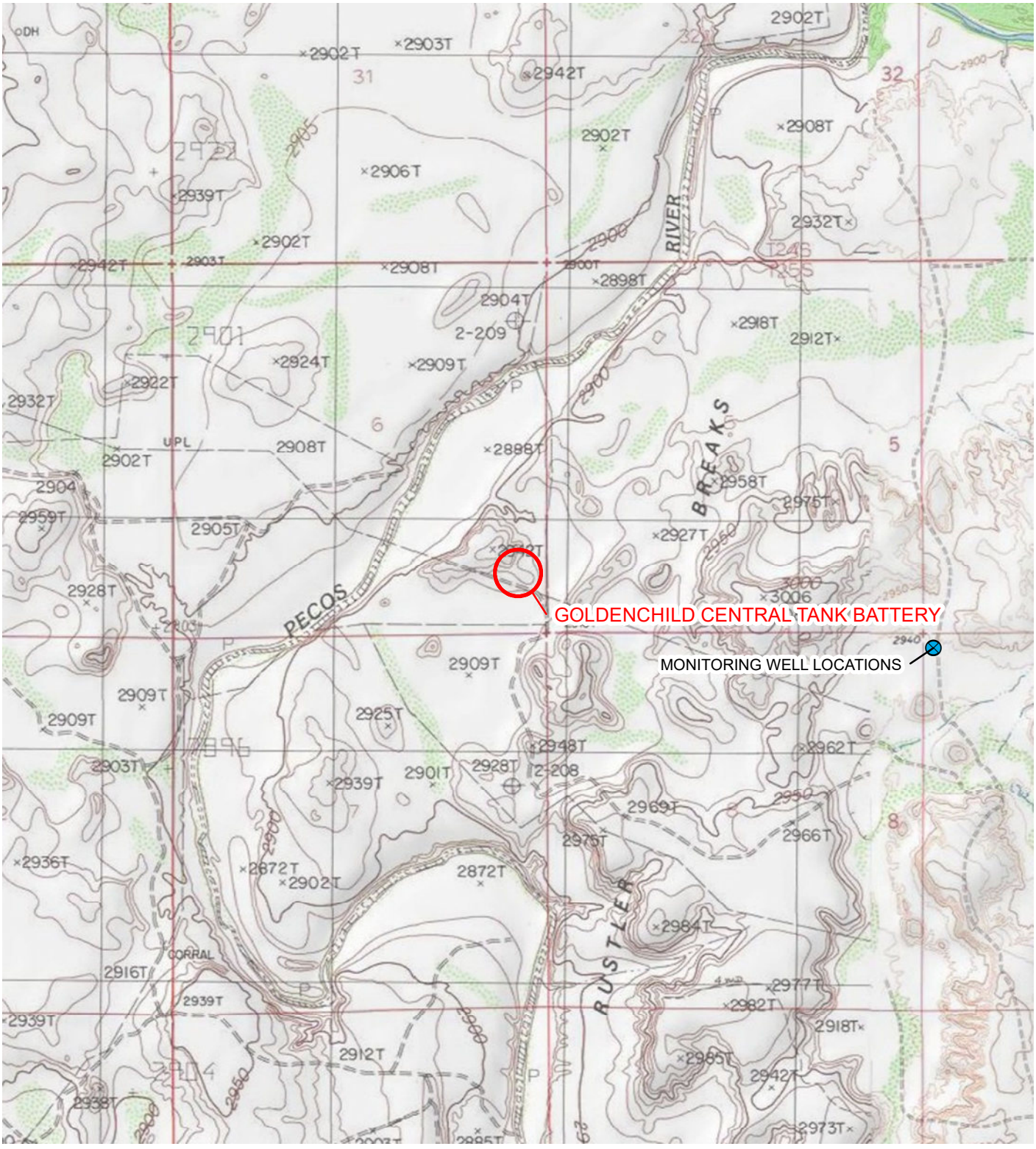
Carol Ann Whaley
Staff Geologist

Ashley L. Ager, P.G.
Senior Geologist

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

Attachments:

Figure 1	Site Location Map
Figure 2	Excavation Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-5590)
Attachment 2	Photographic Log
Attachment 3	Lithologic / Soil Sampling Logs
Attachment 4	Laboratory Analytical Reports



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-5590

FIGURE 1
SITE LOCATION MAP
GOLDENCHILD CENTRAL TANK BATTERY
UNIT P SEC 6 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919173_GOLDENCHILD CENTRAL TANK BATTERY\012919173_FIG01_SL_2019_1.mxd

LEGEND

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

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5590

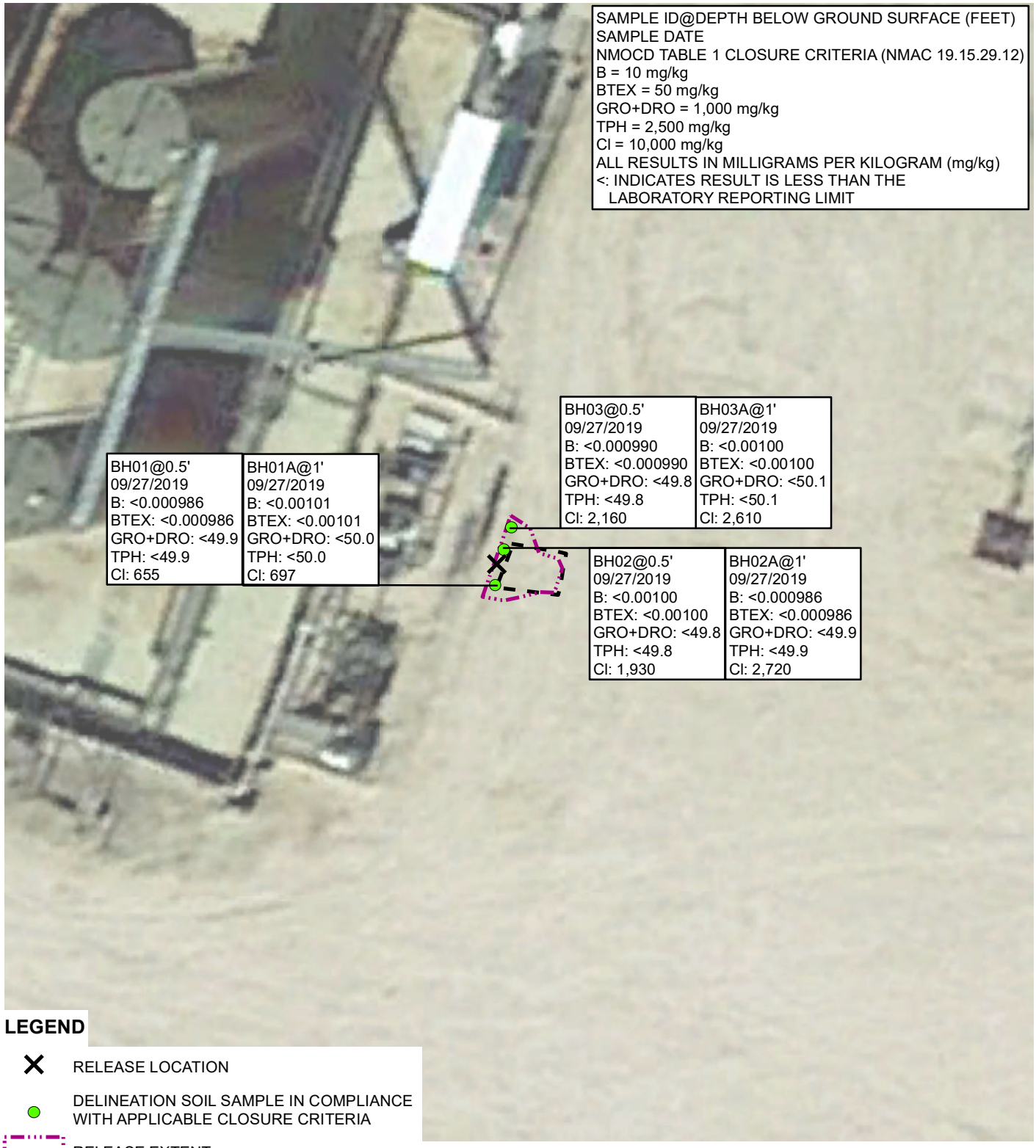
IMAGE COURTESY OF ESRI

0 10 20
Feet

N

FIGURE 2
EXCAVATION SOIL SAMPLE LOCATIONS
GOLDENCHILD CENTRAL TANK BATTERY
UNIT P SEC 6 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919173_GOLDENCHILD CENTRAL TANK BATTERY\012919173_FIG02_EXCAVATION_2019.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5590

FIGURE 3
DELINEATION SOIL SAMPLE LOCATIONS
GOLDENCHILD CENTRAL TANK BATTERY
UNIT P SEC 6 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919173_GOLDENCHILD CENTRAL TANK BATTERY\012919173_FIG03_DELINEATION_2019.mxd

TABLE 1
SOIL ANALYTICAL RESULTS

GOLDENCHILD CENTRAL TANK BATTERY
REMEDIATION PERMIT 2RP-5590
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
FS01	1	08/09/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<25.0	65.5	<25.0	65.5	65.5	979
SW01	0.3 - 1	09/25/2019	<0.101	<0.101	<0.101	1.31	1.31	<50.2	589	<50.2	589	589	361
BH01	0.5	09/27/2019	<0.000986	<0.000986	<0.000986	<0.000986	<0.000986	<49.9	<49.9	<49.9	<49.9	<49.9	655
BH01A	1	09/27/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.0	<50.0	<50.0	<50.0	<50.0	697
BH02	0.5	09/27/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.8	<49.8	<49.8	<49.8	<49.8	1,930
BH02A	1	09/27/2019	<0.000986	<0.000986	<0.000986	<0.000986	<0.000986	<49.9	<49.9	<49.9	<49.9	<49.9	2,720
BH03	0.5	09/27/2019	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<49.8	<49.8	<49.8	<49.8	<49.8	2,160
BH03A	1	09/27/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.1	<50.1	<50.1	<50.1	<50.1	2,610
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**10,000**

Notes:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
DRO - diesel range organics
GRO - gasoline range organics
MRO - motor oil range organics
NMAC - New Mexico Administrative Code
NMOCD - New Mexico Oil Conservation Division
NE - not established
< - indicates result is below laboratory reporting limits
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018
TPH - total petroleum hydrocarbons
mg/kg - milligrams per kilogram

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-5590)

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	NAB1923250266
District RP	2RP-5590
Facility ID	
Application ID	pAB1923249821

Release Notification

SO90U-190802-C-1410

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)* NAB1923250266
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.154350° Longitude -104.016485°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Goldenchild Central Tank Battery	Site Type Bulk Storage and Separation Facility
Date Release Discovered 7/21/2019	API# *(if applicable)* 30-015-41846 (Goldenchild 6 St SWD)

Unit Letter	Section	Township	Range	County
P	6	25S	29E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 7.19	Volume Recovered (bbls) 6
	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

Contract truck neglected to close a valve after loading. Fluid was released to the lined facility containment and well pad. A vacuum truck recovered free fluids from the well pad and containment (1 barrel from well pad and 5 barrels from containment). Additional third party resources have been retained to assist with remediation.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1923250266
District RP	2Rp-5590
Facility ID	
Application ID	pAB1923249821

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: Amy C. Ruth
Title: SH&E Coordinator
Signature:
Date: 8/2/2019
email: Amy_Ruth@xtoenergy.com
Telephone: 575-689-3380

OCD Only

Received by: Amalia Bustamante
Date: 8/20/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5590
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5590
Facility ID	
Application ID	

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

Printed Name: _____Kyle Littrell_____ Title: ____SH&E Supervisor_____

Signature:_____ Date: __10/18/2019_____

email: _____Kyle_Littrell@xtoenergy.com_____ Telephone: ___432-221-7331_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5590
Facility ID	
Application ID	

Closure

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

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

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

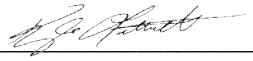
☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 10/18/2019

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: _____

Western view of excavation extent during confirmation soil sampling activities.

Project: 0129191763	XTO Energy, Inc. Goldenchild Central Tank Battery	LTE Advancing Opportunity
August 9, 2019	Photographic Log	

Northern view of excavation extent during confirmation soil sampling activities.

Project: 012919173	XTO Energy, Inc. Goldenchild Central Tank Battery	LTE Advancing Opportunity
August 9, 2019	Photographic Log	

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

Identifier:	Date:
BH01	09/27/19
Project Name:	**RP Number:**
Goldenchild CTB	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Fatima Smith	Method:
Lat/Long:	Field Screening:
Hole Diameter:	Total Depth: 1'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	750	1.5	N	BH01	0	0.5'	S	GP, tan, caliche, no plasticity, no odor
Dry	436	2.6	N	BH01A	1		S	deepest sample @ 1'

2 3 4 5 6 7 8 9 10 11 12

Fatima

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

Identifier:	Date:
BH02	09/27/19
Project Name:	**RP Number:**
Goldenchild CTB	
Logged By: Fatima Smith	**Method:**
Hole Diameter:	**Total Depth:** 1'
Lat/Long:	**Field Screening:**

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	554	5.4	N	BH02	0	0.5'	S	GP, tan, caliche, no plasticity, no odor
Dry	683	3.8	N	BH02A	1		S	deepest sample @ 1'
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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

Identifier:	Date:
BH03	09/27/19
Project Name:	**RP Number:**
Goldenchild CTB	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Fatima Smith	Method:
Lat/Long:	Field Screening:
Hole Diameter:	Total Depth: 1'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	<179	0.7	N	BH03	0	0.5'	S	GP, tan, caliche, no plasticity, no odor
Dry	436	5.3	N	BH03A	1		S	deepest sample @ 1'
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 634636

for

LT Environmental, Inc.

Project Manager: Dan Moir

Goldenchild CTB

012919173

08-OCT-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

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

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

08-OCT-19

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

Reference: XENCO Report No(s): **634636**
Goldenchild CTB
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 634636. 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. 634636 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 634636

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	08-09-19 16:29	1 ft	634636-001

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Goldenchild CTB

Project ID: *012919173*
Work Order Number(s): *634636*

Report Date: *08-OCT-19*
Date Received: *08/20/2019*

Sample receipt non conformances and comments:

Per clients email, uploaded corrected COC with corrected depth. NEW VERSION GENERATED. JK 10/08/19

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3099358 TPH by SW8015 Mod
Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7684790-1-BKS.

Batch: LBA-3099361 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7684795-1-BKS,634606-006 S,634606-006 SD.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 634636

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild CTB

Project Id: 012919173
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Aug-20-19 03:20 pm
Report Date: 08-OCT-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	634636-001					
	Field Id:	FS01					
	Depth:	1- ft					
	Matrix:	SOIL					
	Sampled:	Aug-09-19 16:29					
BTEX by EPA 8021B	***Extracted:***	Aug-21-19 10:08					
	Analyzed:	Aug-21-19 15:58					
	Units/RL:	mg/kg	RL				
Benzene		<0.000998	0.000998				
Toluene		<0.000998	0.000998				
Ethylbenzene		<0.000998	0.000998				
m,p-Xylenes		<0.00200	0.00200				
o-Xylene		<0.000998	0.000998				
Total Xylenes		<0.000998	0.000998				
Total BTEX		<0.000998	0.000998				
Chloride by EPA 300	***Extracted:***	Aug-22-19 10:08					
	Analyzed:	Aug-22-19 14:34					
	Units/RL:	mg/kg	RL				
Chloride		979	49.7				
TPH by SW8015 Mod	***Extracted:***	Aug-21-19 10:08					
	Analyzed:	Aug-21-19 17:44					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<25.0	25.0				
Diesel Range Organics (DRO)		65.5	25.0				
Motor Oil Range Hydrocarbons (MRO)		<25.0	25.0				
Total TPH		65.5	25.0				
Total GRO-DRO		65.5	25.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 634636

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	08.20.19 15.20
Lab Sample Id:	634636-001	Date Collected:	08.09.19 16.29	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.22.19 10.08	Basis:	Wet Weight
Seq Number:	3099423				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**979**	49.7	mg/kg	08.22.19 14.34		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.21.19 10.08	Basis:	Wet Weight
Seq Number:	3099358				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.21.19 17.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	**65.5**	25.0	mg/kg	08.21.19 17.44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.21.19 17.44	U	1
Total TPH	PHC635	**65.5**	25.0	mg/kg	08.21.19 17.44		1
Total GRO-DRO	PHC628	**65.5**	25.0	mg/kg	08.21.19 17.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	08.21.19 17.44	
o-Terphenyl	84-15-1	114	%	70-135	08.21.19 17.44	

Certificate of Analytical Results 634636

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	08.20.19 15.20
Lab Sample Id:	634636-001	Date Collected:	08.09.19 16.29	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.21.19 10.08	Basis:	Wet Weight
Seq Number:	3099361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	08.21.19 15.58	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	08.21.19 15.58	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	08.21.19 15.58	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.21.19 15.58	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	08.21.19 15.58	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	08.21.19 15.58	U	1
Total BTEX		<0.000998	0.000998	mg/kg	08.21.19 15.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	90	%	80-120	08.21.19 15.58	
4-Bromofluorobenzene	460-00-4	114	%	80-120	08.21.19 15.58	

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 634636

LT Environmental, Inc.

Goldenchild CTB

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3099423 Matrix: Solid Date Prep: 08.22.19
MB Sample Id: 7684725-1-BLK LCS Sample Id: 7684725-1-BKS LCSD Sample Id: 7684725-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	200	214	107	216	108	80-120	1	20	mg/kg	08.22.19 13:42	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3099423 Matrix: Soil Date Prep: 08.22.19
Parent Sample Id: 634674-001 MS Sample Id: 634674-001 S MSD Sample Id: 634674-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	43.0	198	275	117	288	124	80-120	5	20	mg/kg	08.22.19 14:02	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3099423 Matrix: Solid Date Prep: 08.22.19
Parent Sample Id: 634867-014 MS Sample Id: 634867-014 S MSD Sample Id: 634867-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2130	1000	3490	136	3490	136	80-120	0	20	mg/kg	08.22.19 17:12	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3099358 Matrix: Solid Date Prep: 08.21.19
MB Sample Id: 7684790-1-BLK LCS Sample Id: 7684790-1-BKS LCSD Sample Id: 7684790-1-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)	<9.88	1000	1130	113	988	99	70-135	13	35	mg/kg	08.21.19 13:11	
Diesel Range Organics (DRO)	11.9	1000	1180	118	1020	102	70-135	15	35	mg/kg	08.21.19 13:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		142	**	123		70-135	%	08.21.19 13:11
o-Terphenyl	111		152	**	127		70-135	%	08.21.19 13:11

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

QC Summary 634636

LT Environmental, Inc.

Goldenchild CTB

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3099358 Matrix: Soil Date Prep: 08.21.19
Parent Sample Id: 634606-006 MS Sample Id: 634606-006 S MSD Sample Id: 634606-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<9.87	999	970	97	981	98	70-135	1	35	mg/kg	08.21.19 14:12	
Diesel Range Organics (DRO)	18.2	999	1000	98	1020	100	70-135	2	35	mg/kg	08.21.19 14:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	134		133		70-135	%	08.21.19 14:12
o-Terphenyl	128		134		70-135	%	08.21.19 14:12

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3099361 Matrix: Solid Date Prep: 08.21.19
MB Sample Id: 7684795-1-BLK LCS Sample Id: 7684795-1-BKS LCSD Sample Id: 7684795-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.106	106	0.106	106	70-130	0	35	mg/kg	08.21.19 10:41	
Toluene	<0.00100	0.100	0.103	103	0.104	104	70-130	1	35	mg/kg	08.21.19 10:41	
Ethylbenzene	0.000510	0.100	0.110	110	0.111	111	71-129	1	35	mg/kg	08.21.19 10:41	
m,p-Xylenes	<0.00100	0.200	0.229	115	0.229	115	70-135	0	35	mg/kg	08.21.19 10:41	
o-Xylene	<0.000500	0.100	0.114	114	0.114	114	71-133	0	35	mg/kg	08.21.19 10:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		111		105		80-120	%	08.21.19 10:41
4-Bromofluorobenzene	106		122	**	118		80-120	%	08.21.19 10:41

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3099361 Matrix: Soil Date Prep: 08.21.19
Parent Sample Id: 634606-006 MS Sample Id: 634606-006 S MSD Sample Id: 634606-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000998	0.0998	0.0918	92	0.0932	94	70-130	2	35	mg/kg	08.21.19 12:21	
Toluene	<0.000499	0.0998	0.0933	93	0.0955	96	70-130	2	35	mg/kg	08.21.19 12:21	
Ethylbenzene	0.000984	0.0998	0.107	106	0.0996	99	71-129	7	35	mg/kg	08.21.19 12:21	
m,p-Xylenes	<0.000998	0.200	0.202	101	0.204	103	70-135	1	35	mg/kg	08.21.19 12:21	
o-Xylene	<0.000499	0.0998	0.101	101	0.102	103	71-133	1	35	mg/kg	08.21.19 12:21	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		105		80-120	%	08.21.19 12:21
4-Bromofluorobenzene	124	**	126	**	80-120	%	08.21.19 12:21

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

Chain of Custody

Work Order No: 634636

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	Goldenchild CTB	Turn Around	
Project Number:	012919173	Routine	☑
P.O. Number:	7-21-19	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	3.4	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	1

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS01	S	08/09/19	0856	1'-2' FS	1	X	X	X

Work Order Notes

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

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		8/20/19 15:20	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Analytical Report 638151

for

LT Environmental, Inc.

Project Manager: Tacoma Morrissey

Goldenchild CTB

012919173

30-SEP-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-21), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

30-SEP-19

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

Reference: XENCO Report No(s): **638151**
Goldenchild CTB
Project Address: Rural Eddy County

Tacoma Morrissey:

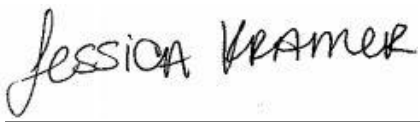
We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 638151. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory 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. 638151 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,



Jessica Kramer
Project Assistant

Sample Cross Reference 638151

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	09-25-19 11:35	0.3 - 1.0 ft	638151-001

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3102649 TPH by SW8015 Mod
Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7686966-1-BSD.

Batch: LBA-3102739 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 638151

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild CTB

Project Id: 012919173
Contact: Tacoma Morrissey
Project Location: Rural Eddy County

Date Received in Lab: Thu Sep-26-19 09:30 am
Report Date: 30-SEP-19
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	638151-001						
	Field Id:	SW01						
	Depth:	0.3-1.0 ft						
	Matrix:	SOIL						
	Sampled:	Sep-25-19 11:35						
BTEX by EPA 8021B	***Extracted:***	Sep-27-19 09:09						
	Analyzed:	Sep-27-19 15:52						
	Units/RL:	mg/kg	RL					
Benzene		<0.101	0.101					
Toluene		<0.101	0.101					
Ethylbenzene		<0.101	0.101					
m,p-Xylenes		0.873	0.202					
o-Xylene		0.433	0.101					
Total Xylenes		1.31	0.101					
Total BTEX		1.31	0.101					
Chloride by EPA 300	***Extracted:***	Sep-26-19 10:09						
	Analyzed:	Sep-26-19 14:11						
	Units/RL:	mg/kg	RL					
Chloride		361	49.7					
TPH by SW8015 Mod	***Extracted:***	Sep-26-19 11:30						
	Analyzed:	Sep-26-19 21:43						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2					
Diesel Range Organics (DRO)		589	50.2					
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2					
Total GRO-DRO		589	50.2					
Total TPH		589	50.2					

Jessica Kramer
Project Assistant

Certificate of Analytical Results 638151

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	09.26.19 09.30
Lab Sample Id:	638151-001	Date Collected:	09.25.19 11.35	Sample Depth:	0.3 - 1.0 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.26.19 10.09	Basis:	Wet Weight
Seq Number:	3102603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**361**	49.7	mg/kg	09.26.19 14.11		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.26.19 11.30	Basis:	Wet Weight
Seq Number:	3102649				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	09.26.19 21.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	**589**	50.2	mg/kg	09.26.19 21.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	09.26.19 21.43	U	1
Total GRO-DRO	PHC628	**589**	50.2	mg/kg	09.26.19 21.43		1
Total TPH	PHC635	**589**	50.2	mg/kg	09.26.19 21.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	09.26.19 21.43	
o-Terphenyl	84-15-1	127	%	70-135	09.26.19 21.43	

Certificate of Analytical Results 638151

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	09.26.19 09.30
Lab Sample Id:	638151-001	Date Collected:	09.25.19 11.35	Sample Depth:	0.3 - 1.0 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 09.09	Basis:	Wet Weight
Seq Number:	3102739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.101	0.101	mg/kg	09.27.19 15.52	U	100
Toluene	108-88-3	<0.101	0.101	mg/kg	09.27.19 15.52	U	100
Ethylbenzene	100-41-4	<0.101	0.101	mg/kg	09.27.19 15.52	U	100
m,p-Xylenes	179601-23-1	**0.873**	0.202	mg/kg	09.27.19 15.52		100
o-Xylene	95-47-6	**0.433**	0.101	mg/kg	09.27.19 15.52		100
Total Xylenes	1330-20-7	**1.31**	0.101	mg/kg	09.27.19 15.52		100
Total BTEX		**1.31**	0.101	mg/kg	09.27.19 15.52		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	09.27.19 15.52	
4-Bromofluorobenzene	460-00-4	121	%	70-130	09.27.19 15.52	

Final 1.000

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 638151

LT Environmental, Inc.

Goldenchild CTB

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3102603 Matrix: Solid Date Prep: 09.26.19
MB Sample Id: 7686921-1-BLK LCS Sample Id: 7686921-1-BKS LCSD Sample Id: 7686921-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	256	102	90-110	0	20	mg/kg	09.26.19 11:32	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3102603 Matrix: Soil Date Prep: 09.26.19
Parent Sample Id: 638122-008 MS Sample Id: 638122-008 S MSD Sample Id: 638122-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5.80	200	205	100	213	104	90-110	4	20	mg/kg	09.26.19 13:23	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3102603 Matrix: Soil Date Prep: 09.26.19
Parent Sample Id: 638125-001 MS Sample Id: 638125-001 S MSD Sample Id: 638125-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	236	199	502	134	499	133	90-110	1	20	mg/kg	09.26.19 11:51	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3102649 Matrix: Solid Date Prep: 09.26.19
MB Sample Id: 7686966-1-BLK LCS Sample Id: 7686966-1-BKS LCSD Sample Id: 7686966-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1170	117	1140	114	70-135	3	35	mg/kg	09.26.19 13:30	
Diesel Range Organics (DRO)	<15.0	1000	1250	125	1200	120	70-135	4	35	mg/kg	09.26.19 13:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		127		142	**	70-135	%	09.26.19 13:30
o-Terphenyl	110		118		146	**	70-135	%	09.26.19 13:30

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

QC Summary 638151

LT Environmental, Inc.

Goldenchild CTB

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3102649 Matrix: Soil Date Prep: 09.26.19
Parent Sample Id: 638033-015 MS Sample Id: 638033-015 S MSD Sample Id: 638033-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1320	132	1210	121	70-135	9	35	mg/kg	09.26.19 16:14	
Diesel Range Organics (DRO)	<15.0	1000	1380	138	1350	136	70-135	2	35	mg/kg	09.26.19 16:14	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		116		70-135	%	09.26.19 16:14
o-Terphenyl	131		121		70-135	%	09.26.19 16:14

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3102739 Matrix: Solid Date Prep: 09.27.19
MB Sample Id: 7687079-1-BLK LCS Sample Id: 7687079-1-BKS LCSD Sample Id: 7687079-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0866	87	0.0905	91	70-130	4	35	mg/kg	09.27.19 11:16	
Toluene	<0.00100	0.100	0.0908	91	0.0972	97	70-130	7	35	mg/kg	09.27.19 11:16	
Ethylbenzene	<0.00100	0.100	0.110	110	0.116	116	71-129	5	35	mg/kg	09.27.19 11:16	
m,p-Xylenes	<0.00200	0.200	0.224	112	0.239	120	70-135	6	35	mg/kg	09.27.19 11:16	
o-Xylene	<0.00100	0.100	0.111	111	0.118	118	71-133	6	35	mg/kg	09.27.19 11:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		109		100		70-130	%	09.27.19 11:16
4-Bromofluorobenzene	97		118		114		70-130	%	09.27.19 11:16

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3102739 Matrix: Soil Date Prep: 09.27.19
Parent Sample Id: 638244-001 MS Sample Id: 638244-001 S MSD Sample Id: 638244-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0951	94	0.0929	93	70-130	2	35	mg/kg	09.27.19 12:35	
Toluene	<0.00101	0.101	0.107	106	0.105	105	70-130	2	35	mg/kg	09.27.19 12:35	
Ethylbenzene	<0.00101	0.101	0.117	116	0.113	113	71-129	3	35	mg/kg	09.27.19 12:35	
m,p-Xylenes	<0.00202	0.202	0.240	119	0.232	116	70-135	3	35	mg/kg	09.27.19 12:35	
o-Xylene	<0.00101	0.101	0.117	116	0.113	113	71-133	3	35	mg/kg	09.27.19 12:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		106		70-130	%	09.27.19 12:35
4-Bromofluorobenzene	120		117		70-130	%	09.27.19 12:35

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

Chain of Custody

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 Crasbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701 www.xenco.com

Work Order No: 630151

Page 1 of 1

Project Manager:	TACOMA MORRISSEY	Bill to: (if different)	KYLE LITTRELL
Company Name:	LT ENVIRONMENTAL	Company Name:	XTO ENERGY
Address:	3300 NORTH A STREET	Address:	3104 E. GREENE STREET
City, State ZIP:	MIDLAND TX 79705	City, State ZIP:	CARLSBAD NM 88220
Phone:	(432)556-3617	Email:	tmorrissey@ltenv.com+fsmith@ltenv.com

Work Order Comments

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

Project Name:	GOLDENCHILD CTB	Turn Around	
Project Number:	01291917 3	Routine ☐	
Project Location	RURAL EDDY COUNTY	Rush: 5 DAY	
Sampler's Name:	ANNA BYERS	Due Date:	
PO #:	2RP-5590	Quote #:	

SAMPLE RECEIPT

Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	2.0	Thermometer ID	T-NM-009
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Total Containers:	1

ANALYSIS REQUEST

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
	SW01	S	9/25/19	11:35	0.3-1.0'	1		X	X	X	

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Anna Byers		9/26/19 9:17	2		9/26/19 9:30
3				4		
5				6		

Revised Date 022619 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/26/2019 09:30:00 AM

Work Order #: 638151

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

Temperature Measuring device used : T-NM-007

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

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

Analyst:

PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 09/26/2019

Checklist reviewed by: Jessica Kramer Date: 09/26/2019

Analytical Report 638392

for

LT Environmental, Inc.

Project Manager: Dan Moir

Goldenchild CTB

012919173

30-SEP-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-21), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

30-SEP-19

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

Reference: XENCO Report No(s): **638392**
Goldenchild CTB
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 638392. 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. 638392 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	09-27-19 10:40	0.5 ft	638392-001
BH01A	S	09-27-19 10:42	01 ft	638392-002
BH02	S	09-27-19 10:46	0.5 ft	638392-003
BH02A	S	09-27-19 10:47	1 ft	638392-004
BH03	S	09-27-19 11:17	0.5 ft	638392-005
BH03A	S	09-27-19 11:19	1 ft	638392-006

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3102739 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3102795 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7687123-1-BLK.

Certificate of Analysis Summary 638392

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild CTB

Project Id: 012919173
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri Sep-27-19 03:35 pm
Report Date: 30-SEP-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	638392-001		638392-002		638392-003		638392-004		638392-005		638392-006	
	Field Id:	BH01		BH01A		BH02		BH02A		BH03		BH03A	
	Depth:	0.5- ft		01- ft		0.5- ft		1- ft		0.5- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-27-19 10:40		Sep-27-19 10:42		Sep-27-19 10:46		Sep-27-19 10:47		Sep-27-19 11:17		Sep-27-19 11:19	
BTEX by EPA 8021B	***Extracted:***	Sep-27-19 17:00		Sep-27-19 17:00		Sep-27-19 17:00		Sep-27-19 17:00		Sep-27-19 17:00		Sep-27-19 17:00	
	Analyzed:	Sep-27-19 18:58		Sep-27-19 19:18		Sep-27-19 19:38		Sep-27-19 19:57		Sep-27-19 20:17		Sep-27-19 20:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.000986	0.000986	<0.00101	0.00101	<0.00100	0.00100	<0.000986	0.000986	<0.000990	0.000990	<0.00100	0.00100
Toluene		<0.000986	0.000986	<0.00101	0.00101	<0.00100	0.00100	<0.000986	0.000986	<0.000990	0.000990	<0.00100	0.00100
Ethylbenzene		<0.000986	0.000986	<0.00101	0.00101	<0.00100	0.00100	<0.000986	0.000986	<0.000990	0.000990	<0.00100	0.00100
m,p-Xylenes		<0.00197	0.00197	<0.00201	0.00201	<0.00200	0.00200	<0.00197	0.00197	<0.00198	0.00198	<0.00200	0.00200
o-Xylene		<0.000986	0.000986	<0.00101	0.00101	<0.00100	0.00100	<0.000986	0.000986	<0.000990	0.000990	<0.00100	0.00100
Total Xylenes		<0.000986	0.000986	<0.00101	0.00101	<0.00100	0.00100	<0.000986	0.000986	<0.000990	0.000990	<0.00100	0.00100
Total BTEX		<0.000986	0.000986	<0.00101	0.00101	<0.00100	0.00100	<0.000986	0.000986	<0.000990	0.000990	<0.00100	0.00100
Chloride by EPA 300	***Extracted:***	Sep-27-19 17:09		Sep-27-19 17:09		Sep-27-19 17:09		Sep-27-19 17:09		Sep-27-19 17:09		Sep-27-19 17:09	
	Analyzed:	Sep-27-19 20:13		Sep-27-19 20:33		Sep-27-19 20:40		Sep-27-19 20:47		Sep-27-19 20:54		Sep-27-19 21:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		655	50.2	697	49.2	1930	98.6	2720	100	2160	100	2610	98.8
TPH by SW8015 Mod	***Extracted:***	Sep-27-19 16:30		Sep-27-19 16:30		Sep-27-19 16:30		Sep-27-19 16:30		Sep-27-19 17:00		Sep-27-19 17:00	
	Analyzed:	Sep-27-19 20:18		Sep-27-19 20:39		Sep-27-19 20:59		Sep-27-19 21:20		Sep-27-19 23:23		Sep-28-19 00:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.0	50.0	<49.8	49.8	<49.9	49.9	<49.8	49.8	<50.1	50.1
Diesel Range Organics (DRO)		<49.9	49.9	<50.0	50.0	<49.8	49.8	<49.9	49.9	<49.8	49.8	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.0	50.0	<49.8	49.8	<49.9	49.9	<49.8	49.8	<50.1	50.1
Total GRO-DRO		<49.9	49.9	<50.0	50.0	<49.8	49.8	<49.9	49.9	<49.8	49.8	<50.1	50.1
Total TPH		<49.9	49.9	<50.0	50.0	<49.8	49.8	<49.9	49.9	<49.8	49.8	<50.1	50.1

Jessica Kramer
Project Assistant

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-001	Date Collected:	09.27.19 10.40	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 17.09	Basis:	Wet Weight
Seq Number:	3102738				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**655**	50.2	mg/kg	09.27.19 20.13		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 16.30	Basis:	Wet Weight
Seq Number:	3102795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.27.19 20.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.27.19 20.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.27.19 20.18	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	09.27.19 20.18	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.27.19 20.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	09.27.19 20.18	
o-Terphenyl	84-15-1	102	%	70-135	09.27.19 20.18	

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-001	Date Collected:	09.27.19 10.40	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000986	0.000986	mg/kg	09.27.19 18.58	U	1
Toluene	108-88-3	<0.000986	0.000986	mg/kg	09.27.19 18.58	U	1
Ethylbenzene	100-41-4	<0.000986	0.000986	mg/kg	09.27.19 18.58	U	1
m,p-Xylenes	179601-23-1	<0.00197	0.00197	mg/kg	09.27.19 18.58	U	1
o-Xylene	95-47-6	<0.000986	0.000986	mg/kg	09.27.19 18.58	U	1
Total Xylenes	1330-20-7	<0.000986	0.000986	mg/kg	09.27.19 18.58	U	1
Total BTEX		<0.000986	0.000986	mg/kg	09.27.19 18.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	09.27.19 18.58	
1,4-Difluorobenzene	540-36-3	105	%	70-130	09.27.19 18.58	

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-002	Date Collected:	09.27.19 10.42	Sample Depth:	01 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 17.09	Basis:	Wet Weight
Seq Number:	3102738				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**697**	49.2	mg/kg	09.27.19 20.33		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 16.30	Basis:	Wet Weight
Seq Number:	3102795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.27.19 20.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.27.19 20.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.27.19 20.39	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.27.19 20.39	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.27.19 20.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	09.27.19 20.39	
o-Terphenyl	84-15-1	101	%	70-135	09.27.19 20.39	

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-002	Date Collected:	09.27.19 10.42	Sample Depth:	01 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	09.27.19 19.18	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	09.27.19 19.18	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	09.27.19 19.18	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	09.27.19 19.18	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	09.27.19 19.18	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	09.27.19 19.18	U	1
Total BTEX		<0.00101	0.00101	mg/kg	09.27.19 19.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	09.27.19 19.18	
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.27.19 19.18	

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-003	Date Collected:	09.27.19 10.46	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 17.09	Basis:	Wet Weight
Seq Number:	3102738				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1930**	98.6	mg/kg	09.27.19 20.40		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 16.30	Basis:	Wet Weight
Seq Number:	3102795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	09.27.19 20.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	09.27.19 20.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	09.27.19 20.59	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	09.27.19 20.59	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	09.27.19 20.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	09.27.19 20.59	
o-Terphenyl	84-15-1	94	%	70-135	09.27.19 20.59	

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-003	Date Collected:	09.27.19 10.46	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	09.27.19 19.38	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.27.19 19.38	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	09.27.19 19.38	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.27.19 19.38	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.27.19 19.38	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.27.19 19.38	U	1
Total BTEX		<0.00100	0.00100	mg/kg	09.27.19 19.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	09.27.19 19.38	
4-Bromofluorobenzene	460-00-4	99	%	70-130	09.27.19 19.38	

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-004	Date Collected:	09.27.19 10.47	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 17.09	Basis:	Wet Weight
Seq Number:	3102738				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2720**	100	mg/kg	09.27.19 20.47		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 16.30	Basis:	Wet Weight
Seq Number:	3102795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.27.19 21.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.27.19 21.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.27.19 21.20	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	09.27.19 21.20	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.27.19 21.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	09.27.19 21.20	
o-Terphenyl	84-15-1	106	%	70-135	09.27.19 21.20	

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-004	Date Collected:	09.27.19 10.47	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000986	0.000986	mg/kg	09.27.19 19.57	U	1
Toluene	108-88-3	<0.000986	0.000986	mg/kg	09.27.19 19.57	U	1
Ethylbenzene	100-41-4	<0.000986	0.000986	mg/kg	09.27.19 19.57	U	1
m,p-Xylenes	179601-23-1	<0.00197	0.00197	mg/kg	09.27.19 19.57	U	1
o-Xylene	95-47-6	<0.000986	0.000986	mg/kg	09.27.19 19.57	U	1
Total Xylenes	1330-20-7	<0.000986	0.000986	mg/kg	09.27.19 19.57	U	1
Total BTEX		<0.000986	0.000986	mg/kg	09.27.19 19.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	09.27.19 19.57	
1,4-Difluorobenzene	540-36-3	104	%	70-130	09.27.19 19.57	

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-005	Date Collected:	09.27.19 11.17	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 17.09	Basis:	Wet Weight
Seq Number:	3102738				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2160**	100	mg/kg	09.27.19 20.54		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102809				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	09.27.19 23.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	09.27.19 23.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	09.27.19 23.23	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	09.27.19 23.23	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	09.27.19 23.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	09.27.19 23.23	
o-Terphenyl	84-15-1	111	%	70-135	09.27.19 23.23	

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-005	Date Collected:	09.27.19 11.17	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	09.27.19 20.17	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	09.27.19 20.17	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	09.27.19 20.17	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	09.27.19 20.17	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	09.27.19 20.17	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	09.27.19 20.17	U	1
Total BTEX		<0.000990	0.000990	mg/kg	09.27.19 20.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	09.27.19 20.17	
1,4-Difluorobenzene	540-36-3	114	%	70-130	09.27.19 20.17	

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH03A**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-006	Date Collected:	09.27.19 11.19	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 17.09	Basis:	Wet Weight
Seq Number:	3102738				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2610**	98.8	mg/kg	09.27.19 21.01		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102809				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	09.28.19 00.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	09.28.19 00.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	09.28.19 00.24	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	09.28.19 00.24	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	09.28.19 00.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	09.28.19 00.24	
o-Terphenyl	84-15-1	104	%	70-135	09.28.19 00.24	

Certificate of Analytical Results 638392

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**BH03A**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638392-006	Date Collected:	09.27.19 11.19	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	09.27.19 20.37	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.27.19 20.37	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	09.27.19 20.37	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.27.19 20.37	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.27.19 20.37	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.27.19 20.37	U	1
Total BTEX		<0.00100	0.00100	mg/kg	09.27.19 20.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.27.19 20.37	
4-Bromofluorobenzene	460-00-4	92	%	70-130	09.27.19 20.37	

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 638392

LT Environmental, Inc.

Goldenchild CTB

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3102738 Matrix: Solid Date Prep: 09.27.19
MB Sample Id: 7687076-1-BLK LCS Sample Id: 7687076-1-BKS LCSD Sample Id: 7687076-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	263	105	90-110	2	20	mg/kg	09.27.19 19:18	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3102738 Matrix: Soil Date Prep: 09.27.19
Parent Sample Id: 638390-001 MS Sample Id: 638390-001 S MSD Sample Id: 638390-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2210	2000	4560	118	4610	121	90-110	1	20	mg/kg	09.27.19 19:38	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3102738 Matrix: Solid Date Prep: 09.27.19
Parent Sample Id: 638396-010 MS Sample Id: 638396-010 S MSD Sample Id: 638396-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	376	998	1500	113	1500	113	90-110	0	20	mg/kg	09.27.19 22:34	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3102795 Matrix: Solid Date Prep: 09.27.19
MB Sample Id: 7687123-1-BLK LCS Sample Id: 7687123-1-BKS LCSD Sample Id: 7687123-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1120	112	1190	119	70-135	6	35	mg/kg	09.27.19 13:07	
Diesel Range Organics (DRO)	<50.0	1000	1280	128	1280	128	70-135	0	35	mg/kg	09.27.19 13:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	138	**	122		115		70-135	%	09.27.19 13:07
o-Terphenyl	127		111		118		70-135	%	09.27.19 13:07

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 638392

LT Environmental, Inc.

Goldenchild CTB

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3102809 Matrix: Solid Date Prep: 09.27.19
MB Sample Id: 7687128-1-BLK LCS Sample Id: 7687128-1-BKS LCSD Sample Id: 7687128-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1140	114	1140	114	70-135	0	35	mg/kg	09.27.19 22:42	
Diesel Range Organics (DRO)	<50.0	1000	1260	126	1240	124	70-135	2	35	mg/kg	09.27.19 22:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		128		126		70-135	%	09.27.19 22:42
o-Terphenyl	109		113		115		70-135	%	09.27.19 22:42

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3102795 Matrix: Soil Date Prep: 09.27.19
Parent Sample Id: 638155-018 MS Sample Id: 638155-018 S MSD Sample Id: 638155-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1100	110	1090	109	70-135	1	35	mg/kg	09.27.19 14:09	
Diesel Range Organics (DRO)	<50.0	1000	1120	112	1170	117	70-135	4	35	mg/kg	09.27.19 14:09	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		118		70-135	%	09.27.19 14:09
o-Terphenyl	116		120		70-135	%	09.27.19 14:09

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3102809 Matrix: Soil Date Prep: 09.27.19
Parent Sample Id: 638392-005 MS Sample Id: 638392-005 S MSD Sample Id: 638392-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	1100	109	1130	113	70-135	3	35	mg/kg	09.28.19 19:26	
Diesel Range Organics (DRO)	<50.3	1010	1220	121	1200	120	70-135	2	35	mg/kg	09.28.19 19:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		119		70-135	%	09.28.19 19:26
o-Terphenyl	118		111		70-135	%	09.28.19 19:26

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

Final 1.000

QC Summary 638392

LT Environmental, Inc.

Goldenchild CTB

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

Seq Number: 3102739 Matrix: Solid Date Prep: 09.27.19

MB Sample Id: 7687079-1-BLK LCS Sample Id: 7687079-1-BKS LCSD Sample Id: 7687079-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0866	87	0.0905	91	70-130	4	35	mg/kg	09.27.19 11:16	
Toluene	<0.00100	0.100	0.0908	91	0.0972	97	70-130	7	35	mg/kg	09.27.19 11:16	
Ethylbenzene	<0.00100	0.100	0.110	110	0.116	116	71-129	5	35	mg/kg	09.27.19 11:16	
m,p-Xylenes	<0.00200	0.200	0.224	112	0.239	120	70-135	6	35	mg/kg	09.27.19 11:16	
o-Xylene	<0.00100	0.100	0.111	111	0.118	118	71-133	6	35	mg/kg	09.27.19 11:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		109		100		70-130	%	09.27.19 11:16
4-Bromofluorobenzene	97		118		114		70-130	%	09.27.19 11:16

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

Seq Number: 3102739 Matrix: Soil Date Prep: 09.27.19

Parent Sample Id: 638244-001 MS Sample Id: 638244-001 S MSD Sample Id: 638244-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0951	94	0.0929	93	70-130	2	35	mg/kg	09.27.19 12:35	
Toluene	<0.00101	0.101	0.107	106	0.105	105	70-130	2	35	mg/kg	09.27.19 12:35	
Ethylbenzene	<0.00101	0.101	0.117	116	0.113	113	71-129	3	35	mg/kg	09.27.19 12:35	
m,p-Xylenes	<0.00202	0.202	0.240	119	0.232	116	70-135	3	35	mg/kg	09.27.19 12:35	
o-Xylene	<0.00101	0.101	0.117	116	0.113	113	71-133	3	35	mg/kg	09.27.19 12:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		106		70-130	%	09.27.19 12:35
4-Bromofluorobenzene	120		117		70-130	%	09.27.19 12:35

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

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

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

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

Chain of Custody

Work Order No: 638392

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	Goldenchild CTB	Turn Around	
Project Number:	012919173	Routine ☐	
P.O. Number:	2RP-5590	Rush: 24 hrs	
Sampler's Name:	Fatima Smith	Due Date: 10/01/19	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.7	Thermometer ID	TNM007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	6

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
BH01	S	09/27/19	1040	0.5'	1	X	X	X
BH01A	S	09/27/19	1042	1'	1	X	X	X
BH02	S	09/27/19	1046	0.5'	1	X	X	X
BH02A	S	09/27/19	1047	1'	1	X	X	X
BH03	S	09/27/19	1117	0.5'	1	X	X	X
BH03A	S	09/27/19	1119	1'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		9/27/19 15:35	2		
3			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: 09/27/2019 03:35:00 PM

Work Order #: 638392

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst:

PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 09/27/2019

Checklist reviewed by: Jessica Kramer Date: 09/28/2019