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

October 30, 2019

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

RE: Closure Request
Goldenchild 6 State SWD #1
Remediation Permit Number 2RP-5421
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, excavation, and soil sampling activities at the Goldenchild 6 State Salt Water Disposal (SWD) #1 (Site) 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 the site assessment, excavation, and soil sampling activities, XTO is submitting this Closure Request, describing remediation that has occurred and requesting no further action for Remediation Permit (RP) Number 2RP-5421.

RELEASE BACKGROUND

On April 26, 2019, debris within the turbine meter caused back pressure on the injection wellhead, which resulted in the release of 34.9 barrels (bbls) of produced water into the cellar and onto the caliche well pad. No fluids were recovered. The meter was cleaned, bolts were tightened, and the well was returned to operation. 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 May 2, 2019, and was assigned RP Number 2RP-5421 (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 2,800 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 5,790 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 May 6, 2019, LTE personnel inspected the Site to evaluate the release extent. LTE personnel collected five preliminary soil samples (SS01 through SS05) within the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of soil impacts. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positing System (GPS) unit and are depicted on Figure 2.

The preliminary soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, 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.

Based on laboratory analytical results for the preliminary soil samples and visual observations, excavation of impacted soil was warranted. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 2.

From August 9 to September 27, 2019, LTE personnel were at the Site to oversee soil excavation and delineation activities. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW04 were collected from the sidewalls of the excavation from depths ranging from ground surface to approximately 4 feet bgs. Composite soil samples FS01 and FS02 were collected from the floor of the excavation from 4 feet bgs. In addition, soil was scraped in the area of preliminary soil sample SS01. The excavation soil samples were collected, handled and analyzed as described above and submitted to Xenco in Midland, Texas. The excavation extent and excavation soil sample locations are depicted on Figure 3.

The excavation extent measured approximately 500 square feet in area. A total of approximately 75 cubic yards of impacted soil was removed from the excavation. The impacted soil was transported and properly disposed of at the Lea Land landfill facility located in Hobbs, New Mexico.

Potholes were advanced at two locations around the release extent. Pothole PH01 was advanced near preliminary soil sample SS01 where surficial soil was scraped away and PH02 was advanced north of the excavation to delineate any potential impact. The potholes were advanced via track-mounted backhoe to 6 feet bgs. Delineation soil samples were collected from depths of 2 feet and 6 feet bgs. Soil from the two potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole was logged on lithologic/soil sampling logs, which are included in Attachment 3. The delineation soil sample locations are depicted on Figure 4. The delineation soil samples were collected, handled and analyzed as described above and submitted to Xenco in Midland, Texas.

ANALYTICAL RESULTS

Laboratory analytical results indicated that GRO and DRO and/or TPH concentrations in preliminary soil samples SS01, SS02, and SS04, collected at approximately 0.5 feet bgs, exceeded the Closure Criteria. Based on the analytical results from the preliminary soil samples and visual observations, the impacted soil was excavated at SS02 and SS04. Following excavation of impacted soil, confirmation soil samples were collected from the sidewalls and floor of the excavation. Laboratory analytical results indicated that benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in excavation soil samples SW01 through SW04 and FS01 through FS02.

Soil was scraped near preliminary soil sample SS01. Laboratory analytical results for delineation soil samples PH01/PH01A collected in the scraped area and PH02/PH02A collected north of the scraped area indicated that benzene, BTEX, GRO and DRO, TPH, and chloride concentrations in the soil surrounding the release extent was in compliance with the Closure Criteria and no further excavation was required. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Laboratory analytical results indicated that chloride concentrations in preliminary soil samples SS01, SS02, and SS04 exceeded the Closure Criteria. As a result, impacted soil was excavated. A total of 75 cubic yards of impacted soil was excavated, and laboratory analytical results for the confirmation soil samples collected from the final excavation extent indicated that benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Additional delineation soil sampling activities were conducted where surficial soil was scraped and in the area north of the release extent. 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.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for RP Number 2RP-5421. 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 Ms. Ashley Ager at (970) 385-1096.

Sincerely,

LT ENVIRONMENTAL, INC.

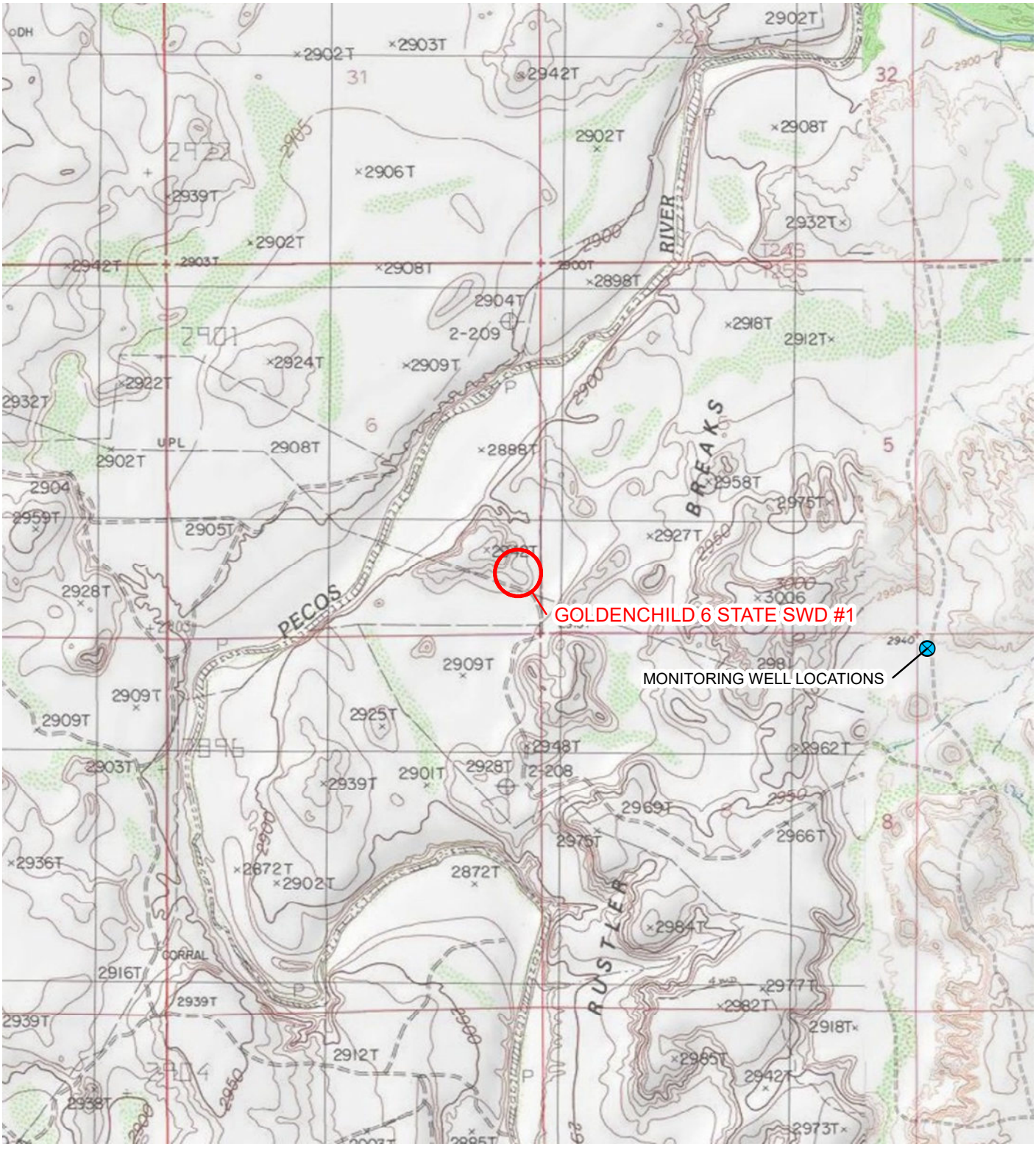
Carol Ann Whaley
Staff Geologist

Ashley L. Ager, P.G.
Senior Geologist

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

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Figure 4	Delineation Soil Sample Locations
Table 1	Soil Analytical Reports
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-5421)
Attachment 2	Photographic Log
Attachment 3	Lithologic/Soil Sample 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-5421

FIGURE 1
SITE LOCATION MAP
GOLDENCHILD 6 STATE SWD #1
UNIT P SEC 6 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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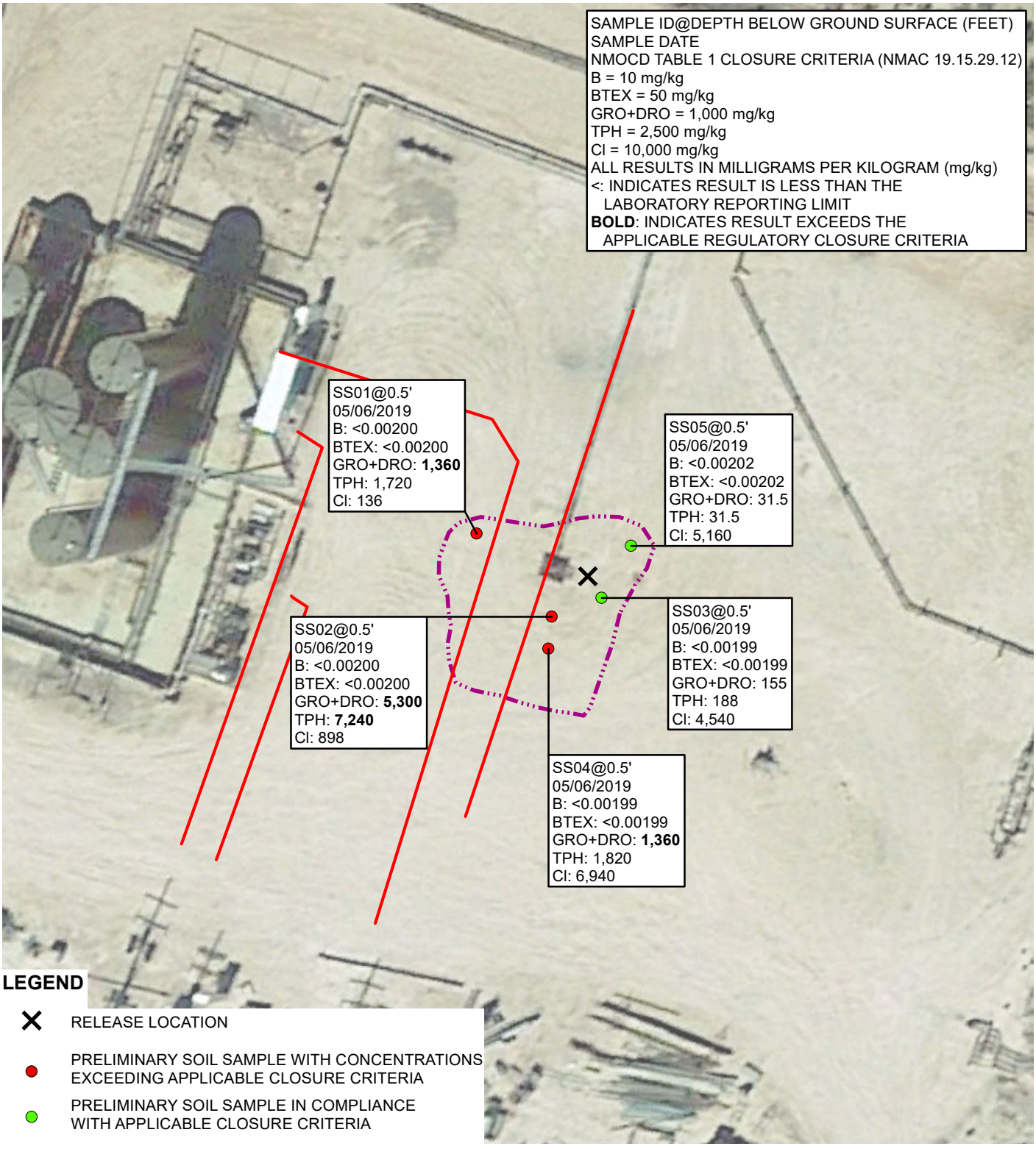
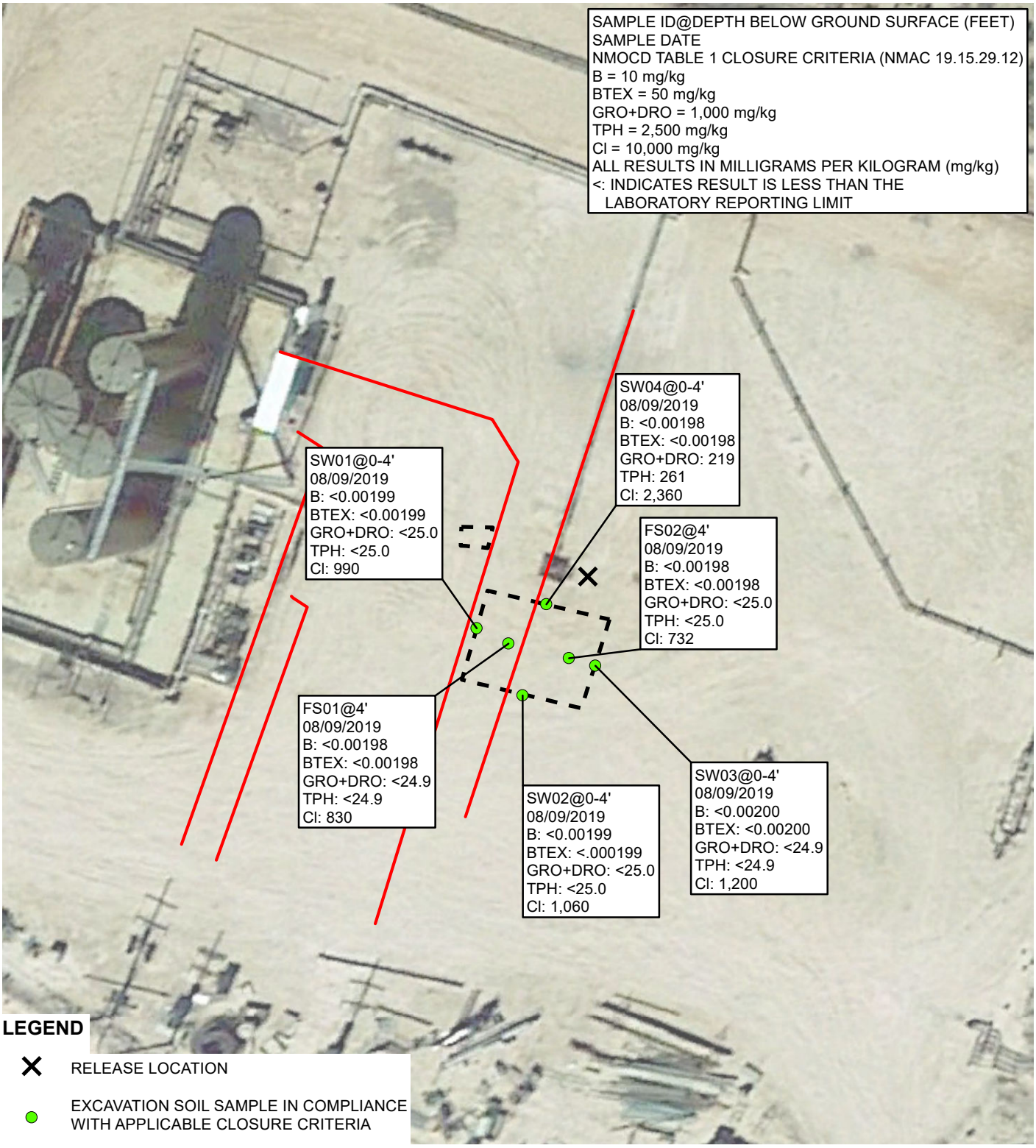


B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5421

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
GOLDENCHILD 6 STATE SWD #1
UNIT P SEC 6 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919088_GOLDENCHILD 6 STATE SWD #1\012919088_FIG02_PRELIMINARY_5421.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-5421

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
GOLDENCHILD 6 STATE SWD #1
UNIT P SEC 6 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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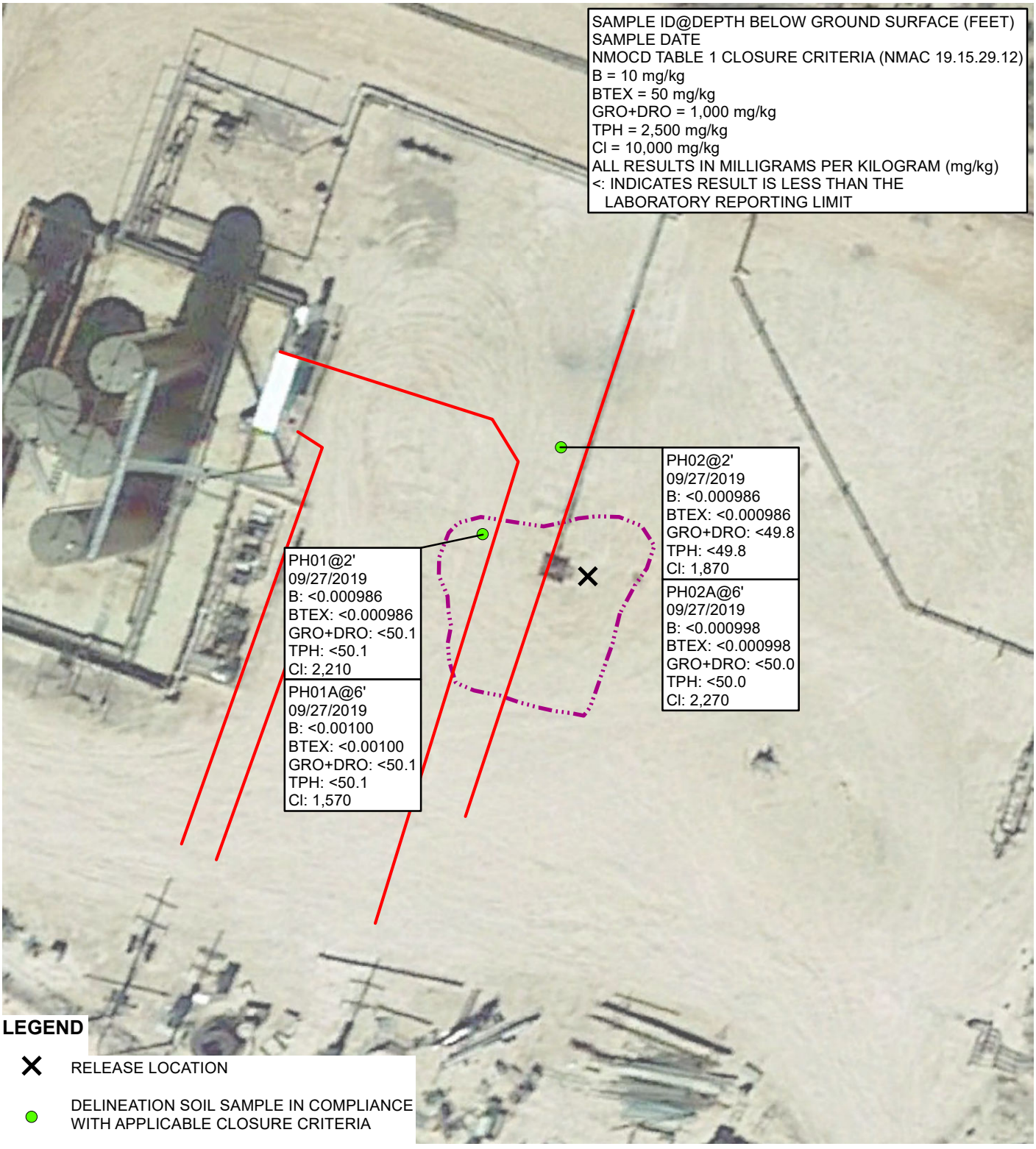

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5421

FIGURE 4
DELINEATION SOIL SAMPLE LOCATIONS
GOLDENCHILD 6 STATE SWD #1
UNIT P SEC 6 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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TABLE 1
SOIL ANALYTICAL RESULTS

GOLDENCHILD 6 STATE SWD #1
REMEDIATION PERMIT NUMBER 2RP-5421
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)
SS01	0.5	05/06/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	1,360	355	**1,360**	1,720	136
SS02	0.5	05/06/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<74.9	5,300	1,940	**5,300**	**7,240**	898
SS03	0.5	05/06/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	155	32.5	155	188	4,540
SS04	0.5	05/06/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	1,360	459	**1,360**	1,820	6,940
SS05	0.5	05/06/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	31.5	<15.0	31.5	31.5	5,160
SW01	0 - 4	08/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	990
SW02	0 - 4	08/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	1,060
SW03	0 - 4	08/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	1,200
SW04	0 - 4	08/09/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<25.0	219	42.4	219	261	2,360
FS01	4	08/09/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<24.9	<24.9	<24.9	<24.9	<24.9	830
FS02	4	08/09/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<25.0	<25.0	<25.0	<25.0	<25.0	732
PH01	2	09/27/2019	<0.000986	<0.000986	<0.000986	<0.000986	<0.000986	<50.1	<50.1	<50.1	<50.1	<50.1	2,210
PH01A	6	09/27/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.1	<50.1	<50.1	<50.1	<50.1	1,570
PH02	2	09/27/2019	<0.000986	<0.000986	<0.000986	<0.000986	<0.000986	<49.8	<49.8	<49.8	<49.8	<49.8	1,870
PH02A	6	09/27/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<50.0	<50.0	<50.0	<50.0	<50.0	2,270
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
mg/kg - milligrams per kilogram
MRO - motor oil range organics
NMAC - New Mexico Administrative Code
NMOCD - New Mexico Oil Conservation Division
TPH - total petroleum hydrocarbons
Bold - indicates result exceeds the applicable regulatory standard
< - indicates result is below laboratory reporting limits
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018
NE - not established

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-5421)

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	NAB1913658267
District RP	2RP-5421
Facility ID	
Application ID	pAB1913658028

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)* NAB1913658267
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.154370° Longitude -104.016214°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Goldenchild 6 State SWD #1	Site Type Salt Water Disposal Well
Date Release Discovered 4/26/2019	API# *(if applicable)* 30-015-41846

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) 34.9	Volume Recovered (bbls) 0
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Fluid was released at the injection wellhead into the cellar due to back pressure on the wellhead. Debris within the turbine meter caused back pressure. No fluids were recovered. The meter was cleaned and bolts were tightened. The well was returned to operation. Additional third party resources have been retained to assist with remediation.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1913658267
District RP	2RP-5421
Facility ID	
Application ID	pAB1913658028

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? An unauthorized release of a volume of 25 barrels or more

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Notice provided by Kyle Littrell to Mike Bratcher, Rob Hamlet, Victoria Venegas, and Jim Griswold (NMOCD), and Ryan Mann (SLO) on 4/27/2019 by email

Initial Response

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

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

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

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

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

Printed Name: Kyle Littrell
Title: SH&E Supervisor
Signature:
Date: 5/02/2019
email: Kyle_Littrell@xtoenergy.com
Telephone: 432-221-7331

OCD Only

Received by:
Date: 5/16/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5421
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?	51-100 (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-5421
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: __10/30/2019_____

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-5421
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: 10/30/2019

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

OCD Only

Received by: Date:

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

Closure Approved by: Date:

Printed Name: Title:

ATTACHMENT 2: PHOTOGRAPHIC LOG

View of point of release area during site assessment activities.

Project: 012919088	XTO Energy, Inc. Goldenchild 6 State SWD #1	LTE Advancing Opportunity
May 6, 2019	Photographic Log	

Western view of final excavation extent during excavation activities.

Project: 012919088	XTO Energy, Inc. Goldenchild 6 State SWD #1	LTE Advancing Opportunity
August 9, 2019	Photographic Log	

ATTACHMENT 3: LITHOLOGIC SOIL SAMPLE LOGS

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

Identifier:	Date:
PH01	09/27/19
Project Name: Goldenchild 6 State SWD #1	RP Number:
Logged By: Fatima Smith	Method:
Hole Diameter:	Total Depth: 6'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry	1988	23.0	N		1		S	GP, tan, caliche, no odor
Dry	1170	6.5	N		2		S	SP, brwn, no odor, no plasticity
Dry	683	8.1	N		4		S	
Dry	1372	5.1	N		6		S	deepest sample @ 6'

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

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

Identifier:	Date:
PH02	09/27/19
Project Name: Goldenchild 6 State SWD #1	RP Number:
Logged By: Fatima Smith	Method:
Hole Diameter:	Total Depth: 6'
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	2822	2.6	N		0–1		S	GP, tan, caliche, no odor
Dry	1271	2.3	N		1–2		S	SP, brwn, no odor, no plasticity
Dry	554	3.4	N		3–4		S	
Dry	1271	3.7	N		5–6		S	deepest sample @ 6'

Fatima

Analytical Report 623712

for

LT Environmental, Inc.

Project Manager: Ashley Ager

Goldenchild CTB

13-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), 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-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

13-MAY-19

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

Reference: XENCO Report No(s): **623712**
Goldenchild CTB
Project Address: Delaware Basin

Ashley Ager:

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) 623712. 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. 623712 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 623712

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	05-06-19 18:30	0.5 ft	623712-001
SS02	S	05-06-19 18:35	0.3 ft	623712-002
SS03	S	05-06-19 18:40	0.5 ft	623712-003
SS04	S	05-06-19 18:45	0.5 ft	623712-004
SS05	S	05-06-19 18:50	0.3 ft	623712-005

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3088597 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 623712

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild CTB

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Thu May-09-19 04:30 pm
Report Date: 13-MAY-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	623712-001		623712-002		623712-003		623712-004		623712-005	
	Field Id:	SS01		SS02		SS03		SS04		SS05	
	Depth:	0.5- ft		0.3- ft		0.5- ft		0.5- ft		0.3- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-06-19 18:30		May-06-19 18:35		May-06-19 18:40		May-06-19 18:45		May-06-19 18:50	
BTEX by EPA 8021B	***Extracted:***	May-09-19 16:30		May-09-19 16:30		May-09-19 16:30		May-09-19 16:30		May-09-19 16:30	
	Analyzed:	May-10-19 04:31		May-10-19 04:50		May-10-19 05:09		May-10-19 05:28		May-10-19 05:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202
m,p-Xylenes		<0.00401	0.00401	<0.00399	0.00399	<0.00398	0.00398	<0.00398	0.00398	<0.00403	0.00403
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	May-10-19 12:00		May-10-19 12:00		May-10-19 12:00		May-10-19 12:00		May-10-19 12:00	
	Analyzed:	May-10-19 19:02		May-10-19 19:18		May-10-19 19:23		May-10-19 19:38		May-10-19 19:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		136	4.97	898	4.95	4540	50.3	6940	50.5	5160	49.9
TPH by SW8015 Mod	***Extracted:***	May-09-19 17:00		May-09-19 17:00		May-09-19 17:00		May-09-19 17:00		May-09-19 17:00	
	Analyzed:	May-10-19 03:47		May-10-19 09:09		May-10-19 04:27		May-10-19 04:48		May-10-19 05:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<74.9	74.9	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		1360	15.0	5300	74.9	155	15.0	1360	14.9	31.5	15.0
Motor Oil Range Hydrocarbons (MRO)		355	15.0	1940	74.9	32.5	15.0	459	14.9	<15.0	15.0
Total TPH		1720	15.0	7240	74.9	188	15.0	1820	14.9	31.5	15.0
Total GRO-DRO		1360	15.0	5300	74.9	155	15.0	1360	14.9	31.5	15.0

Jessica Kramer
Project Assistant

Certificate of Analytical Results 623712

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	05.09.19 16.30
Lab Sample Id:	623712-001	Date Collected:	05.06.19 18.30	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.10.19 12.00	Basis:	Wet Weight
Seq Number:	3088730				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**136**	4.97	mg/kg	05.10.19 19.02		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.19 17.00	Basis:	Wet Weight
Seq Number:	3088608				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.10.19 03.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1360**	15.0	mg/kg	05.10.19 03.47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**355**	15.0	mg/kg	05.10.19 03.47		1
Total TPH	PHC635	**1720**	15.0	mg/kg	05.10.19 03.47		1
Total GRO-DRO	PHC628	**1360**	15.0	mg/kg	05.10.19 03.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.10.19 03.47	
o-Terphenyl	84-15-1	100	%	70-135	05.10.19 03.47	

Certificate of Analytical Results 623712

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	05.09.19 16.30
Lab Sample Id:	623712-001	Date Collected:	05.06.19 18.30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	SCM	Date Prep:	05.09.19 16.30	Basis:	Wet Weight
Seq Number:	3088597				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.10.19 04.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.10.19 04.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.10.19 04.31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.10.19 04.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.10.19 04.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.10.19 04.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.10.19 04.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	05.10.19 04.31	
4-Bromofluorobenzene	460-00-4	70	%	70-130	05.10.19 04.31	

Certificate of Analytical Results 623712

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	05.09.19 16.30
Lab Sample Id:	623712-002	Date Collected:	05.06.19 18.35	Sample Depth:	0.3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.10.19 12.00	Basis:	Wet Weight
Seq Number:	3088730				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**898**	4.95	mg/kg	05.10.19 19.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.19 17.00	Basis:	Wet Weight
Seq Number:	3088608				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.9	74.9	mg/kg	05.10.19 09.09	U	5
Diesel Range Organics (DRO)	C10C28DRO	**5300**	74.9	mg/kg	05.10.19 09.09		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1940**	74.9	mg/kg	05.10.19 09.09		5
Total TPH	PHC635	**7240**	74.9	mg/kg	05.10.19 09.09		5
Total GRO-DRO	PHC628	**5300**	74.9	mg/kg	05.10.19 09.09		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.10.19 09.09	
o-Terphenyl	84-15-1	104	%	70-135	05.10.19 09.09	

Certificate of Analytical Results 623712

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	05.09.19 16.30
Lab Sample Id:	623712-002	Date Collected:	05.06.19 18.35	Sample Depth:	0.3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	SCM	Date Prep:	05.09.19 16.30	Basis:	Wet Weight
Seq Number:	3088597				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.10.19 04.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.10.19 04.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.10.19 04.50	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.10.19 04.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.10.19 04.50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.10.19 04.50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.10.19 04.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.10.19 04.50	
4-Bromofluorobenzene	460-00-4	81	%	70-130	05.10.19 04.50	

Certificate of Analytical Results 623712

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	05.09.19 16.30
Lab Sample Id:	623712-003	Date Collected:	05.06.19 18.40	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.10.19 12.00	Basis:	Wet Weight
Seq Number:	3088730				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4540**	50.3	mg/kg	05.10.19 19.23		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.19 17.00	Basis:	Wet Weight
Seq Number:	3088608				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.10.19 04.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	**155**	15.0	mg/kg	05.10.19 04.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**32.5**	15.0	mg/kg	05.10.19 04.27		1
Total TPH	PHC635	**188**	15.0	mg/kg	05.10.19 04.27		1
Total GRO-DRO	PHC628	**155**	15.0	mg/kg	05.10.19 04.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.10.19 04.27	
o-Terphenyl	84-15-1	104	%	70-135	05.10.19 04.27	

Certificate of Analytical Results 623712

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	05.09.19 16.30
Lab Sample Id:	623712-003	Date Collected:	05.06.19 18.40	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	SCM	Date Prep:	05.09.19 16.30	Basis:	Wet Weight
Seq Number:	3088597				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.10.19 05.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.10.19 05.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.10.19 05.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.10.19 05.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.10.19 05.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.10.19 05.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.10.19 05.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.10.19 05.09	
4-Bromofluorobenzene	460-00-4	90	%	70-130	05.10.19 05.09	

Certificate of Analytical Results 623712

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	05.09.19 16.30
Lab Sample Id:	623712-004	Date Collected:	05.06.19 18.45	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.10.19 12.00	Basis:	Wet Weight
Seq Number:	3088730				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6940**	50.5	mg/kg	05.10.19 19.38		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.19 17.00	Basis:	Wet Weight
Seq Number:	3088608				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.10.19 04.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1360**	14.9	mg/kg	05.10.19 04.48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**459**	14.9	mg/kg	05.10.19 04.48		1
Total TPH	PHC635	**1820**	14.9	mg/kg	05.10.19 04.48		1
Total GRO-DRO	PHC628	**1360**	14.9	mg/kg	05.10.19 04.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.10.19 04.48	
o-Terphenyl	84-15-1	99	%	70-135	05.10.19 04.48	

Certificate of Analytical Results 623712

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	05.09.19 16.30
Lab Sample Id:	623712-004	Date Collected:	05.06.19 18.45	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	SCM	Date Prep:	05.09.19 16.30	Basis:	Wet Weight
Seq Number:	3088597				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.10.19 05.28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.10.19 05.28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.10.19 05.28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.10.19 05.28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.10.19 05.28	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.10.19 05.28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.10.19 05.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.10.19 05.28	
4-Bromofluorobenzene	460-00-4	83	%	70-130	05.10.19 05.28	

Certificate of Analytical Results 623712

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	05.09.19 16.30
Lab Sample Id:	623712-005	Date Collected:	05.06.19 18.50	Sample Depth:	0.3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.10.19 12.00	Basis:	Wet Weight
Seq Number:	3088730				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5160**	49.9	mg/kg	05.10.19 19.43		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.19 17.00	Basis:	Wet Weight
Seq Number:	3088608				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.10.19 05.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	**31.5**	15.0	mg/kg	05.10.19 05.08		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.10.19 05.08	U	1
Total TPH	PHC635	**31.5**	15.0	mg/kg	05.10.19 05.08		1
Total GRO-DRO	PHC628	**31.5**	15.0	mg/kg	05.10.19 05.08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.10.19 05.08	
o-Terphenyl	84-15-1	100	%	70-135	05.10.19 05.08	

Certificate of Analytical Results 623712

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	05.09.19 16.30
Lab Sample Id:	623712-005	Date Collected:	05.06.19 18.50	Sample Depth:	0.3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	SCM	Date Prep:	05.09.19 16.30	Basis:	Wet Weight
Seq Number:	3088597				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.10.19 05.47	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.10.19 05.47	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.10.19 05.47	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.10.19 05.47	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.10.19 05.47	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.10.19 05.47	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.10.19 05.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	05.10.19 05.47	
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.10.19 05.47	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 623712

LT Environmental, Inc.

Goldenchild CTB

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088730 Matrix: Solid Date Prep: 05.10.19
MB Sample Id: 7677645-1-BLK LCS Sample Id: 7677645-1-BKS LCSD Sample Id: 7677645-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	251	100	251	100	90-110	0	20	mg/kg	05.10.19 17:40	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088730 Matrix: Soil Date Prep: 05.10.19
Parent Sample Id: 623709-001 MS Sample Id: 623709-001 S MSD Sample Id: 623709-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.04	252	257	102	257	102	90-110	0	20	mg/kg	05.10.19 17:55	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088730 Matrix: Soil Date Prep: 05.10.19
Parent Sample Id: 623712-001 MS Sample Id: 623712-001 S MSD Sample Id: 623712-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	136	249	379	98	381	98	90-110	1	20	mg/kg	05.10.19 19:07	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3088608 Matrix: Solid Date Prep: 05.09.19
MB Sample Id: 7677599-1-BLK LCS Sample Id: 7677599-1-BKS LCSD Sample Id: 7677599-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1010	101	1030	103	70-135	2	20	mg/kg	05.09.19 22:25	
Diesel Range Organics (DRO)	<8.13	1000	1030	103	1040	104	70-135	1	20	mg/kg	05.09.19 22:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		123		129		70-135	%	05.09.19 22:25
o-Terphenyl	97		116		121		70-135	%	05.09.19 22:25

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 623712

LT Environmental, Inc.

Goldenchild CTB

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3088608 Matrix: Soil Date Prep: 05.09.19
Parent Sample Id: 623710-002 MS Sample Id: 623710-002 S MSD Sample Id: 623710-002 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)	10.1	1000	1010	100	996	99	70-135	1	20	mg/kg	05.09.19 23:26	
Diesel Range Organics (DRO)	10.1	1000	1000	99	1000	99	70-135	0	20	mg/kg	05.09.19 23:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		123		70-135	%	05.09.19 23:26
o-Terphenyl	126		118		70-135	%	05.09.19 23:26

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3088597 Matrix: Solid Date Prep: 05.09.19
MB Sample Id: 7677588-1-BLK LCS Sample Id: 7677588-1-BKS LCSD Sample Id: 7677588-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.111	111	0.113	113	70-130	2	35	mg/kg	05.09.19 21:17	
Toluene	<0.000455	0.0998	0.103	103	0.104	104	70-130	1	35	mg/kg	05.09.19 21:17	
Ethylbenzene	<0.000564	0.0998	0.109	109	0.109	109	70-130	0	35	mg/kg	05.09.19 21:17	
m,p-Xylenes	<0.00101	0.200	0.226	113	0.227	114	70-130	0	35	mg/kg	05.09.19 21:17	
o-Xylene	<0.000344	0.0998	0.110	110	0.112	112	70-130	2	35	mg/kg	05.09.19 21:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		100		104		70-130	%	05.09.19 21:17
4-Bromofluorobenzene	74		80		87		70-130	%	05.09.19 21:17

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3088597 Matrix: Soil Date Prep: 05.09.19
Parent Sample Id: 623709-001 MS Sample Id: 623709-001 S MSD Sample Id: 623709-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000538	0.100	0.114	113	0.111	109	70-130	3	35	mg/kg	05.09.19 21:55	
Toluene	0.000458	0.100	0.104	104	0.101	100	70-130	3	35	mg/kg	05.09.19 21:55	
Ethylbenzene	<0.000567	0.100	0.109	109	0.106	105	70-130	3	35	mg/kg	05.09.19 21:55	
m,p-Xylenes	<0.00102	0.201	0.227	113	0.221	110	70-130	3	35	mg/kg	05.09.19 21:55	
o-Xylene	<0.000346	0.100	0.111	111	0.108	107	70-130	3	35	mg/kg	05.09.19 21:55	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	05.09.19 21:55
4-Bromofluorobenzene	88		86		70-130	%	05.09.19 21:55

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

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 623712

www.xenco.com Page 1 of 1

Project Manager:	Ashley Ager	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental	Company Name:	XTO
Address:	3300 North A Street	Address:	3104 E Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	(970) 385-1096	Email:	aager@ltenv.com tabyers@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:	Golderchild CTB	Turn Around	
Project Number:		Routine	☒
P.O. Number:	release date (4/26/19)	Rush:	
Sampler's Name:	Anna Byers	Due Date:	3day

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.4/0.3	Thermometer ID	R8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS01	S	5/6/19	1830	0.5'	2			
SS02	S		1835	0.3'	2			
SS03	S		1840	0.5'	2			
SS04	S		1845	0.5'	2			
SS05	S		1850	0.3'	2			

Work Order Notes

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

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Anna Byers		5/8/19	2		05/08/2019 10:05
3		5/9/19 1630	4		
5			6		

Revised Date 051418 Rev. 2018.1

Final 1.000

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/09/2019 04:30:00 PM

Work Order #: 623712

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 05/09/2019

Checklist reviewed by: Jessica Kramer Date: 05/10/2019

Analytical Report 633916

for

LT Environmental, Inc.

Project Manager: Dan Moir

Goldenchild CTB 6 State SWD #1

16-AUG-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), 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-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

16-AUG-19

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

Reference: XENCO Report No(s): **633916**
Goldenchild CTB 6 State SWD #1
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) 633916. 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. 633916 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 633916

LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	08-09-19 13:59	4 ft	633916-001
FS02	S	08-09-19 14:30	4 ft	633916-002
SW01	S	08-09-19 14:06	0 - 4 ft	633916-003
SW02	S	08-09-19 14:09	0 - 4 ft	633916-004
SW03	S	08-09-19 14:22	0 - 4 ft	633916-005
SW04	S	08-09-19 14:24	0 - 4 ft	633916-006

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Goldenchild CTB 6 State SWD #1

Project ID:
Work Order Number(s): *633916*

Report Date: *16-AUG-19*
Date Received: *08/13/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3098657 BTEX by EPA 8021B

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

Certificate of Analysis Summary 633916

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild CTB 6 State SWD #1

Project Id:
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue Aug-13-19 11:55 am
Report Date: 16-AUG-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	633916-001		633916-002		633916-003		633916-004		633916-005		633916-006	
	Field Id:	FS01		FS02		SW01		SW02		SW03		SW04	
	Depth:	4- ft		4- ft		0-4 ft		0-4 ft		0-4 ft		0-4 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-09-19 13:59		Aug-09-19 14:30		Aug-09-19 14:06		Aug-09-19 14:09		Aug-09-19 14:22		Aug-09-19 14:24	
BTEX by EPA 8021B SUB: T104704400-18-16	***Extracted:***	Aug-14-19 12:00		Aug-14-19 12:00		Aug-14-19 12:00		Aug-14-19 12:00		Aug-14-19 12:00		Aug-14-19 12:00	
	Analyzed:	Aug-15-19 17:34		Aug-15-19 18:15		Aug-15-19 17:55		Aug-15-19 18:35		Aug-15-19 18:55		Aug-15-19 19:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Toluene		<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Ethylbenzene		<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
m,p-Xylenes		<0.00397	0.00397	<0.00397	0.00397	<0.00398	0.00398	<0.00398	0.00398	<0.00400	0.00400	<0.00397	0.00397
o-Xylene		<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Total Xylenes		<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Total BTEX		<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Chloride by EPA 300 SUB: T104704400-18-16	***Extracted:***	Aug-14-19 12:30		Aug-14-19 12:30		Aug-14-19 12:30		Aug-14-19 12:30		Aug-14-19 12:30		Aug-14-19 12:30	
	Analyzed:	Aug-14-19 20:05		Aug-14-19 20:12		Aug-14-19 20:18		Aug-14-19 20:24		Aug-14-19 20:31		Aug-14-19 20:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		830	5.05	732	5.05	990	4.95	1060	5.02	1200	24.9	2360	25.0
TPH by SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Aug-14-19 15:00		Aug-14-19 15:00		Aug-14-19 15:00		Aug-14-19 15:00		Aug-14-19 15:00		Aug-14-19 15:00	
	Analyzed:	Aug-15-19 00:41		Aug-15-19 00:22		Aug-15-19 00:41		Aug-15-19 01:01		Aug-15-19 01:20		Aug-15-19 01:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<24.9	24.9	<25.0	25.0	<25.0	25.0	<25.0	25.0	<24.9	24.9	<25.0	25.0
Diesel Range Organics (DRO)		<24.9	24.9	<25.0	25.0	<25.0	25.0	<25.0	25.0	<24.9	24.9	219	25.0
Motor Oil Range Hydrocarbons (MRO)		<24.9	24.9	<25.0	25.0	<25.0	25.0	<25.0	25.0	<24.9	24.9	42.4	25.0
Total TPH		<24.9	24.9	<25.0	25.0	<25.0	25.0	<25.0	25.0	<24.9	24.9	261	25.0
Total GRO-DRO		<24.9	24.9	<25.0	25.0	<25.0	25.0	<25.0	25.0	<24.9	24.9	219	25.0

Jessica Kramer
Project Assistant

Certificate of Analytical Results 633916

LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-001	Date Collected:	08.09.19 13.59	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 12.30	Basis:	Wet Weight
Seq Number:	3098611			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**830**	5.05	mg/kg	08.14.19 20.05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098650			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.15.19 00.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.15.19 00.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.15.19 00.41	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.15.19 00.41	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.15.19 00.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	08.15.19 00.41	
o-Terphenyl	84-15-1	89	%	70-135	08.15.19 00.41	

Certificate of Analytical Results 633916

LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-001	Date Collected:	08.09.19 13.59	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.14.19 12.00	Basis:	Wet Weight
Seq Number:	3098657			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.15.19 17.34	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.15.19 17.34	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.15.19 17.34	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.15.19 17.34	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.15.19 17.34	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.15.19 17.34	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.15.19 17.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	08.15.19 17.34	
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.15.19 17.34	

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LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-002	Date Collected:	08.09.19 14.30	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 12.30	Basis:	Wet Weight
Seq Number:	3098611			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**732**	5.05	mg/kg	08.14.19 20.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098650			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.15.19 00.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.15.19 00.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.15.19 00.22	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.15.19 00.22	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.15.19 00.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.15.19 00.22	
o-Terphenyl	84-15-1	93	%	70-135	08.15.19 00.22	

Certificate of Analytical Results 633916

LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-002	Date Collected:	08.09.19 14.30	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.14.19 12.00	Basis:	Wet Weight
Seq Number:	3098657			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.15.19 18.15	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.15.19 18.15	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.15.19 18.15	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.15.19 18.15	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.15.19 18.15	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.15.19 18.15	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.15.19 18.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.15.19 18.15	
4-Bromofluorobenzene	460-00-4	108	%	70-130	08.15.19 18.15	

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LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-003	Date Collected:	08.09.19 14.06	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 12.30	Basis:	Wet Weight
Seq Number:	3098611			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**990**	4.95	mg/kg	08.14.19 20.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098650			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.15.19 00.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.15.19 00.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.15.19 00.41	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.15.19 00.41	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.15.19 00.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	08.15.19 00.41	
o-Terphenyl	84-15-1	89	%	70-135	08.15.19 00.41	

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LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-003	Date Collected:	08.09.19 14.06	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.14.19 12.00	Basis:	Wet Weight
Seq Number:	3098657			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.15.19 17.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.15.19 17.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.15.19 17.55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.15.19 17.55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.15.19 17.55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.15.19 17.55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.15.19 17.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	08.15.19 17.55	
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.15.19 17.55	

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LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-004	Date Collected:	08.09.19 14.09	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 12.30	Basis:	Wet Weight
Seq Number:	3098611			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1060**	5.02	mg/kg	08.14.19 20.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098650			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.15.19 01.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.15.19 01.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.15.19 01.01	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.15.19 01.01	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.15.19 01.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	08.15.19 01.01	
o-Terphenyl	84-15-1	100	%	70-135	08.15.19 01.01	

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LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-004	Date Collected:	08.09.19 14.09	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.14.19 12.00	Basis:	Wet Weight
Seq Number:	3098657			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.15.19 18.35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.15.19 18.35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.15.19 18.35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.15.19 18.35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.15.19 18.35	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.15.19 18.35	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.15.19 18.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	08.15.19 18.35	
4-Bromofluorobenzene	460-00-4	111	%	70-130	08.15.19 18.35	

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LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-005	Date Collected:	08.09.19 14.22	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 12.30	Basis:	Wet Weight
Seq Number:	3098611			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1200**	24.9	mg/kg	08.14.19 20.31		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098650			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.15.19 01.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.15.19 01.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.15.19 01.20	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.15.19 01.20	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.15.19 01.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	08.15.19 01.20	
o-Terphenyl	84-15-1	98	%	70-135	08.15.19 01.20	

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LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-005	Date Collected:	08.09.19 14.22	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.14.19 12.00	Basis:	Wet Weight
Seq Number:	3098657			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.15.19 18.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.15.19 18.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.15.19 18.55	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	08.15.19 18.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.15.19 18.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.15.19 18.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.15.19 18.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	70-130	08.15.19 18.55	
4-Bromofluorobenzene	460-00-4	109	%	70-130	08.15.19 18.55	

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LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-006	Date Collected:	08.09.19 14.24	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 12.30	Basis:	Wet Weight
Seq Number:	3098611			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2360**	25.0	mg/kg	08.14.19 20.37		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098650			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.15.19 01.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	**219**	25.0	mg/kg	08.15.19 01.59		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**42.4**	25.0	mg/kg	08.15.19 01.59		1
Total TPH	PHC635	**261**	25.0	mg/kg	08.15.19 01.59		1
Total GRO-DRO	PHC628	**219**	25.0	mg/kg	08.15.19 01.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.15.19 01.59	
o-Terphenyl	84-15-1	99	%	70-135	08.15.19 01.59	

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LT Environmental, Inc., Arvada, CO

Goldenchild CTB 6 State SWD #1

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	08.13.19 11.55
Lab Sample Id:	633916-006	Date Collected:	08.09.19 14.24	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.14.19 12.00	Basis:	Wet Weight
Seq Number:	3098657			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.15.19 19.15	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.15.19 19.15	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.15.19 19.15	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.15.19 19.15	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.15.19 19.15	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.15.19 19.15	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.15.19 19.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	08.15.19 19.15	
4-Bromofluorobenzene	460-00-4	117	%	70-130	08.15.19 19.15	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 633916

LT Environmental, Inc.

Goldenchild CTB 6 State SWD #1

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3098611 Matrix: Solid Date Prep: 08.14.19
MB Sample Id: 7684214-1-BLK LCS Sample Id: 7684214-1-BKS LCSD Sample Id: 7684214-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	266	106	265	106	90-110	0	20	mg/kg	08.14.19 17:40	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3098611 Matrix: Soil Date Prep: 08.14.19
Parent Sample Id: 633904-005 MS Sample Id: 633904-005 S MSD Sample Id: 633904-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	25.2	250	323	119	322	119	90-110	0	20	mg/kg	08.14.19 19:27	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3098611 Matrix: Soil Date Prep: 08.14.19
Parent Sample Id: 633969-003 MS Sample Id: 633969-003 S MSD Sample Id: 633969-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	875	250	1110	94	1110	94	90-110	0	20	mg/kg	08.14.19 17:59	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3098650 Matrix: Solid Date Prep: 08.14.19
MB Sample Id: 7684239-1-BLK LCS Sample Id: 7684239-1-BKS LCSD Sample Id: 7684239-1-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	1060	106	1050	105	70-135	1	20	mg/kg	08.14.19 21:09	
Diesel Range Organics (DRO)	<25.0	1000	995	100	994	99	70-135	0	20	mg/kg	08.14.19 21:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		117		116		70-135	%	08.14.19 21:09
o-Terphenyl	99		104		103		70-135	%	08.14.19 21:09

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 633916

LT Environmental, Inc.

Goldenchild CTB 6 State SWD #1

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3098650 Matrix: Soil Date Prep: 08.14.19
Parent Sample Id: 633957-001 MS Sample Id: 633957-001 S MSD Sample Id: 633957-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	987	99	979	98	70-135	1	20	mg/kg	08.14.19 22:07	
Diesel Range Organics (DRO)	36.3	999	981	95	975	94	70-135	1	20	mg/kg	08.14.19 22:07	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		109		70-135	%	08.14.19 22:07
o-Terphenyl	92		93		70-135	%	08.14.19 22:07

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3098657 Matrix: Solid Date Prep: 08.14.19
MB Sample Id: 7684207-1-BLK LCS Sample Id: 7684207-1-BKS LCSD Sample Id: 7684207-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0952	95	0.0958	96	70-130	1	35	mg/kg	08.14.19 22:01	
Toluene	0.000550	0.100	0.0888	89	0.0893	89	70-130	1	35	mg/kg	08.14.19 22:01	
Ethylbenzene	<0.00200	0.100	0.0886	89	0.0895	90	70-130	1	35	mg/kg	08.14.19 22:01	
m,p-Xylenes	<0.00101	0.200	0.175	88	0.178	89	70-130	2	35	mg/kg	08.14.19 22:01	
o-Xylene	<0.000344	0.100	0.0925	93	0.0941	94	70-130	2	35	mg/kg	08.14.19 22:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		97		99		70-130	%	08.14.19 22:01
4-Bromofluorobenzene	108		103		106		70-130	%	08.14.19 22:01

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3098657 Matrix: Soil Date Prep: 08.14.19
Parent Sample Id: 633950-001 MS Sample Id: 633950-001 S MSD Sample Id: 633950-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.0798	81	0.0859	86	70-130	7	35	mg/kg	08.15.19 11:35	
Toluene	<0.000451	0.0990	0.0623	63	0.0683	68	70-130	9	35	mg/kg	08.15.19 11:35	X
Ethylbenzene	<0.00198	0.0990	0.0522	53	0.0551	55	70-130	5	35	mg/kg	08.15.19 11:35	X
m,p-Xylenes	<0.00396	0.198	0.0890	45	0.0886	44	70-130	0	35	mg/kg	08.15.19 11:35	X
o-Xylene	<0.00198	0.0990	0.0495	50	0.0512	51	70-130	3	35	mg/kg	08.15.19 11:35	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		116		70-130	%	08.15.19 11:35
4-Bromofluorobenzene	98		116		70-130	%	08.15.19 11:35

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: C-33916

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 6 State SWD#1	Turn Around	
Project Number:	[illegible]	Routine	☑
P.O. Number:	2RP-5471	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	3.7	Thermometer ID	T-NM-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	12

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	1359	4'	1	X	X	X
FS02	S	"	1430	4'	1	X	X	X
SW01	S	"	1406	0-4'	1	X	X	X
SW02	S	"	1409	0-4'	1	X	X	X
SW03	S	"	1422	0-4'	1	X	X	X
SW04	S	"	1424	0-4'	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 [signature]	[signature]	9/13/19 @ 11:55	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Final 1.000

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Inter-Office Shipment

IOS Number **46182**

Date/Time: 08/13/19 16:26
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.:

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
633916-001	S	FS01	08/09/19 13:59	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/23/19	JKR	GRO-DRO PHCC10C28 PI	
633916-001	S	FS01	08/09/19 13:59	SW8021B	BTEX by EPA 8021B	08/19/19	08/23/19	JKR	BR4FBZ BZ BZME EBZ X	
633916-001	S	FS01	08/09/19 13:59	E300_CL	Chloride by EPA 300	08/19/19	02/05/20	JKR	CL	
633916-002	S	FS02	08/09/19 14:30	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/23/19	JKR	GRO-DRO PHCC10C28 PI	
633916-002	S	FS02	08/09/19 14:30	E300_CL	Chloride by EPA 300	08/19/19	02/05/20	JKR	CL	
633916-002	S	FS02	08/09/19 14:30	SW8021B	BTEX by EPA 8021B	08/19/19	08/23/19	JKR	BR4FBZ BZ BZME EBZ X	
633916-003	S	SW01	08/09/19 14:06	SW8021B	BTEX by EPA 8021B	08/19/19	08/23/19	JKR	BR4FBZ BZ BZME EBZ X	
633916-003	S	SW01	08/09/19 14:06	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/23/19	JKR	GRO-DRO PHCC10C28 PI	
633916-003	S	SW01	08/09/19 14:06	E300_CL	Chloride by EPA 300	08/19/19	02/05/20	JKR	CL	
633916-004	S	SW02	08/09/19 14:09	SW8021B	BTEX by EPA 8021B	08/19/19	08/23/19	JKR	BR4FBZ BZ BZME EBZ X	
633916-004	S	SW02	08/09/19 14:09	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/23/19	JKR	GRO-DRO PHCC10C28 PI	
633916-004	S	SW02	08/09/19 14:09	E300_CL	Chloride by EPA 300	08/19/19	02/05/20	JKR	CL	
633916-005	S	SW03	08/09/19 14:22	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/23/19	JKR	GRO-DRO PHCC10C28 PI	
633916-005	S	SW03	08/09/19 14:22	E300_CL	Chloride by EPA 300	08/19/19	02/05/20	JKR	CL	
633916-005	S	SW03	08/09/19 14:22	SW8021B	BTEX by EPA 8021B	08/19/19	08/23/19	JKR	BR4FBZ BZ BZME EBZ X	
633916-006	S	SW04	08/09/19 14:24	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/23/19	JKR	GRO-DRO PHCC10C28 PI	
633916-006	S	SW04	08/09/19 14:24	E300_CL	Chloride by EPA 300	08/19/19	02/05/20	JKR	CL	
633916-006	S	SW04	08/09/19 14:24	SW8021B	BTEX by EPA 8021B	08/19/19	08/23/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By: 
Elizabeth McClellan

Date Relinquished: 08/13/2019

Received By: 
Brianna Teel

Date Received: 08/14/2019 10:53

Cooler Temperature: 2.1

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 46182

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Elizabeth McClellan **Date Sent:** 08/13/2019 04:26 PM

Received By: Brianna Teel **Date Received:** 08/14/2019 10:53 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.1	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Brianna Teel Date: 08/14/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/13/2019 11:55:00 AM

Work Order #: 633916

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)?	3.7	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 Custody Seals intact on sample bottles?	**No**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Subbed to Xenco Midland.
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 08/13/2019

Checklist reviewed by: Jessica Kramer Date: 08/14/2019

Analytical Report 638390

for

LT Environmental, Inc.

Project Manager: Dan Moir

Goldenchild 6 State SWD #1

012919088

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): **638390**
Goldenchild 6 State SWD #1
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) 638390. 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. 638390 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 638390

LT Environmental, Inc., Arvada, CO

Goldenchild 6 State SWD #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	09-27-19 09:55	2 ft	638390-001
PH01A	S	09-27-19 10:04	6 ft	638390-002
PH02	S	09-27-19 10:19	2 ft	638390-003
PH02A	S	09-27-19 10:26	6 ft	638390-004

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3102738 Chloride by EPA 300

Lab Sample ID 638396-010 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 638390-001, -002, -003, -004.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

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 638390

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild 6 State SWD #1

Project Id: 012919088
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:	638390-001		638390-002		638390-003		638390-004					
	Field Id:	PH01		PH01A		PH02		PH02A					
	Depth:	2- ft		6- ft		2- ft		6- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Sep-27-19 09:55		Sep-27-19 10:04		Sep-27-19 10:19		Sep-27-19 10:26					
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					
	Analyzed:	Sep-27-19 17:40		Sep-27-19 17:59		Sep-27-19 18:19		Sep-27-19 18:39					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.000986	0.000986	<0.00100	0.00100	<0.000986	0.000986	<0.000998	0.000998				
Toluene		<0.000986	0.000986	<0.00100	0.00100	<0.000986	0.000986	<0.000998	0.000998				
Ethylbenzene		<0.000986	0.000986	<0.00100	0.00100	<0.000986	0.000986	<0.000998	0.000998				
m,p-Xylenes		<0.00197	0.00197	<0.00200	0.00200	<0.00197	0.00197	<0.00200	0.00200				
o-Xylene		<0.000986	0.000986	<0.00100	0.00100	<0.000986	0.000986	<0.000998	0.000998				
Total Xylenes		<0.000986	0.000986	<0.00100	0.00100	<0.000986	0.000986	<0.000998	0.000998				
Total BTEX		<0.000986	0.000986	<0.00100	0.00100	<0.000986	0.000986	<0.000998	0.000998				
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					
	Analyzed:	Sep-27-19 19:31		Sep-27-19 19:52		Sep-27-19 19:59		Sep-27-19 20:06					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		2210	100	1570	49.2	1870	99.4	2270	99.4				
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					
	Analyzed:	Sep-27-19 18:56		Sep-30-19 09:23		Sep-27-19 19:37		Sep-27-19 19:58					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.1	50.1	<49.8	49.8	<50.0	50.0				
Diesel Range Organics (DRO)		<50.1	50.1	<50.1	50.1	<49.8	49.8	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.1	50.1	<49.8	49.8	<50.0	50.0				
Total GRO-DRO		<50.1	50.1	<50.1	50.1	<49.8	49.8	<50.0	50.0				
Total TPH		<50.1	50.1	<50.1	50.1	<49.8	49.8	<50.0	50.0				

Certificate of Analytical Results 638390

LT Environmental, Inc., Arvada, CO

Goldenchild 6 State SWD #1

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638390-001	Date Collected:	09.27.19 09.55	Sample Depth:	2 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	**2210**	100	mg/kg	09.27.19 19.31		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	<50.1	50.1	mg/kg	09.27.19 18.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	09.27.19 18.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	09.27.19 18.56	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	09.27.19 18.56	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	09.27.19 18.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	09.27.19 18.56	
o-Terphenyl	84-15-1	102	%	70-135	09.27.19 18.56	

Certificate of Analytical Results 638390

LT Environmental, Inc., Arvada, CO

Goldenchild 6 State SWD #1

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638390-001	Date Collected:	09.27.19 09.55	Sample Depth:	2 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 17.40	U	1
Toluene	108-88-3	<0.000986	0.000986	mg/kg	09.27.19 17.40	U	1
Ethylbenzene	100-41-4	<0.000986	0.000986	mg/kg	09.27.19 17.40	U	1
m,p-Xylenes	179601-23-1	<0.00197	0.00197	mg/kg	09.27.19 17.40	U	1
o-Xylene	95-47-6	<0.000986	0.000986	mg/kg	09.27.19 17.40	U	1
Total Xylenes	1330-20-7	<0.000986	0.000986	mg/kg	09.27.19 17.40	U	1
Total BTEX		<0.000986	0.000986	mg/kg	09.27.19 17.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	09.27.19 17.40	
4-Bromofluorobenzene	460-00-4	105	%	70-130	09.27.19 17.40	

Certificate of Analytical Results 638390

LT Environmental, Inc., Arvada, CO

Goldenchild 6 State SWD #1

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638390-002	Date Collected:	09.27.19 10.04	Sample Depth:	6 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	**1570**	49.2	mg/kg	09.27.19 19.52		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	<50.1	50.1	mg/kg	09.30.19 09.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	09.30.19 09.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	09.30.19 09.23	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	09.30.19 09.23	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	09.30.19 09.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	09.30.19 09.23	
o-Terphenyl	84-15-1	105	%	70-135	09.30.19 09.23	

Certificate of Analytical Results 638390

LT Environmental, Inc., Arvada, CO

Goldenchild 6 State SWD #1

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638390-002	Date Collected:	09.27.19 10.04	Sample Depth:	6 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 17.59	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.27.19 17.59	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	09.27.19 17.59	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.27.19 17.59	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.27.19 17.59	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.27.19 17.59	U	1
Total BTEX		<0.00100	0.00100	mg/kg	09.27.19 17.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	09.27.19 17.59	
4-Bromofluorobenzene	460-00-4	95	%	70-130	09.27.19 17.59	

Certificate of Analytical Results 638390

LT Environmental, Inc., Arvada, CO

Goldenchild 6 State SWD #1

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638390-003	Date Collected:	09.27.19 10.19	Sample Depth:	2 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	**1870**	99.4	mg/kg	09.27.19 19.59		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 19.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	09.27.19 19.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	09.27.19 19.37	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	09.27.19 19.37	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	09.27.19 19.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	09.27.19 19.37	
o-Terphenyl	84-15-1	105	%	70-135	09.27.19 19.37	

Certificate of Analytical Results 638390

LT Environmental, Inc., Arvada, CO

Goldenchild 6 State SWD #1

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638390-003	Date Collected:	09.27.19 10.19	Sample Depth:	2 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 18.19	U	1
Toluene	108-88-3	<0.000986	0.000986	mg/kg	09.27.19 18.19	U	1
Ethylbenzene	100-41-4	<0.000986	0.000986	mg/kg	09.27.19 18.19	U	1
m,p-Xylenes	179601-23-1	<0.00197	0.00197	mg/kg	09.27.19 18.19	U	1
o-Xylene	95-47-6	<0.000986	0.000986	mg/kg	09.27.19 18.19	U	1
Total Xylenes	1330-20-7	<0.000986	0.000986	mg/kg	09.27.19 18.19	U	1
Total BTEX		<0.000986	0.000986	mg/kg	09.27.19 18.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	09.27.19 18.19	
4-Bromofluorobenzene	460-00-4	102	%	70-130	09.27.19 18.19	

Certificate of Analytical Results 638390

LT Environmental, Inc., Arvada, CO

Goldenchild 6 State SWD #1

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638390-004	Date Collected:	09.27.19 10.26	Sample Depth:	6 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	**2270**	99.4	mg/kg	09.27.19 20.06		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	<50.0	50.0	mg/kg	09.27.19 19.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.27.19 19.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.27.19 19.58	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.27.19 19.58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.27.19 19.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	09.27.19 19.58	
o-Terphenyl	84-15-1	106	%	70-135	09.27.19 19.58	

Certificate of Analytical Results 638390

LT Environmental, Inc., Arvada, CO

Goldenchild 6 State SWD #1

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	09.27.19 15.35
Lab Sample Id:	638390-004	Date Collected:	09.27.19 10.26	Sample Depth:	6 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	<0.000998	0.000998	mg/kg	09.27.19 18.39	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	09.27.19 18.39	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	09.27.19 18.39	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.27.19 18.39	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	09.27.19 18.39	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	09.27.19 18.39	U	1
Total BTEX		<0.000998	0.000998	mg/kg	09.27.19 18.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	09.27.19 18.39	
4-Bromofluorobenzene	460-00-4	101	%	70-130	09.27.19 18.39	

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 638390

LT Environmental, Inc.

Goldenchild 6 State SWD #1

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

Final 1.000

QC Summary 638390

LT Environmental, Inc.

Goldenchild 6 State SWD #1

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: **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: 638390

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 6State SWD#1	Turn Around	
Project Number:	012919088	Routine ☐	
P.O. Number:	2RP-5421	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):	1.4	Thermometer ID	
Received Intact:	(Yes) No	TNH007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	4

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH01	S	09/27/19	0955	2'	1	X	X	X
PH01A	S	09/27/19	1004	6'	1	X	X	X
PH02	S	09/27/19	1019	2'	1	X	X	X
PH02A	S	09/27/19	1026	6'	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 #: 638390

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