



LT Environmental, Inc.

3300 North "A" Street
Building 1, Unit 103
Midland, Texas 79705
432.704.5178

March 10, 2020

Mr. Bradford Billings
New Mexico Oil Conservation Division
1220 South St. Francis Drive, #3
Santa Fe, New Mexico 87505

**RE: Closure Request
Goldenchild Central Tank Battery
Remediation Permit Numbers 2RP-4636
Eddy County, New Mexico**

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request report detailing site assessment, soil sampling, and excavation activities at the Goldenchild Central Tank Battery (Site), located in Unit P, Section 6, Township 25 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil after a release of crude oil and produced water at the Site.

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the New Mexico Oil Conservation Division (NMOCD) effective November 13, 2018. The purpose of the Compliance Agreement is to ensure reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The release is categorized as a Tier IV site in the Compliance Agreement, meaning the release occurred prior to August 14, 2018, the effective date of 19.15.29 NMAC; however, remediation was ongoing. Based on the laboratory analytical results for soil samples collected at the Site, XTO is submitting this Closure Request, describing remediation activities that have occurred and requesting no further action for the release event.

RELEASE BACKGROUND

On February 10, 2018, the gun barrel tank overflowed due to a plug in the dump line. Approximately 30 barrels (bbls) of oil and 47 bbls of produced water were released within the impermeable lined containment. Areas to the east, west, and north of the containment were affected by overspray. A vacuum truck recovered 28 bbls of oil and 46 bbls of produced water from within the lined containment. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on February 23, 2018, and was assigned Remediation Permit (RP) Number 2RP-4636 (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 State Engineer (NM OSE) Well #C01880, located approximately 2,760 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 of 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 5,986 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 1,790 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a medium-potential karst area.



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 AND SOIL SAMPLING ACTIVITIES

On February 22, 2018, LTE personnel inspected the Site to evaluate the release extent. All released fluids were recovered from within the lined containment. Surface staining was visible adjacent to, and surrounding the containment. Nine preliminary soil samples (EX-1 through EX-9) were collected within the release area to assess the lateral extent of impacted soil. The preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

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

Between May and August 2018, LTE personnel was at the Site to oversee excavation of impacted soil based on visual observations, field screening activities, and laboratory analytical results for the preliminary soil samples. Excavation of impacted soil was completed by hand shoveling, hydro-vacuum, and track-hoe. 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. Excavation of impacted soil was conducted prior to the Compliance Agreement and prior to the implementation of the August 14, 2018, NMOCD modification to 19.15.29. Following removal of impacted soil, excavation confirmation samples were collected as discrete samples instead of composite samples. The area of impacted soil could be visually discerned; therefore, LTE applied a judgmental sampling protocol, selecting sample locations based on visual observation to represent the floor and sidewalls of the



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excavation. The sampling protocol complied with Guidance on Choosing a Sampling Design for Environmental Data Collection for Use in Developing a Quality Assurance Project Plan, EPA QA/G-5S, December 2002. Soil samples SW01, SW02, SW05, SW6, SW7, SW8, and SW09 through SW11, were collected from the sidewalls of the excavation at depths ranging from 1 foot to 2 feet bgs. Soil samples FS01, FS02, FS03, and FS7 through FS10 were collected from the floor of the excavation at depths ranging from 1 foot to 10 feet bgs. Soil samples SW03, SW04, and FS04 through FS06 were collected for field screening purposes only, and were not submitted for laboratory analysis. Excavation activities proceeded based on field screening activities and laboratory analytical results for the excavation soil samples. Due to urgent operations activities, the excavation was backfilled prior to sampling the final excavation extent.

During December 2019 and February 2020, LTE returned to the site to collect confirmation soil samples from the former excavation extent to better represent the entire excavation and document removal of impacted soil. Additionally, LTE oversaw excavation activities near initial excavation floor sample FS8.

The backfilled excavation extent was well documented, and easily identifiable. Potholes were advanced via backhoe along the perimeter of the backfilled excavation to confirm the lateral extent of impacted soil. Discrete sidewall samples SW12 through SW20 were collected from depths ranging from 1 foot to 2.5 feet bgs from the former sidewalls of the backfilled excavation. Additional potholes were advanced throughout the former floor of the backfilled excavation to confirm the vertical extent of impacted soil. Discrete floor samples FS11 through FS23 were collected from depths ranging from 1 foot to 5.5 feet bgs from the former floor of the backfilled excavation. Soil from the excavation samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively.

The excavation soil samples were collected, handled, and analyzed as described above and submitted to Xenco Laboratories in Midland, Texas, for analysis. The excavation extent and excavation soil sample locations are depicted on Figure 3. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 2.

The excavation measured approximately 8,042 square feet in area. A total of approximately 895 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the R360 Landfill located in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in preliminary soil samples EX-1, EX-3, EX-4, and EX-6. Laboratory analytical results indicated that BTEX and/or TPH concentrations exceeded the Closure Criteria in preliminary soil sample EX-2, EX-5, and EX-7 through EX-9 collected at depths



of 0.5 feet to 1 foot bgs. Based on field screening results and laboratory analytical results for the preliminary soil samples, impacted soil was excavated.

Laboratory analytical results for excavation soil samples SW01, SW02, SW05 through SW20, FS01 through FS7, and FS9 through FS23, collected from the final excavation extent, indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results indicated that GRO/DRO and TPH concentrations initially exceeded the Closure Criteria in excavation floor sample FS8. Additional soil was removed from the area around floor sample FS8 and subsequent floor sample FS23 was compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Impacted soil was excavated from the Site to address the February 10, 2018, release of crude oil and produced water at the Site. The majority of the release occurred within lined containment and was recovered during initial response activities. Multiple excavation and sampling events occurred over a period during which the NMOCD was revising the spill rule (19.15.29 NMAC). LTE attempted to collect samples that were consistent with the previous work conducted, but in better alignment with the requirements of 19.15.29 NMAC and the Compliance Agreement. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Based on the excavation soil sample analytical results, no further remediation 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-4636. XTO backfilled the excavation with material purchased locally and recontoured the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included in Attachment 1.



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

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads "Aimee Cole".

Aimee Cole
Project Environmental Scientist

A handwritten signature in black ink that reads "Ashley L. Ager".

Ashley L. Ager, P.G.
Senior Geologist

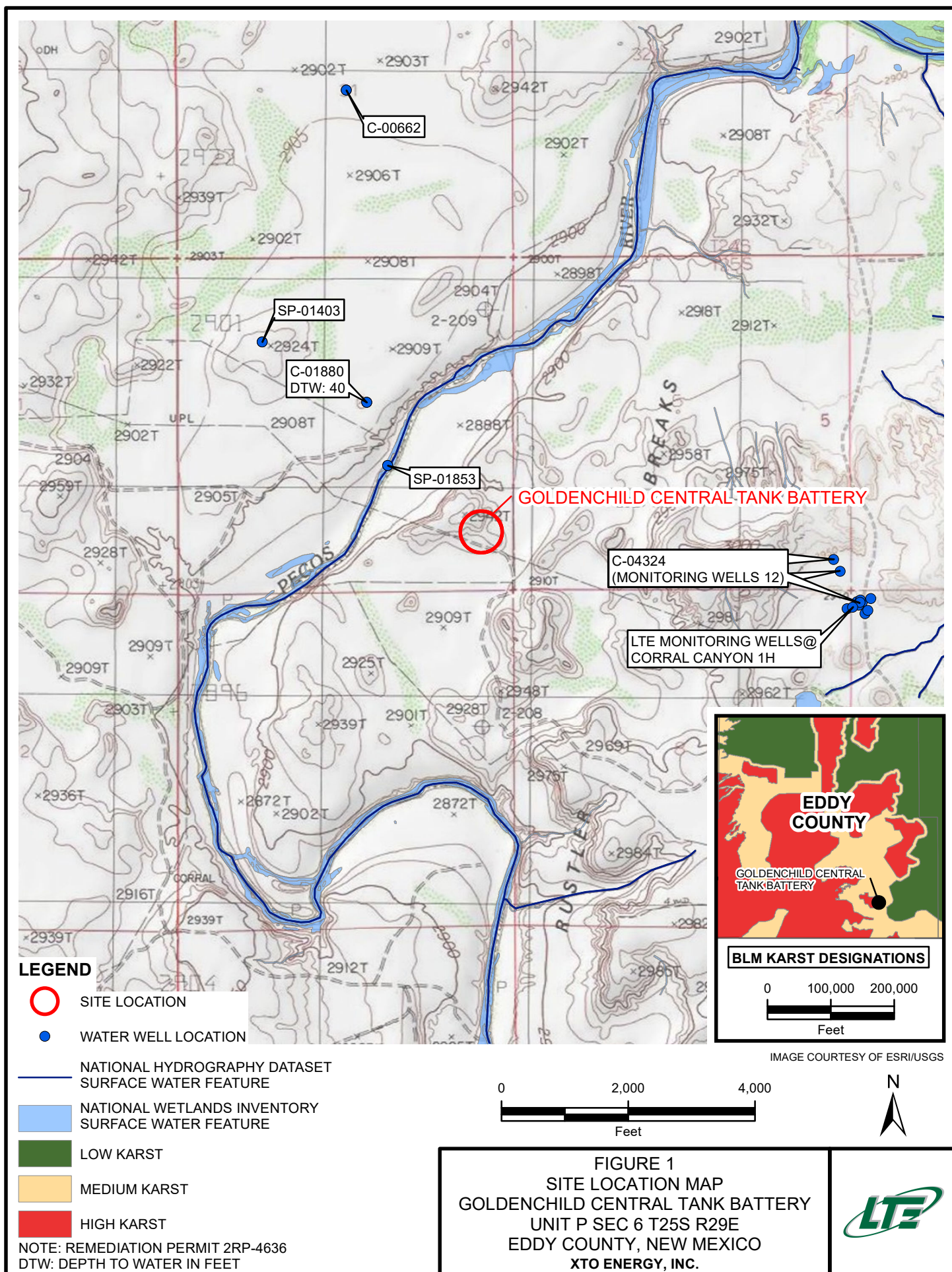
cc: Kyle Littrell, XTO
Mike Bratcher, NMOCD
Ryan Mann, State Land Office

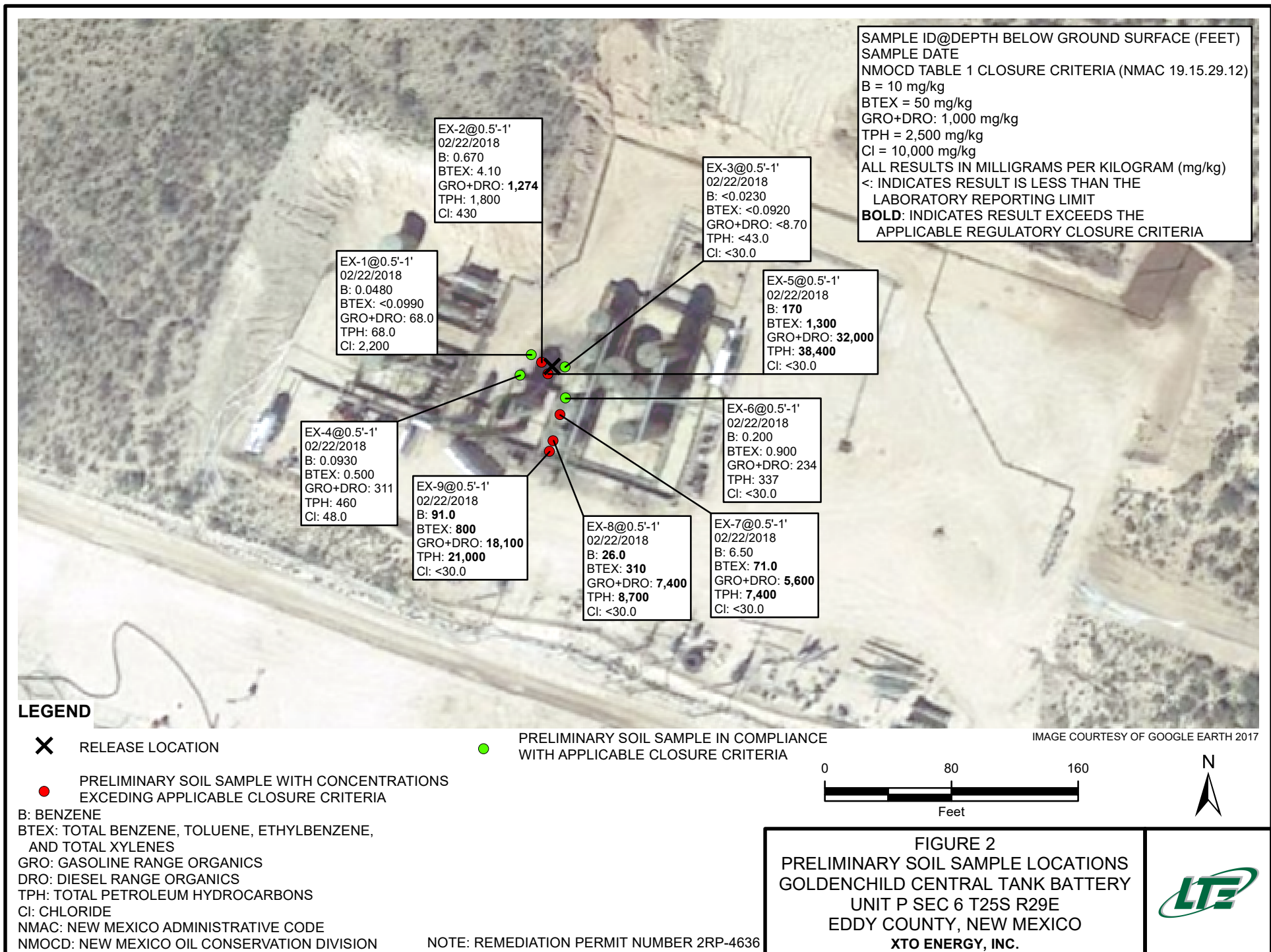
Attachments:

Figure 1 Site Location Map
Figure 2 Preliminary Soil Sample Locations
Figure 3 Excavation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-4636)
Attachment 2 Photographic Log
Attachment 3 Laboratory Analytical Reports

FIGURES







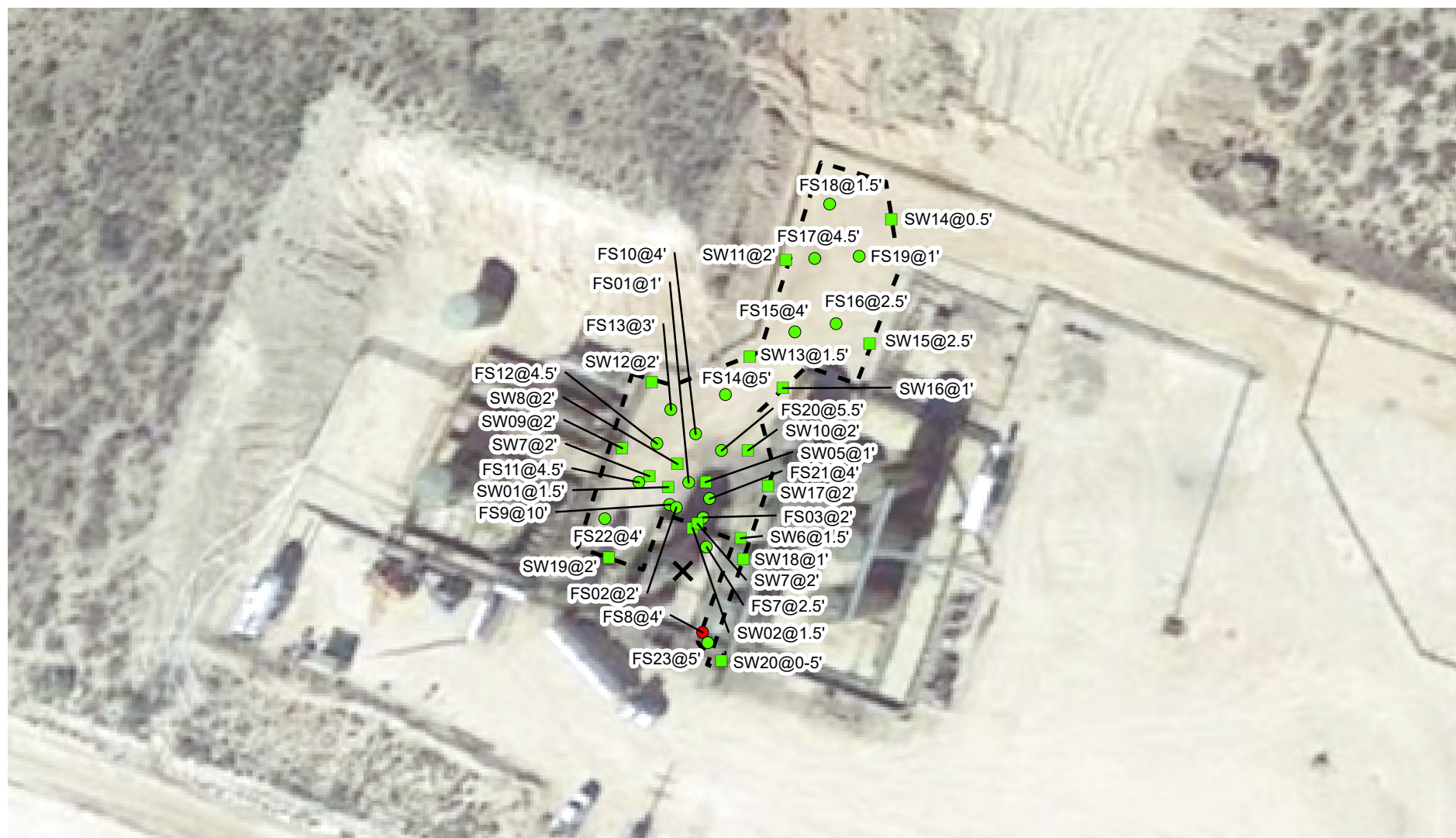


IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

RELEASE LOCATION



EXCAVATION EXTENT

EXCAVATION FLOOR SAMPLE WITH CONCENTRATIONS
EXCEEDING APPLICABLE CLOSURE CRITERIAEXCAVATION FLOOR SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIAEXCAVATION SIDEWALL SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIA

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

NOTE: REMEDIATION PERMIT NUMBER 2RP-4636

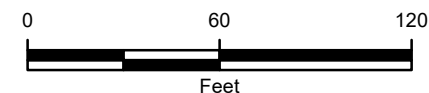


FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
GOLDENCHILD CENTRAL TANK BATTERY
UNIT P SEC 6 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



TABLES



TABLE 1
SOIL ANALYTICAL RESULTS

GOLDENCHILD CENTRAL TANK BATTERY
REMEDATION PERMIT NUMBER 2RP-4636
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)
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	10,000
EX-1	0.5-1	02/22/2018	0.0480	<0.0490	<0.0490	<0.0990	0.0990	<4.90	68.0	<49.0	68.0	68.0	2,200
EX-2	0.5-1	02/22/2018	0.670	0.520	0.280	2.60	4.10	74.0	1,200	560	1,274	1,800	430
EX-3	0.5-1	02/22/2018	<0.0230	<0.0460	<0.0460	<0.0920	0.0920	<4.60	<8.70	<43.0	<8.70	<43.0	<30.0
EX-4	0.5-1	02/22/2018	0.0930	0.120	<0.0470	0.290	0.500	11.0	300	150	311	460	48.0
EX-5	0.5-1	02/22/2018	170	460	90.0	550	1,300	13,000	19,000	6,400	32,000	38,400	<30.0
EX-6	0.5-1	02/22/2018	0.200	0.230	0.0550	0.410	0.900	13.0	230	94.0	243	337	<30.0
EX-7	0.5-1	02/22/2018	6.50	30.0	4.80	30.0	71.0	900	4,700	1,800	5,600	7,400	<30.0
EX-8	0.5-1	02/22/2018	26.0	120	21.0	140	310	3,500	3,900	1,300	7,400	8,700	<30.0
EX-9	0.5-1	02/22/2018	91.0	320	53.0	340	800	8,400	9,700	2,800	18,100	21,000	<30.0
SW01	1.5	05/24/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	97.1	<15.0	97.1	97.1	4,970
SW02	1.5	05/24/2018	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	<15.0	285	35.6	285	321	52.5
SW05	1	05/24/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	75.3	<15.0	75.3	75.3	2,600
SW6	1.5	06/06/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	<5.00
SW7	2	06/06/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	2,110
SW8	2	06/06/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	22.1
SW09	2	08/23/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	499
SW10	2	08/23/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	1,800
SW11	2	08/23/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	2.62
SW12	2	12/04/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	856
SW13	1.5	12/04/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	2,370
SW14	0.5	12/04/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	1,650
SW15	2.5	12/04/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	236
SW16	1	12/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	1,140
SW17	2	12/04/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	188
SW18	1	12/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	70.1	<50.0	70.1	70.1	35.4
SW19	2	12/04/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	13.5
SW20	0 - 5	02/25/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	171

TABLE 1
SOIL ANALYTICAL RESULTS

GOLDENCHILD CENTRAL TANK BATTERY
REMEDATION PERMIT NUMBER 2RP-4636
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)
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	10,000
FS01	1	05/24/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	32.1	<15.0	32.1	32.1	3,390
FS02	2	05/24/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	21.1	<15.0	21.1	21	3,390
FS03	2	05/24/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	43.3	<15.0	43.3	43.3	2,580
FS7	2.5	06/06/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	16.4
FS8	4	06/06/2018	<0.0202	0.169	1.17	8.96	10.3	662	3,250	281	3,912	4,190	78.0
FS9	10	06/06/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	23.3	<14.9	23.3	23.3	2,410
FS10	4	08/23/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	2,590
FS11	4.5	12/04/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	2,970
FS12	4.5	12/04/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	2,770
FS13	3	12/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	969
FS14	5	12/04/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	752
FS15	4	12/04/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	2,230
FS16	2.5	12/04/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	290
FS17	4.5	12/04/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	1,170
FS18	1.5	12/04/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	1,680
FS19	1	12/04/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	567
FS20	5.5	12/04/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	3,040
FS21	4	12/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	2,950
FS22	4	12/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1,960
FS23	5	02/25/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	25.9

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

ORO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

NE - not established

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

ATTACHMENT 1: INITIAL/FINAL NIM OCD FORM C-141 (2RP-4636)



District I
1625 N. French Dr., Hobbs
District II
811 S. First
District III
1000 R
District IV
1220 S. S

Please refer to the New Mexico Oil
Conservation Division Website for
updated form(s) at:
[http://www.emnrd.state.nm.us/
oecd/forms.html](http://www.emnrd.state.nm.us/oecd/forms.html)

Thank you

NM OIL CONSERVATION

State of New Mexico
Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 23 2018

Form C-141
Revised August 8, 2011Submit 1 Copy to appropriate District Office in
conformance with 19.15.29 NMAC.

RECEIVED

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy 5380	Contact: Kyle Littrell
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 432-221-7331
Facility Name: Goldenchild CTB	Facility Type: Exploration and Production
Surface Owner: State	Mineral Owner: State
API No. 30-01541846	

LOCATION OF RELEASE

Unit Letter P	Section 6	Township 25S	Range 29E	Feet from the 800	North/South Line South	Feet from the 330	East/West Line East	County Eddy
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Latitude 32.154435 Longitude -104.016846

NATURE OF RELEASE

Type of Release Oil and produced water *	Volume of Release 77 bbl 30 bbl oil / 47 bbl RW	Volume Recovered 4 bbl 28 bbl oil / 40 bbl RW
Source of Release Gun barrel	Date and Hour of Occurrence 2/10/2018, time unknown	Date and Hour of Discovery 2/11/2018, 7:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher and Crystal Weaver (ENMRD), Kenda Montoya (SLO)	
By Whom? Jacob Foust	Date and Hour 2/11/2018, 3:20 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken.* Gun barrel overflowed, possibly due to plug in dump line. Line had cleared by the time lease operator discovered release and was flowing normally again.		
Describe Area Affected and Cleanup Action Taken.* Most fluid was captured within impermeable lined containment, with some overspray impacting east, west, and north ends of containment. Vacuum truck was dispatched, 70bbl was recovered from lined containment, and 4bbl overspray recovered from caliche pad. An environmental contractor was retained to assist with the remediation and soil samples have been collected.		

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOC marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOC 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.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Kyle Littrell	Approved by Environmental Specialist:	
Title: Environmental Coordinator	Approval Date: 2/26/18	Expiration Date: N/A
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval: see attached	
Date: 2/23/2018 Phone: 432-221-7331	Attached ☒ 22P-4635	

* Attach Additional Sheets If Necessary

2/26/18AB

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	
District RP	2RP-4636
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-4636
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.154435 Longitude W -104.016846
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Goldenchild Central Tank Battery	Site Type: Production Well Facility
Date Release Discovered: 2/10/2018	API# (if applicable): 30-015-41846

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

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

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): 30	Volume Recovered (bbls): 28
☒ Produced Water	Volume Released (bbls): 47	Volume Recovered (bbls): 46
	Is the concentration of dissolved chloride 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

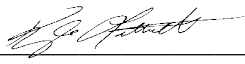
The gun barrel tank overflowed, possibly due to a plug in the dump line. Line had cleared by the time the lease operator discovered the release and was flowing normally again. Most fluid was captured within the impermeable lined containment, with some overspray impacting the east, west, and north ends of the containment.

Incident ID	
District RP	2RP-4636
Facility ID	
Application ID	

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? Release volume was greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? By Jacob Foust, to Mike Bratcher/Crystal Weaver (NMOCD), and Kenda Montoya (SLO) on 2/11/2018 at 3:20 PM.	

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 <u>not</u> 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: <u>Kyle Littrell</u>	Title: <u>SH&E Supervisor</u>
Signature: 	Date: <u>3-10-2020</u>
email: <u>Kyle_Littrell@xtoenergy.com</u>	Telephone: <u>432-221-7331</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	
District RP	2RP-4636
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?	<u>51-100</u> (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

Page 4

Incident ID	
District RP	2RP-4636
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: 3-10-2020

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

OCD Only

Received by: _____ Date: _____

Incident ID	NBGB2103251010
District RP	2RP-4636
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: 3-10-2020

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: Bradford Billings Date: 02/01/2021

Printed Name: Bradford Billings Title: E.Spec.A
E.Spec.A

ATTACHMENT 2: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG



Photograph 1: South facing view of release area prior to excavation.



Photograph 2: Southeast facing view during excavation activities.



Photograph 3: View of open excavation between containments.

PHOTOGRAPHIC LOG



Photograph 4: South facing view during excavation activities.



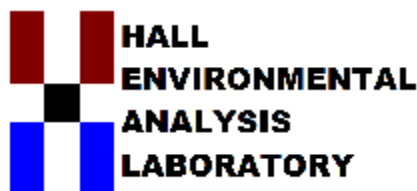
Photograph 5: South facing view during excavation activities.



Photograph 6: North facing view of excavation south of containment.

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS





Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 28, 2018

Adrian Baker
XTO Midland
6401 Holiday Hill Rd #200
Midland, TX 79707
TEL: (432) 894-5641
FAX (505) 333-3280

RE: Golden Child

OrderNo.: 1802C91

Dear Adrian Baker:

Hall Environmental Analysis Laboratory received 9 sample(s) on 2/23/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1802C91

Date Reported: 2/28/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland

Client Sample ID: EX-1

Project: Golden Child

Collection Date: 2/22/2018 11:00:00 AM

Lab ID: 1802C91-001

Matrix: SOIL

Received Date: 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	2200	75		mg/Kg	50	2/26/2018 5:08:55 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	68	9.8		mg/Kg	1	2/26/2018 10:47:14 AM	36706
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/26/2018 10:47:14 AM	36706
Surr: DNOP	105	70-130		%Rec	1	2/26/2018 10:47:14 AM	36706
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/26/2018 10:05:51 AM	36697
Surr: BFB	91.7	15-316		%Rec	1	2/26/2018 10:05:51 AM	36697
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.048	0.025		mg/Kg	1	2/26/2018 10:05:51 AM	36697
Toluene	ND	0.049		mg/Kg	1	2/26/2018 10:05:51 AM	36697
Ethylbenzene	ND	0.049		mg/Kg	1	2/26/2018 10:05:51 AM	36697
Xylenes, Total	ND	0.099		mg/Kg	1	2/26/2018 10:05:51 AM	36697
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	2/26/2018 10:05:51 AM	36697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1802C91

Date Reported: 2/28/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland

Client Sample ID: EX-2

Project: Golden Child

Collection Date: 2/22/2018 1:15:00 PM

Lab ID: 1802C91-002

Matrix: SOIL

Received Date: 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	430	30		mg/Kg	20	2/26/2018 12:48:21 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	1200	46		mg/Kg	5	2/26/2018 3:34:32 PM	36706
Motor Oil Range Organics (MRO)	560	230		mg/Kg	5	2/26/2018 3:34:32 PM	36706
Surr: DNOP	121	70-130		%Rec	5	2/26/2018 3:34:32 PM	36706
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	74	9.2		mg/Kg	2	2/26/2018 12:04:34 PM	36697
Surr: BFB	345	15-316	S	%Rec	2	2/26/2018 12:04:34 PM	36697
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.67	0.046		mg/Kg	2	2/26/2018 12:04:34 PM	36697
Toluene	0.52	0.092		mg/Kg	2	2/26/2018 12:04:34 PM	36697
Ethylbenzene	0.28	0.092		mg/Kg	2	2/26/2018 12:04:34 PM	36697
Xylenes, Total	2.6	0.18		mg/Kg	2	2/26/2018 12:04:34 PM	36697
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	2	2/26/2018 12:04:34 PM	36697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1802C91

Date Reported: 2/28/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland

Client Sample ID: EX-3

Project: Golden Child

Collection Date: 2/22/2018 1:20:00 PM

Lab ID: 1802C91-003

Matrix: SOIL

Received Date: 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/26/2018 1:25:35 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	2/26/2018 11:53:07 AM	36706
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	2/26/2018 11:53:07 AM	36706
Surr: DNOP	104	70-130		%Rec	1	2/26/2018 11:53:07 AM	36706
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/26/2018 11:16:55 AM	36698
Surr: BFB	90.7	15-316		%Rec	1	2/26/2018 11:16:55 AM	36698
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	2/26/2018 11:16:55 AM	36698
Toluene	ND	0.046		mg/Kg	1	2/26/2018 11:16:55 AM	36698
Ethylbenzene	ND	0.046		mg/Kg	1	2/26/2018 11:16:55 AM	36698
Xylenes, Total	ND	0.092		mg/Kg	1	2/26/2018 11:16:55 AM	36698
Surr: 4-Bromofluorobenzene	86.4	80-120		%Rec	1	2/26/2018 11:16:55 AM	36698

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1802C91

Date Reported: 2/28/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland

Client Sample ID: EX-4

Project: Golden Child

Collection Date: 2/22/2018 1:25:00 PM

Lab ID: 1802C91-004

Matrix: SOIL

Received Date: 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	48	30		mg/Kg	20	2/26/2018 1:37:59 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	300	9.5		mg/Kg	1	2/26/2018 12:15:32 PM	36706
Motor Oil Range Organics (MRO)	150	48		mg/Kg	1	2/26/2018 12:15:32 PM	36706
Surr: DNOP	105	70-130		%Rec	1	2/26/2018 12:15:32 PM	36706
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	11	4.7		mg/Kg	1	2/26/2018 11:40:44 AM	36698
Surr: BFB	157	15-316		%Rec	1	2/26/2018 11:40:44 AM	36698
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.093	0.024		mg/Kg	1	2/26/2018 11:40:44 AM	36698
Toluene	0.12	0.047		mg/Kg	1	2/26/2018 11:40:44 AM	36698
Ethylbenzene	ND	0.047		mg/Kg	1	2/26/2018 11:40:44 AM	36698
Xylenes, Total	0.29	0.095		mg/Kg	1	2/26/2018 11:40:44 AM	36698
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	2/26/2018 11:40:44 AM	36698

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1802C91

Date Reported: 2/28/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland

Client Sample ID: EX-5

Project: Golden Child

Collection Date: 2/22/2018 1:30:00 PM

Lab ID: 1802C91-005

Matrix: SOIL

Received Date: 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/26/2018 1:50:23 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	19000	470		mg/Kg	50	2/26/2018 4:00:12 PM	36706
Motor Oil Range Organics (MRO)	6400	2400		mg/Kg	50	2/26/2018 4:00:12 PM	36706
Surr: DNOP	0	70-130	S	%Rec	50	2/26/2018 4:00:12 PM	36706
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	13000	250		mg/Kg	50	2/26/2018 10:08:37 AM	36698
Surr: BFB	526	15-316	S	%Rec	50	2/26/2018 10:08:37 AM	36698
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	170	1.2		mg/Kg	50	2/26/2018 10:08:37 AM	36698
Toluene	460	9.8		mg/Kg	200	2/26/2018 12:28:24 PM	36698
Ethylbenzene	90	2.5		mg/Kg	50	2/26/2018 10:08:37 AM	36698
Xylenes, Total	550	4.9		mg/Kg	50	2/26/2018 10:08:37 AM	36698
Surr: 4-Bromofluorobenzene	137	80-120	S	%Rec	50	2/26/2018 10:08:37 AM	36698

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1802C91

Date Reported: 2/28/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland

Client Sample ID: EX-6

Project: Golden Child

Collection Date: 2/22/2018 1:35:00 PM

Lab ID: 1802C91-006

Matrix: SOIL

Received Date: 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/26/2018 2:02:48 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	230	9.8		mg/Kg	1	2/27/2018 9:15:13 AM	36706
Motor Oil Range Organics (MRO)	94	49		mg/Kg	1	2/27/2018 9:15:13 AM	36706
Surr: DNOP	102	70-130		%Rec	1	2/27/2018 9:15:13 AM	36706
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	13	4.7		mg/Kg	1	2/26/2018 12:52:11 PM	36698
Surr: BFB	175	15-316		%Rec	1	2/26/2018 12:52:11 PM	36698
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.20	0.024		mg/Kg	1	2/26/2018 12:52:11 PM	36698
Toluene	0.23	0.047		mg/Kg	1	2/26/2018 12:52:11 PM	36698
Ethylbenzene	0.055	0.047		mg/Kg	1	2/26/2018 12:52:11 PM	36698
Xylenes, Total	0.41	0.094		mg/Kg	1	2/26/2018 12:52:11 PM	36698
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	2/26/2018 12:52:11 PM	36698

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1802C91

Date Reported: 2/28/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland

Client Sample ID: EX-7

Project: Golden Child

Collection Date: 2/22/2018 1:40:00 PM

Lab ID: 1802C91-007

Matrix: SOIL

Received Date: 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/26/2018 2:15:13 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	4700	100		mg/Kg	10	2/26/2018 1:21:28 PM	36706
Motor Oil Range Organics (MRO)	1800	500		mg/Kg	10	2/26/2018 1:21:28 PM	36706
Surr: DNOP	0	70-130	S	%Rec	10	2/26/2018 1:21:28 PM	36706
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	900	46		mg/Kg	10	2/26/2018 10:31:51 AM	36698
Surr: BFB	368	15-316	S	%Rec	10	2/26/2018 10:31:51 AM	36698
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	6.5	0.23		mg/Kg	10	2/26/2018 10:31:51 AM	36698
Toluene	30	0.46		mg/Kg	10	2/26/2018 10:31:51 AM	36698
Ethylbenzene	4.8	0.46		mg/Kg	10	2/26/2018 10:31:51 AM	36698
Xylenes, Total	30	0.93		mg/Kg	10	2/26/2018 10:31:51 AM	36698
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	10	2/26/2018 10:31:51 AM	36698

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1802C91

Date Reported: 2/28/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland

Client Sample ID: EX-8

Project: Golden Child

Collection Date: 2/22/2018 1:45:00 PM

Lab ID: 1802C91-008

Matrix: SOIL

Received Date: 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/26/2018 2:27:37 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	3900	95		mg/Kg	10	2/26/2018 2:06:36 PM	36706
Motor Oil Range Organics (MRO)	1300	480		mg/Kg	10	2/26/2018 2:06:36 PM	36706
Surr: DNOP	0	70-130	S	%Rec	10	2/26/2018 2:06:36 PM	36706
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	3500	240		mg/Kg	50	2/26/2018 10:55:06 AM	36698
Surr: BFB	250	15-316		%Rec	50	2/26/2018 10:55:06 AM	36698
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	26	1.2		mg/Kg	50	2/26/2018 10:55:06 AM	36698
Toluene	120	2.4		mg/Kg	50	2/26/2018 10:55:06 AM	36698
Ethylbenzene	21	2.4		mg/Kg	50	2/26/2018 10:55:06 AM	36698
Xylenes, Total	140	4.8		mg/Kg	50	2/26/2018 10:55:06 AM	36698
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	50	2/26/2018 10:55:06 AM	36698

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1802C91

Date Reported: 2/28/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland

Client Sample ID: EX-9

Project: Golden Child

Collection Date: 2/22/2018 1:50:00 PM

Lab ID: 1802C91-009

Matrix: SOIL

Received Date: 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/26/2018 2:40:02 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	9700	180		mg/Kg	20	2/26/2018 4:03:11 PM	36706
Motor Oil Range Organics (MRO)	2800	920		mg/Kg	20	2/26/2018 4:03:11 PM	36706
Surr: DNOP	0	70-130	S	%Rec	20	2/26/2018 4:03:11 PM	36706
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	8400	480		mg/Kg	100	2/26/2018 11:18:21 AM	36698
Surr: BFB	228	15-316		%Rec	100	2/26/2018 11:18:21 AM	36698
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	91	2.4		mg/Kg	100	2/26/2018 11:18:21 AM	36698
Toluene	320	4.8		mg/Kg	100	2/26/2018 11:18:21 AM	36698
Ethylbenzene	53	4.8		mg/Kg	100	2/26/2018 11:18:21 AM	36698
Xylenes, Total	340	9.7		mg/Kg	100	2/26/2018 11:18:21 AM	36698
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	100	2/26/2018 11:18:21 AM	36698

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**WO#: **1802C91****28-Feb-18****Client:** XTO Midland**Project:** Golden Child

Sample ID MB-36723	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBS	Batch ID: 36723		RunNo: 49384							
Prep Date: 2/26/2018	Analysis Date: 2/26/2018		SeqNo: 1595313		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID LCS-36723	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSS	Batch ID: 36723		RunNo: 49384							
Prep Date: 2/26/2018	Analysis Date: 2/26/2018		SeqNo: 1595314		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.6	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1802C91

28-Feb-18

Client: XTO Midland**Project:** Golden Child

Sample ID	LCS-36706	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	36706	RunNo:	49373					
Prep Date:	2/26/2018	Analysis Date:	2/26/2018	SeqNo:	1594363	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.4	70	130			
Surr: DNOP	4.6		5.000		92.4	70	130			

Sample ID	MB-36706	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	36706	RunNo:	49373					
Prep Date:	2/26/2018	Analysis Date:	2/26/2018	SeqNo:	1594364	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		100	70	130			

Sample ID	1802C91-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	EX-1	Batch ID:	36706	RunNo:	49373					
Prep Date:	2/26/2018	Analysis Date:	2/26/2018	SeqNo:	1594816	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	88	9.2	46.04	68.00	43.4	55.8	125			S
Surr: DNOP	4.5		4.604		98.5	70	130			

Sample ID	1802C91-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	EX-1	Batch ID:	36706	RunNo:	49373					
Prep Date:	2/26/2018	Analysis Date:	2/26/2018	SeqNo:	1594817	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	97	9.4	46.86	68.00	62.8	55.8	125	10.2	20	
Surr: DNOP	4.5		4.686		96.2	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1802C91

28-Feb-18

Client: XTO Midland**Project:** Golden Child

Sample ID MB-36697	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 36697		RunNo: 49378							
Prep Date: 2/23/2018	Analysis Date: 2/26/2018		SeqNo: 1594725		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		101	15	316			

Sample ID MB-36698	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 36698		RunNo: 49378							
Prep Date: 2/23/2018	Analysis Date: 2/26/2018		SeqNo: 1594739		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	890		1000		88.7	15	316			

Sample ID LCS-36697	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 36697		RunNo: 49379							
Prep Date: 2/23/2018	Analysis Date: 2/26/2018		SeqNo: 1594780		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.2	75.9	131			
Surr: BFB	1000		1000		105	15	316			

Sample ID LCS-36698	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 36698		RunNo: 49379							
Prep Date: 2/23/2018	Analysis Date: 2/26/2018		SeqNo: 1594788		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.5	75.9	131			
Surr: BFB	1100		1000		107	15	316			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1802C91

28-Feb-18

Client: XTO Midland**Project:** Golden Child

Sample ID MB-36697	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 36697		RunNo: 49378							
Prep Date: 2/23/2018	Analysis Date: 2/26/2018		SeqNo: 1594752		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	80	120			

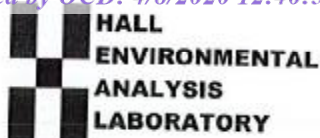
Sample ID LCS-36697	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 36697		RunNo: 49378							
Prep Date: 2/23/2018	Analysis Date: 2/26/2018		SeqNo: 1594753		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	77.3	128			
Toluene	1.1	0.050	1.000	0	106	79.2	125			
Ethylbenzene	1.0	0.050	1.000	0	105	80.7	127			
Xylenes, Total	3.2	0.10	3.000	0	108	81.6	129			
Surr: 4-Bromofluorobenzene	0.99		1.000		98.8	80	120			

Sample ID MB-36698	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 36698		RunNo: 49378							
Prep Date: 2/23/2018	Analysis Date: 2/26/2018		SeqNo: 1594767		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.2	80	120			

Sample ID LCS-36698	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 36698		RunNo: 49378							
Prep Date: 2/23/2018	Analysis Date: 2/26/2018		SeqNo: 1594768		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	100	77.3	128			
Toluene	1.0	0.050	1.000	0	99.8	79.2	125			
Ethylbenzene	0.98	0.050	1.000	0	97.7	80.7	127			
Xylenes, Total	3.0	0.10	3.000	0	100	81.6	129			
Surr: 4-Bromofluorobenzene	0.97		1.000		96.9	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: XTO Energy

Work Order Number: 1802C91

RcptNo: 1

Received By: Dennis Suazo 2/23/2018 9:35:00 AM

Completed By: Dennis Suazo 2/23/2018 10:40:57 AM

Reviewed By: DDS 2/23/18

Labeled By MW 2/23/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Not Present			

Analytical Report 587373

for
LT Environmental, Inc.

Project Manager: Adrian Baker
Goldchild Former Excauatiors

03-JUN-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



03-JUN-18

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

Reference: XENCO Report No(s): **587373**
Goldchild Former Excauatiors
Project Address: New Mexico

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 587373. 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. 587373 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,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 587373****LT Environmental, Inc., Arvada, CO**

Goldchild Former Excauatio

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	05-24-18 15:31	- 1 ft	587373-001
FS02	S	05-24-18 15:37	- 2 ft	587373-002
FS03	S	05-24-18 15:42	- 2 ft	587373-003
SW01	S	05-24-18 15:49	- 1.5 ft	587373-004
SW02	S	05-24-18 15:53	- 1.5 ft	587373-005
SW05	S	05-24-18 16:15	- 1 ft	587373-006



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *Goldchild Former Excauati*

Project ID:
Work Order Number(s): 587373

Report Date: 03-JUN-18
Date Received: 05/29/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3052093 BTEX by EPA 8021B

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



Certificate of Analysis Summary 587373

LT Environmental, Inc., Arvada, CO

Project Name: Goldchild Former Excauatio



Project Id:

Contact: Adrian Baker

Project Location: New Mexico

Date Received in Lab: Tue May-29-18 08:29 am

Report Date: 03-JUN-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	587373-001	587373-002	587373-003	587373-004	587373-005	587373-006
	<i>Field Id:</i>	FSO 1	FSO 2	FSO 3	SW01	SW02	SW05
	<i>Depth:</i>	1 ft	2 ft	2 ft	1.5 ft	1.5 ft	1 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	May-24-18 15:31	May-24-18 15:37	May-24-18 15:42	May-24-18 15:49	May-24-18 15:53	May-24-18 16:15
BTEX by EPA 8021B	<i>Extracted:</i>	May-30-18 11:00	May-30-18 11:00	May-30-18 11:00	May-30-18 11:00	May-30-18 11:00	May-30-18 11:00
	<i>Analyzed:</i>	May-30-18 23:35	May-30-18 23:53	May-31-18 00:11	May-31-18 00:29	May-31-18 00:48	May-31-18 01:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00197 0.00197	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00197 0.00197	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00197 0.00197	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00395 0.00395	<0.00396 0.00396	<0.00396 0.00396	<0.00394 0.00394	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00197 0.00197	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00197 0.00197	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00197 0.00197	<0.00199 0.00199
Inorganic Anions by EPA 300	<i>Extracted:</i>	May-30-18 12:00	May-30-18 12:00	May-30-18 12:00	May-30-18 12:00	May-30-18 12:00	May-30-18 12:00
	<i>Analyzed:</i>	May-30-18 20:21	May-30-18 20:26	May-30-18 20:32	May-30-18 20:37	May-30-18 20:42	May-30-18 21:03
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		3390 24.9	3390 49.4	2580 24.7	4970 49.5	52.5 24.8	2600 24.9
TPH by SW8015 Mod	<i>Extracted:</i>	May-29-18 10:00	May-29-18 10:00	May-29-18 10:00	May-29-18 10:00	May-29-18 10:00	May-29-18 10:00
	<i>Analyzed:</i>	May-29-18 21:07	May-29-18 22:04	May-29-18 22:22	May-29-18 22:40	May-29-18 22:58	May-29-18 23:17
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		32.1 15.0	21.1 15.0	43.3 15.0	97.1 15.0	285 15.0	75.3 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	35.6 15.0	<15.0 15.0
Total TPH		32.1 15.0	21.1 15.0	43.3 15.0	97.1 15.0	321 15.0	75.3 15.0

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Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 587373

LT Environmental, Inc., Arvada, CO

Goldchild Former Excauations

Sample Id: **FSO 1**
 Lab Sample Id: 587373-001

Matrix: Soil
 Date Collected: 05.24.18 15.31

Date Received: 05.29.18 08.29
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: SCM

Seq Number: 3051851

Date Prep: 05.30.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3390	24.9	mg/kg	05.30.18 20.21		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3051701

Date Prep: 05.29.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.29.18 21.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	32.1	15.0	mg/kg	05.29.18 21.07		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.29.18 21.07	U	1
Total TPH	PHC635	32.1	15.0	mg/kg	05.29.18 21.07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	05.29.18 21.07	
o-Terphenyl	84-15-1	114	%	70-135	05.29.18 21.07	



Certificate of Analytical Results 587373

LT Environmental, Inc., Arvada, CO

Goldchild Former Excauatiors

Sample Id: **FSO 1**
 Lab Sample Id: 587373-001

Matrix: Soil
 Date Collected: 05.24.18 15.31

Date Received: 05.29.18 08.29
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: JUM

Analyst: JUM

Seq Number: 3052093

Date Prep: 05.30.18 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.30.18 23.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.30.18 23.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.30.18 23.35	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.30.18 23.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.30.18 23.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.30.18 23.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.30.18 23.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	05.30.18 23.35		
1,4-Difluorobenzene	540-36-3	94	%	70-130	05.30.18 23.35		



Certificate of Analytical Results 587373



LT Environmental, Inc., Arvada, CO

Goldchild Former Excauations

Sample Id: **FSO 2**
Lab Sample Id: 587373-002

Matrix: Soil
Date Collected: 05.24.18 15.37

Date Received: 05.29.18 08.29
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: SCM

Seq Number: 3051851

Date Prep: 05.30.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3390	49.4	mg/kg	05.30.18 20.26		10

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3051701

Date Prep: 05.29.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.29.18 22.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	21.1	15.0	mg/kg	05.29.18 22.04		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.29.18 22.04	U	1
Total TPH	PHC635	21.1	15.0	mg/kg	05.29.18 22.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	05.29.18 22.04	
o-Terphenyl	84-15-1	124	%	70-135	05.29.18 22.04	



Certificate of Analytical Results 587373

LT Environmental, Inc., Arvada, CO

Goldchild Former Excauatiors

Sample Id: **FSO 2**
 Lab Sample Id: 587373-002

Matrix: Soil
 Date Collected: 05.24.18 15.37

Date Received: 05.29.18 08.29
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: JUM

Analyst: JUM

Seq Number: 3052093

Date Prep: 05.30.18 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.30.18 23.53	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.30.18 23.53	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.30.18 23.53	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	05.30.18 23.53	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.30.18 23.53	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.30.18 23.53	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.30.18 23.53	U	1
Surrogate							
	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	05.30.18 23.53		
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.30.18 23.53		



Certificate of Analytical Results 587373

LT Environmental, Inc., Arvada, CO

Goldchild Former Excauations

Sample Id: **FSO 3**
 Lab Sample Id: 587373-003

Matrix: Soil
 Date Collected: 05.24.18 15.42

Date Received: 05.29.18 08.29
 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: SCM

Seq Number: 3051851

Date Prep: 05.30.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2580	24.7	mg/kg	05.30.18 20.32		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3051701

Date Prep: 05.29.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.29.18 22.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	43.3	15.0	mg/kg	05.29.18 22.22		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.29.18 22.22	U	1
Total TPH	PHC635	43.3	15.0	mg/kg	05.29.18 22.22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	05.29.18 22.22	
o-Terphenyl	84-15-1	123	%	70-135	05.29.18 22.22	



Certificate of Analytical Results 587373

LT Environmental, Inc., Arvada, CO

Goldchild Former Excauatiors

Sample Id: **FSO 3**
 Lab Sample Id: 587373-003

Matrix: Soil
 Date Collected: 05.24.18 15.42

Date Received: 05.29.18 08.29
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: JUM

Analyst: JUM

Seq Number: 3052093

Date Prep: 05.30.18 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.31.18 00.11	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.31.18 00.11	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.31.18 00.11	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	05.31.18 00.11	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.31.18 00.11	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.31.18 00.11	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.31.18 00.11	U	1
Surrogate							
	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	05.31.18 00.11		
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.31.18 00.11		



Certificate of Analytical Results 587373

LT Environmental, Inc., Arvada, CO

Goldchild Former Excauations

Sample Id: **SW01**
 Lab Sample Id: 587373-004

Matrix: Soil
 Date Collected: 05.24.18 15.49

Date Received: 05.29.18 08.29
 Sample Depth: 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: SCM

Seq Number: 3051851

Date Prep: 05.30.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4970	49.5	mg/kg	05.30.18 20.37		10

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3051701

Date Prep: 05.29.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.29.18 22.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	97.1	15.0	mg/kg	05.29.18 22.40		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.29.18 22.40	U	1
Total TPH	PHC635	97.1	15.0	mg/kg	05.29.18 22.40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	05.29.18 22.40	
o-Terphenyl	84-15-1	120	%	70-135	05.29.18 22.40	



Certificate of Analytical Results 587373



LT Environmental, Inc., Arvada, CO

Goldchild Former Excauatiors

Sample Id: **SW01**
 Lab Sample Id: 587373-004

Matrix: Soil
 Date Collected: 05.24.18 15.49

Date Received: 05.29.18 08.29
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: JUM

Analyst: JUM

Seq Number: 3052093

Date Prep: 05.30.18 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.31.18 00.29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.31.18 00.29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.31.18 00.29	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	05.31.18 00.29	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.31.18 00.29	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.31.18 00.29	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.31.18 00.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.31.18 00.29		
1,4-Difluorobenzene	540-36-3	104	%	70-130	05.31.18 00.29		



Certificate of Analytical Results 587373

LT Environmental, Inc., Arvada, CO

Goldchild Former Excauations

Sample Id: **SW02**
 Lab Sample Id: 587373-005

Matrix: Soil
 Date Collected: 05.24.18 15.53

Date Received: 05.29.18 08.29
 Sample Depth: 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: SCM

Seq Number: 3051851

Date Prep: 05.30.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	52.5	24.8	mg/kg	05.30.18 20.42		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3051701

Date Prep: 05.29.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.29.18 22.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	285	15.0	mg/kg	05.29.18 22.58		1
Oil Range Hydrocarbons (ORO)	PHCG2835	35.6	15.0	mg/kg	05.29.18 22.58		1
Total TPH	PHC635	321	15.0	mg/kg	05.29.18 22.58		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.29.18 22.58	
o-Terphenyl	84-15-1	106	%	70-135	05.29.18 22.58	



Certificate of Analytical Results 587373



LT Environmental, Inc., Arvada, CO

Goldchild Former Excauatiors

Sample Id: **SW02**
 Lab Sample Id: 587373-005

Matrix: Soil
 Date Collected: 05.24.18 15.53

Date Received: 05.29.18 08.29
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: JUM

Analyst: JUM

Seq Number: 3052093

Date Prep: 05.30.18 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00197	0.00197	mg/kg	05.31.18 00.48	U	1
Toluene	108-88-3	<0.00197	0.00197	mg/kg	05.31.18 00.48	U	1
Ethylbenzene	100-41-4	<0.00197	0.00197	mg/kg	05.31.18 00.48	U	1
m,p-Xylenes	179601-23-1	<0.00394	0.00394	mg/kg	05.31.18 00.48	U	1
o-Xylene	95-47-6	<0.00197	0.00197	mg/kg	05.31.18 00.48	U	1
Total Xylenes	1330-20-7	<0.00197	0.00197	mg/kg	05.31.18 00.48	U	1
Total BTEX		<0.00197	0.00197	mg/kg	05.31.18 00.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	05.31.18 00.48		
4-Bromofluorobenzene	460-00-4	112	%	70-130	05.31.18 00.48		



Certificate of Analytical Results 587373

LT Environmental, Inc., Arvada, CO

Goldchild Former Excauations

Sample Id: **SW05**
 Lab Sample Id: 587373-006

Matrix: Soil
 Date Collected: 05.24.18 16.15

Date Received: 05.29.18 08.29
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: SCM

Seq Number: 3051851

Date Prep: 05.30.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2600	24.9	mg/kg	05.30.18 21.03		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3051701

Date Prep: 05.29.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.29.18 23.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	75.3	15.0	mg/kg	05.29.18 23.17		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.29.18 23.17	U	1
Total TPH	PHC635	75.3	15.0	mg/kg	05.29.18 23.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.29.18 23.17	
o-Terphenyl	84-15-1	105	%	70-135	05.29.18 23.17	



Certificate of Analytical Results 587373

LT Environmental, Inc., Arvada, CO

Goldchild Former Excauatiors

Sample Id: **SW05**
 Lab Sample Id: 587373-006

Matrix: Soil
 Date Collected: 05.24.18 16.15

Date Received: 05.29.18 08.29
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: JUM

Analyst: JUM

Seq Number: 3052093

Date Prep: 05.30.18 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.31.18 01.06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.31.18 01.06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.31.18 01.06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.31.18 01.06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.31.18 01.06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.31.18 01.06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.31.18 01.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	87	%	70-130	05.31.18 01.06		
4-Bromofluorobenzene	460-00-4	113	%	70-130	05.31.18 01.06		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

PQL Practical Quantitation Limit **SQL** 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



LT Environmental, Inc.
Goldchild Former Excauatio

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3051851

MB Sample Id: 7655695-1-BLK

Matrix: Solid

LCS Sample Id: 7655695-1-BKS

Prep Method: E300P

Date Prep: 05.30.18

LCSD Sample Id: 7655695-1-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	275	110	273	109	90-110	1	20	mg/kg	05.30.18 19:23	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3051851

Parent Sample Id: 587374-001

Matrix: Soil

MS Sample Id: 587374-001 S

Prep Method: E300P

Date Prep: 05.30.18

MSD Sample Id: 587374-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	62.8	250	350	115	344	112	90-110	2	20	mg/kg	05.30.18 19:39	X

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3051851

Parent Sample Id: 587374-002

Matrix: Soil

MS Sample Id: 587374-002 S

Prep Method: E300P

Date Prep: 05.30.18

MSD Sample Id: 587374-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.79	249	287	113	282	111	90-110	2	20	mg/kg	05.30.18 20:53	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3051701

MB Sample Id: 7655659-1-BLK

Matrix: Solid

LCS Sample Id: 7655659-1-BKS

Prep Method: TX1005P

Date Prep: 05.29.18

LCSD Sample Id: 7655659-1-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	946	95	968	97	70-135	2	20	mg/kg	05.29.18 20:30	
Diesel Range Organics (DRO)	<15.0	1000	1090	109	1110	111	70-135	2	20	mg/kg	05.29.18 20:30	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		116		128		70-135	%	05.29.18 20:30
o-Terphenyl	125		128		130		70-135	%	05.29.18 20:30

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



LT Environmental, Inc.
Goldchild Former Excauatio

Analytical Method: TPH by SW8015 Mod

Seq Number: 3051701

Parent Sample Id: 587373-001

Matrix: Soil

MS Sample Id: 587373-001 S

Prep Method: TX1005P

Date Prep: 05.29.18

MSD Sample Id: 587373-001 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	944	94	1010	101	70-135	7	20	mg/kg	05.29.18 21:27	
Diesel Range Organics (DRO)	32.1	999	1120	109	1210	118	70-135	8	20	mg/kg	05.29.18 21:27	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		128		70-135	%	05.29.18 21:27
o-Terphenyl	126		129		70-135	%	05.29.18 21:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3052093

MB Sample Id: 7655893-1-BLK

Matrix: Solid

LCS Sample Id: 7655893-1-BKS

Prep Method: SW5030B

Date Prep: 05.30.18

LCSD Sample Id: 7655893-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00197	0.0984	0.0991	101	0.105	106	70-130	6	35	mg/kg	05.30.18 20:39	
Toluene	<0.00197	0.0984	0.104	106	0.108	110	70-130	4	35	mg/kg	05.30.18 20:39	
Ethylbenzene	<0.00197	0.0984	0.102	104	0.111	113	70-130	8	35	mg/kg	05.30.18 20:39	
m,p-Xylenes	<0.00394	0.197	0.222	113	0.233	118	70-130	5	35	mg/kg	05.30.18 20:39	
o-Xylene	<0.00197	0.0984	0.110	112	0.118	120	70-130	7	35	mg/kg	05.30.18 20:39	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		98		70-130	%	05.30.18 20:39
4-Bromofluorobenzene	95		92		97		70-130	%	05.30.18 20:39

Analytical Method: BTEX by EPA 8021B

Seq Number: 3052093

Parent Sample Id: 587229-001

Matrix: Soil

MS Sample Id: 587229-001 S

Prep Method: SW5030B

Date Prep: 05.30.18

MSD Sample Id: 587229-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00196	0.0982	0.0684	70	0.0769	78	70-130	12	35	mg/kg	05.30.18 21:14	
Toluene	<0.00196	0.0982	0.0664	68	0.0689	69	70-130	4	35	mg/kg	05.30.18 21:14	X
Ethylbenzene	<0.00196	0.0982	0.0579	59	0.0635	64	70-130	9	35	mg/kg	05.30.18 21:14	X
m,p-Xylenes	<0.00393	0.196	0.118	60	0.128	65	70-130	8	35	mg/kg	05.30.18 21:14	X
o-Xylene	<0.00196	0.0982	0.0651	66	0.0642	65	70-130	1	35	mg/kg	05.30.18 21:14	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		110		70-130	%	05.30.18 21:14
4-Bromofluorobenzene	111		124		70-130	%	05.30.18 21:14

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

Client / Reporting Information						Project Information						Xenoco Quote #	Xenoco Job #									
Company Name / Branch: LT Environmental, Inc. - Permian Office			Project Name/Number:			Xenoco Job #			Matrix Codes													
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705			Project Location: <i>New Mexico</i>			Invoice To: XTO Energy - Kyle Littrell																
Email: Abaker@LTEMV.com (432) 704-5178			Phone No:																			
Project Contact: Adrian Baker			PO Number: <i>2RP41030</i>																			
Sample's Name <i>Katharine House</i>																						
No.	Field ID / Point of Collection	Collection	Date	Time	Matrix	# of bottles	HCI	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information	EPA Method 8021	EPA Method 8015	EPA Method 300.0				
1	F501		5/24/18	1531	S	1																
2	F502		5/24/18	1537	S	1																
3	F503		5/24/18	1542	S	1																
4	SU01		5/24/18	1549	S	1																
5	SU02		5/24/18	1553	S	1																
6	SU05		5/24/18	1615	S	1																
7																						
8																						
9																						
10																						
Turnaround Time (Business days)															Data Deliverable Information				Notes:			
☐ Same Day TAT															☐ Level II Std QC				☐ Level IV (Full Data Pkg / raw data)			
☐ Next Day EMERGENCY															☐ Level III Std QC + Forms				☐ TRRP Level IV			
☐ 2 Day EMERGENCY															☐ Contract TAT				☐ UST / RG -411			
☐ 3 Day EMERGENCY															☐ TRRP Checklist							
TAT Starts Day received by Lab, if received by 5:00 pm																						
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																						
Relinquished by Sampler:															Received By:				Date Time:			
Relinquished by:															Received By:				Date Time:			
Relinquished by:															Received By:				Date Time:			
Custody Seal #															Preserved Where applicable				On Ice			
Cooling Temp															Tempo, Corr. Factor							



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 05/29/2018 08:29:00 AM

Work Order #: 587373

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

#1 *Temperature of cooler(s)?	2.3	
#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	TPH WAS RECEIVED IN BULK CONTAINER
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	N/A	
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 05/29/2018

Checklist reviewed by:

Jessica Kramer

Date: 05/29/2018

Analytical Report 588647

for
LT Environmental, Inc.

Project Manager: Adrian Baker
Golden Child CTB

18-JUN-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



18-JUN-18

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

Reference: XENCO Report No(s): **588647**
Golden Child CTB
Project Address: NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 588647. 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. 588647 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,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 588647****LT Environmental, Inc., Arvada, CO**

Golden Child CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW6	S	06-06-18 10:00	1.5 ft	588647-001
SW7	S	06-06-18 11:00	2 ft	588647-002
SW7A	S	06-06-18 11:30	2 ft	588647-003
SW7B	S	06-06-18 12:00	2 ft	588647-004
SW8	S	06-06-18 10:45	2 ft	588647-005
FS7	S	06-06-18 10:10	2.5 ft	588647-006
FS8	S	06-06-18 13:30	4 ft	588647-007
FS9	S	06-06-18 15:00	10 ft	588647-008

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: Golden Child CTB**

Project ID:
Work Order Number(s): 588647

Report Date: 18-JUN-18
Date Received: 06/08/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3052863 BTEX by EPA 8021B

Lab Sample ID 588647-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 588647-001, -002.

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

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

Batch: LBA-3052970 BTEX by EPA 8021B

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

Batch: LBA-3053082 Inorganic Anions by EPA 300

Lab Sample ID 588647-007 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: 588647-001, -002, -003, -004, -005, -006, -007, -008.

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

Batch: LBA-3053429 BTEX by EPA 8021B

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

Batch: LBA-3053603 BTEX by EPA 8021B

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

Batch: LBA-3053699 BTEX by EPA 8021B

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



Certificate of Analysis Summary 588647

LT Environmental, Inc., Arvada, CO

Project Name: Golden Child CTB



Project Id:

Contact: Adrian Baker

Project Location: NM

Date Received in Lab: Fri Jun-08-18 10:09 am

Report Date: 18-JUN-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	588647-001	588647-002	588647-003	588647-004	588647-005	588647-006
	<i>Field Id:</i>	SW6	SW7	SW7A	SW7B	SW8	FS7
	<i>Depth:</i>	1.5- ft	2- ft	2- ft	2- ft	2- ft	2.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-06-18 10:00	Jun-06-18 11:00	Jun-06-18 11:30	Jun-06-18 12:00	Jun-06-18 10:45	Jun-06-18 10:10
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-08-18 16:30	Jun-08-18 16:30	Jun-12-18 08:00	Jun-10-18 08:30	Jun-14-18 16:00	Jun-12-18 08:00
	<i>Analyzed:</i>	Jun-08-18 19:56	Jun-08-18 23:28	Jun-12-18 10:01	Jun-10-18 21:16	Jun-14-18 20:57	Jun-12-18 12:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199
Toluene		<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398	<0.00403 0.00403	<0.00403 0.00403	<0.00402 0.00402	<0.00398 0.00398
o-Xylene		<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	0.0107 0.00199
Total Xylenes		<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	0.0107 0.00199
Total BTEX		<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	0.0107 0.00199
Inorganic Anions by EPA 300	<i>Extracted:</i>	Jun-09-18 09:30	Jun-09-18 09:30	Jun-09-18 09:30	Jun-09-18 09:30	Jun-09-18 09:30	Jun-09-18 09:30
	<i>Analyzed:</i>	Jun-11-18 10:02	Jun-11-18 10:07	Jun-11-18 10:24	Jun-11-18 10:29	Jun-11-18 10:34	Jun-11-18 10:40
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.00 5.00	2110 24.5	2010 24.5	1590 24.9	22.1 4.90	16.4 4.96
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-08-18 16:00	Jun-08-18 16:00	Jun-08-18 16:00	Jun-08-18 16:00	Jun-08-18 16:00	Jun-08-18 16:00
	<i>Analyzed:</i>	Jun-09-18 21:55	Jun-09-18 22:13	Jun-09-18 22:31	Jun-09-18 22:50	Jun-09-18 23:08	Jun-09-18 23:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 588647

LT Environmental, Inc., Arvada, CO

Project Name: Golden Child CTB



Project Id:

Contact: Adrian Baker

Project Location: NM

Date Received in Lab: Fri Jun-08-18 10:09 am

Report Date: 18-JUN-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	588647-007	588647-008				
	Field Id:	FS8	FS9				
	Depth:	4- ft	10- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jun-06-18 13:30	Jun-06-18 15:00				
BTEX by EPA 8021B	Extracted:	Jun-15-18 08:00	Jun-15-18 08:00				
	Analyzed:	Jun-15-18 12:42	Jun-15-18 11:11				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.0202	0.0202	<0.00201	0.00201		
Toluene		0.169	0.0202	<0.00201	0.00201		
Ethylbenzene		1.17	0.0202	<0.00201	0.00201		
m,p-Xylenes		6.04	0.0403	<0.00402	0.00402		
o-Xylene		2.92	0.0202	<0.00201	0.00201		
Total Xylenes		8.96	0.0202	<0.00201	0.00201		
Total BTEX		10.3	0.0202	<0.00201	0.00201		
Inorganic Anions by EPA 300	Extracted:	Jun-09-18 09:30	Jun-09-18 09:30				
	Analyzed:	Jun-11-18 10:50	Jun-11-18 10:45				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		78.0	4.93	2410	24.5		
TPH by SW8015 Mod	Extracted:	Jun-08-18 16:00	Jun-08-18 16:00				
	Analyzed:	Jun-10-18 00:21	Jun-10-18 00:40				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		662	15.0	<14.9	14.9		
Diesel Range Organics (DRO)		3250	15.0	23.3	14.9		
Oil Range Hydrocarbons (ORO)		281	15.0	<14.9	14.9		
Total TPH		4190	15.0	23.3	14.9		

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Version: 1.0%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 588647



LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: **SW6** Matrix: Soil Date Received: 06.08.18 10.09
 Lab Sample Id: 588647-001 Date Collected: 06.06.18 10.00 Sample Depth: 1.5 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: SCM Date Prep: 06.09.18 09.30 Basis: Wet Weight
 Seq Number: 3053082

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	06.11.18 10.02	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.08.18 16.00 Basis: Wet Weight
 Seq Number: 3052907

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.09.18 21.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.09.18 21.55	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	06.09.18 21.55	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.09.18 21.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	06.09.18 21.55	
o-Terphenyl	84-15-1	96	%	70-135	06.09.18 21.55	



Certificate of Analytical Results 588647



LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: **SW6**
 Lab Sample Id: 588647-001

Matrix: Soil
 Date Collected: 06.06.18 10.00

Date Received: 06.08.18 10.09
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3052863

Date Prep: 06.08.18 16.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.08.18 19.56	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.08.18 19.56	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.08.18 19.56	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.08.18 19.56	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.08.18 19.56	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.08.18 19.56	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.08.18 19.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.08.18 19.56		
4-Bromofluorobenzene	460-00-4	109	%	70-130	06.08.18 19.56		



Certificate of Analytical Results 588647

LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: **SW7** Matrix: Soil Date Received: 06.08.18 10.09
 Lab Sample Id: 588647-002 Date Collected: 06.06.18 11.00 Sample Depth: 2 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: SCM Date Prep: 06.09.18 09.30 Basis: Wet Weight
 Seq Number: 3053082

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2110	24.5	mg/kg	06.11.18 10.07		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.08.18 16.00 Basis: Wet Weight
 Seq Number: 3052907

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.09.18 22.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.09.18 22.13	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.09.18 22.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.09.18 22.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	06.09.18 22.13	
o-Terphenyl	84-15-1	96	%	70-135	06.09.18 22.13	



Certificate of Analytical Results 588647



LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: **SW7**
 Lab Sample Id: 588647-002

Matrix: Soil
 Date Collected: 06.06.18 11.00

Date Received: 06.08.18 10.09
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.08.18 16.30

Basis: Wet Weight

Seq Number: 3052863

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.08.18 23.28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.08.18 23.28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.08.18 23.28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.08.18 23.28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.08.18 23.28	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.08.18 23.28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.08.18 23.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.08.18 23.28		
4-Bromofluorobenzene	460-00-4	101	%	70-130	06.08.18 23.28		



Certificate of Analytical Results 588647



LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: **SW7A**
Lab Sample Id: 588647-003

Matrix: Soil
Date Collected: 06.06.18 11.30

Date Received: 06.08.18 10.09
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: SCM

Seq Number: 3053082

Date Prep: 06.09.18 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2010	24.5	mg/kg	06.11.18 10.24		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3052907

Date Prep: 06.08.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.09.18 22.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.09.18 22.31	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.09.18 22.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.09.18 22.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	06.09.18 22.31	
o-Terphenyl	84-15-1	95	%	70-135	06.09.18 22.31	



Certificate of Analytical Results 588647

LT Environmental, Inc., Arvada, CO Golden Child CTB

Sample Id: **SW7A**
Lab Sample Id: 588647-003

Matrix: Soil
Date Collected: 06.06.18 11.30

Date Received: 06.08.18 10.09
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3053429

Date Prep: 06.12.18 08.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.12.18 10.01	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.12.18 10.01	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.12.18 10.01	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.12.18 10.01	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.12.18 10.01	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.12.18 10.01	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.12.18 10.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.12.18 10.01		
1,4-Difluorobenzene	540-36-3	98	%	70-130	06.12.18 10.01		



Certificate of Analytical Results 588647



LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: **SW7B**
Lab Sample Id: 588647-004

Matrix: Soil
Date Collected: 06.06.18 12.00

Date Received: 06.08.18 10.09
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: SCM

Seq Number: 3053082

Date Prep: 06.09.18 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1590	24.9	mg/kg	06.11.18 10.29		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3052907

Date Prep: 06.08.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.09.18 22.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.09.18 22.50	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.09.18 22.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.09.18 22.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	06.09.18 22.50	
o-Terphenyl	84-15-1	95	%	70-135	06.09.18 22.50	



Certificate of Analytical Results 588647



LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: **SW7B**
 Lab Sample Id: 588647-004

Matrix: Soil
 Date Collected: 06.06.18 12.00

Date Received: 06.08.18 10.09
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.10.18 08.30

Basis: Wet Weight

Seq Number: 3052970

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.10.18 21.16	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.10.18 21.16	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.10.18 21.16	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.10.18 21.16	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.10.18 21.16	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.10.18 21.16	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.10.18 21.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.10.18 21.16		
1,4-Difluorobenzene	540-36-3	98	%	70-130	06.10.18 21.16		



Certificate of Analytical Results 588647

LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: **SW8** Matrix: Soil Date Received: 06.08.18 10.09
 Lab Sample Id: 588647-005 Date Collected: 06.06.18 10.45 Sample Depth: 2 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: SCM Date Prep: 06.09.18 09.30 Basis: Wet Weight
 Seq Number: 3053082

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.1	4.90	mg/kg	06.11.18 10.34		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.08.18 16.00 Basis: Wet Weight
 Seq Number: 3052907

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.09.18 23.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.09.18 23.08	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.09.18 23.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.09.18 23.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	06.09.18 23.08	
o-Terphenyl	84-15-1	95	%	70-135	06.09.18 23.08	



Certificate of Analytical Results 588647

LT Environmental, Inc., Arvada, CO Golden Child CTB

Sample Id: **SW8**
Lab Sample Id: 588647-005

Matrix: Soil
Date Collected: 06.06.18 10.45

Date Received: 06.08.18 10.09
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3053603

Date Prep: 06.14.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.14.18 20.57	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.14.18 20.57	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.14.18 20.57	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.14.18 20.57	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.14.18 20.57	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.14.18 20.57	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.14.18 20.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	70-130	06.14.18 20.57		
1,4-Difluorobenzene	540-36-3	116	%	70-130	06.14.18 20.57		



Certificate of Analytical Results 588647



LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: FS7
 Lab Sample Id: 588647-006
 Analytical Method: Inorganic Anions by EPA 300
 Tech: OJS
 Analyst: SCM
 Seq Number: 3053082

Matrix: Soil
 Date Collected: 06.06.18 10.10
 Date Prep: 06.09.18 09.30

Date Received: 06.08.18 10.09
 Sample Depth: 2.5 ft
 Prep Method: E300P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.4	4.96	mg/kg	06.11.18 10.40		1

Analytical Method: TPH by SW8015 Mod
 Tech: ARM
 Analyst: ARM
 Seq Number: 3052907

Date Prep: 06.08.18 16.00

Prep Method: TX1005P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.09.18 23.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.09.18 23.26	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.09.18 23.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.09.18 23.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	06.09.18 23.26	
o-Terphenyl	84-15-1	95	%	70-135	06.09.18 23.26	



Certificate of Analytical Results 588647



LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: FS7
Lab Sample Id: 588647-006

Matrix: Soil
Date Collected: 06.06.18 10.10

Date Received: 06.08.18 10.09
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3053429

Date Prep: 06.12.18 08.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.12.18 12.59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.12.18 12.59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.12.18 12.59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.12.18 12.59	U	1
o-Xylene	95-47-6	0.0107	0.00199	mg/kg	06.12.18 12.59		1
Total Xylenes	1330-20-7	0.0107	0.00199	mg/kg	06.12.18 12.59		1
Total BTEX		0.0107	0.00199	mg/kg	06.12.18 12.59		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	125	%	70-130	06.12.18 12.59		
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.12.18 12.59		



Certificate of Analytical Results 588647

LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: **FS8** Matrix: Soil Date Received: 06.08.18 10.09
 Lab Sample Id: 588647-007 Date Collected: 06.06.18 13.30 Sample Depth: 4 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: SCM Date Prep: 06.09.18 09.30 Basis: Wet Weight
 Seq Number: 3053082

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	78.0	4.93	mg/kg	06.11.18 10.50		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.08.18 16.00 Basis: Wet Weight
 Seq Number: 3052907

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	662	15.0	mg/kg	06.10.18 00.21		1
Diesel Range Organics (DRO)	C10C28DRO	3250	15.0	mg/kg	06.10.18 00.21		1
Oil Range Hydrocarbons (ORO)	PHCG2835	281	15.0	mg/kg	06.10.18 00.21		1
Total TPH	PHC635	4190	15.0	mg/kg	06.10.18 00.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	06.10.18 00.21	
o-Terphenyl	84-15-1	89	%	70-135	06.10.18 00.21	



Certificate of Analytical Results 588647

LT Environmental, Inc., Arvada, CO Golden Child CTB

Sample Id: **FS8**
 Lab Sample Id: 588647-007

Matrix: Soil
 Date Collected: 06.06.18 13.30

Date Received: 06.08.18 10.09
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3053699

Date Prep: 06.15.18 08.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0202	0.0202	mg/kg	06.15.18 12.42	U	10
Toluene	108-88-3	0.169	0.0202	mg/kg	06.15.18 12.42		10
Ethylbenzene	100-41-4	1.17	0.0202	mg/kg	06.15.18 12.42		10
m,p-Xylenes	179601-23-1	6.04	0.0403	mg/kg	06.15.18 12.42		10
o-Xylene	95-47-6	2.92	0.0202	mg/kg	06.15.18 12.42		10
Total Xylenes	1330-20-7	8.96	0.0202	mg/kg	06.15.18 12.42		10
Total BTEX		10.3	0.0202	mg/kg	06.15.18 12.42		10
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.15.18 12.42		
1,4-Difluorobenzene	540-36-3	73	%	70-130	06.15.18 12.42		



Certificate of Analytical Results 588647



LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: **FS9** Matrix: Soil Date Received: 06.08.18 10.09
 Lab Sample Id: 588647-008 Date Collected: 06.06.18 15.00 Sample Depth: 10 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: SCM Date Prep: 06.09.18 09.30 Basis: Wet Weight
 Seq Number: 3053082

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2410	24.5	mg/kg	06.11.18 10.45		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.08.18 16.00 Basis: Wet Weight
 Seq Number: 3052907

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.10.18 00.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	23.3	14.9	mg/kg	06.10.18 00.40		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	06.10.18 00.40	U	1
Total TPH	PHC635	23.3	14.9	mg/kg	06.10.18 00.40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	06.10.18 00.40	
o-Terphenyl	84-15-1	96	%	70-135	06.10.18 00.40	



Certificate of Analytical Results 588647



LT Environmental, Inc., Arvada, CO

Golden Child CTB

Sample Id: **FS9**
 Lab Sample Id: 588647-008

Matrix: Soil
 Date Collected: 06.06.18 15.00

Date Received: 06.08.18 10.09
 Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3053699

Date Prep: 06.15.18 08.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.15.18 11.11	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.15.18 11.11	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.15.18 11.11	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.15.18 11.11	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.15.18 11.11	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.15.18 11.11	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.15.18 11.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	06.15.18 11.11		
4-Bromofluorobenzene	460-00-4	130	%	70-130	06.15.18 11.11		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
Golden Child CTB

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3053082

MB Sample Id: 7656330-1-BLK

Matrix: Solid

LCS Sample Id: 7656330-1-BKS

Prep Method: E300P

Date Prep: 06.09.18

LCSD Sample Id: 7656330-1-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	245	98	246	98	90-110	0	20	mg/kg	06.11.18 09:24	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3053082

Parent Sample Id: 588544-002

Matrix: Soil

MS Sample Id: 588544-002 S

Prep Method: E300P

Date Prep: 06.09.18

MSD Sample Id: 588544-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.88	250	310	121	313	122	90-110	1	20	mg/kg	06.11.18 09:40	X

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3053082

Parent Sample Id: 588647-007

Matrix: Soil

MS Sample Id: 588647-007 S

Prep Method: E300P

Date Prep: 06.09.18

MSD Sample Id: 588647-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	78.0	247	354	112	359	114	90-110	1	20	mg/kg	06.11.18 10:56	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3052907

MB Sample Id: 7656367-1-BLK

Matrix: Solid

LCS Sample Id: 7656367-1-BKS

Prep Method: TX1005P

Date Prep: 06.08.18

LCSD Sample Id: 7656367-1-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	907	91	975	98	70-135	7	20	mg/kg	06.09.18 19:27	
Diesel Range Organics (DRO)	<15.0	1000	1010	101	1080	108	70-135	7	20	mg/kg	06.09.18 19:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		130		122		70-135	%	06.09.18 19:27
o-Terphenyl	95		117		114		70-135	%	06.09.18 19:27

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. = $\text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

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



LT Environmental, Inc.
Golden Child CTB

Analytical Method: TPH by SW8015 Mod

Seq Number: 3052907

Parent Sample Id: 588459-001

Matrix: Soil

MS Sample Id: 588459-001 S

Prep Method: TX1005P

Date Prep: 06.08.18

MSD Sample Id: 588459-001 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	918	92	907	91	70-135	1	20	mg/kg	06.09.18 20:23	
Diesel Range Organics (DRO)	<15.0	999	1040	104	1030	103	70-135	1	20	mg/kg	06.09.18 20:23	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		118		70-135	%	06.09.18 20:23
o-Terphenyl	102		102		70-135	%	06.09.18 20:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3052863

MB Sample Id: 7656325-1-BLK

Matrix: Solid

LCS Sample Id: 7656325-1-BKS

Prep Method: SW5030B

Date Prep: 06.08.18

LCSD Sample Id: 7656325-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0941	93	0.0936	94	70-130	1	35	mg/kg	06.08.18 18:07	
Toluene	<0.00202	0.101	0.0986	98	0.0970	97	70-130	2	35	mg/kg	06.08.18 18:07	
Ethylbenzene	<0.00202	0.101	0.0962	95	0.0990	99	70-130	3	35	mg/kg	06.08.18 18:07	
m,p-Xylenes	<0.00403	0.202	0.201	100	0.206	102	70-130	2	35	mg/kg	06.08.18 18:07	
o-Xylene	<0.00202	0.101	0.100	99	0.0989	99	70-130	1	35	mg/kg	06.08.18 18:07	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		94		104		70-130	%	06.08.18 18:07
4-Bromofluorobenzene	95		91		102		70-130	%	06.08.18 18:07

Analytical Method: BTEX by EPA 8021B

Seq Number: 3052970

MB Sample Id: 7656395-1-BLK

Matrix: Solid

LCS Sample Id: 7656395-1-BKS

Prep Method: SW5030B

Date Prep: 06.10.18

LCSD Sample Id: 7656395-1-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	0.0879	88	0.0862	85	70-130	2	35	mg/kg	06.10.18 19:28	
Toluene	<0.00200	0.100	0.0934	93	0.0907	90	70-130	3	35	mg/kg	06.10.18 19:28	
Ethylbenzene	<0.00200	0.100	0.0917	92	0.0893	88	70-130	3	35	mg/kg	06.10.18 19:28	
m,p-Xylenes	<0.00401	0.200	0.189	95	0.185	92	70-130	2	35	mg/kg	06.10.18 19:28	
o-Xylene	<0.00200	0.100	0.0921	92	0.0897	89	70-130	3	35	mg/kg	06.10.18 19:28	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		99		94		70-130	%	06.10.18 19:28
4-Bromofluorobenzene	87		98		94		70-130	%	06.10.18 19:28

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



LT Environmental, Inc.
Golden Child CTB

Analytical Method: BTEX by EPA 8021B

Seq Number: 3053429

MB Sample Id: 7656567-1-BLK

Matrix: Solid

LCS Sample Id: 7656567-1-BKS

Prep Method: SW5030B

Date Prep: 06.12.18

LCSD Sample Id: 7656567-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0934	93	0.0836	83	70-130	11	35	mg/kg	06.12.18 07:35	
Toluene	<0.00201	0.100	0.0973	97	0.0867	86	70-130	12	35	mg/kg	06.12.18 07:35	
Ethylbenzene	<0.00201	0.100	0.0970	97	0.0889	88	70-130	9	35	mg/kg	06.12.18 07:35	
m,p-Xylenes	<0.00402	0.201	0.199	99	0.186	93	70-130	7	35	mg/kg	06.12.18 07:35	
o-Xylene	<0.00201	0.100	0.0923	92	0.0920	91	70-130	0	35	mg/kg	06.12.18 07:35	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		100		98		70-130	%	06.12.18 07:35
4-Bromofluorobenzene	113		97		98		70-130	%	06.12.18 07:35

Analytical Method: BTEX by EPA 8021B

Seq Number: 3053603

MB Sample Id: 7656667-1-BLK

Matrix: Solid

LCS Sample Id: 7656667-1-BKS

Prep Method: SW5030B

Date Prep: 06.14.18

LCSD Sample Id: 7656667-1-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	0.0941	94	0.0871	87	70-130	8	35	mg/kg	06.14.18 17:19	
Toluene	<0.00200	0.100	0.101	101	0.0930	93	70-130	8	35	mg/kg	06.14.18 17:19	
Ethylbenzene	<0.00200	0.100	0.0993	99	0.0925	93	70-130	7	35	mg/kg	06.14.18 17:19	
m,p-Xylenes	<0.00401	0.200	0.208	104	0.194	97	70-130	7	35	mg/kg	06.14.18 17:19	
o-Xylene	<0.00200	0.100	0.106	106	0.0910	91	70-130	15	35	mg/kg	06.14.18 17:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		92		99		70-130	%	06.14.18 17:19
4-Bromofluorobenzene	89		100		122		70-130	%	06.14.18 17:19

Analytical Method: BTEX by EPA 8021B

Seq Number: 3053699

MB Sample Id: 7656796-1-BLK

Matrix: Solid

LCS Sample Id: 7656796-1-BKS

Prep Method: SW5030B

Date Prep: 06.15.18

LCSD Sample Id: 7656796-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0915	91	0.0882	88	70-130	4	35	mg/kg	06.15.18 07:31	
Toluene	<0.00201	0.101	0.0993	98	0.0953	95	70-130	4	35	mg/kg	06.15.18 07:31	
Ethylbenzene	<0.00201	0.101	0.0984	97	0.0935	94	70-130	5	35	mg/kg	06.15.18 07:31	
m,p-Xylenes	<0.00402	0.201	0.206	102	0.196	98	70-130	5	35	mg/kg	06.15.18 07:31	
o-Xylene	<0.00201	0.101	0.0946	94	0.0924	92	70-130	2	35	mg/kg	06.15.18 07:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		93		100		70-130	%	06.15.18 07:31
4-Bromofluorobenzene	106		101		98		70-130	%	06.15.18 07:31

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



LT Environmental, Inc.
Golden Child CTB

Analytical Method: BTEX by EPA 8021B

Seq Number: 3052863

Parent Sample Id: 588647-001

Matrix: Soil

MS Sample Id: 588647-001 S

Prep Method: SW5030B

Date Prep: 06.08.18

MSD Sample Id: 588647-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0710	71	0.0672	67	70-130	5	35	mg/kg	06.08.18 18:43	X
Toluene	<0.00199	0.0996	0.0749	75	0.0721	71	70-130	4	35	mg/kg	06.08.18 18:43	
Ethylbenzene	<0.00199	0.0996	0.0736	74	0.0700	69	70-130	5	35	mg/kg	06.08.18 18:43	X
m,p-Xylenes	<0.00398	0.199	0.154	77	0.146	73	70-130	5	35	mg/kg	06.08.18 18:43	
o-Xylene	<0.00199	0.0996	0.0815	82	0.0704	70	70-130	15	35	mg/kg	06.08.18 18:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		105		70-130	%	06.08.18 18:43
4-Bromofluorobenzene	103		108		70-130	%	06.08.18 18:43

Analytical Method: BTEX by EPA 8021B

Seq Number: 3052970

Parent Sample Id: 588647-004

Matrix: Soil

MS Sample Id: 588647-004 S

Prep Method: SW5030B

Date Prep: 06.10.18

MSD Sample Id: 588647-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0756	75	0.0760	75	70-130	1	35	mg/kg	06.10.18 20:04	
Toluene	<0.00202	0.101	0.0813	80	0.0797	79	70-130	2	35	mg/kg	06.10.18 20:04	
Ethylbenzene	<0.00202	0.101	0.0814	81	0.0819	81	70-130	1	35	mg/kg	06.10.18 20:04	
m,p-Xylenes	<0.00404	0.202	0.167	83	0.171	85	70-130	2	35	mg/kg	06.10.18 20:04	
o-Xylene	<0.00202	0.101	0.0767	76	0.0782	77	70-130	2	35	mg/kg	06.10.18 20:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		98		70-130	%	06.10.18 20:04
4-Bromofluorobenzene	104		106		70-130	%	06.10.18 20:04

Analytical Method: BTEX by EPA 8021B

Seq Number: 3053429

Parent Sample Id: 588647-006

Matrix: Soil

MS Sample Id: 588647-006 S

Prep Method: SW5030B

Date Prep: 06.12.18

MSD Sample Id: 588647-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0881	88	0.0915	91	70-130	4	35	mg/kg	06.12.18 08:12	
Toluene	<0.00200	0.100	0.0942	94	0.0952	94	70-130	1	35	mg/kg	06.12.18 08:12	
Ethylbenzene	<0.00200	0.100	0.0880	88	0.0892	88	70-130	1	35	mg/kg	06.12.18 08:12	
m,p-Xylenes	<0.00401	0.200	0.192	96	0.194	97	70-130	1	35	mg/kg	06.12.18 08:12	
o-Xylene	0.0107	0.100	0.0957	85	0.0921	81	70-130	4	35	mg/kg	06.12.18 08:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		100		70-130	%	06.12.18 08:12
4-Bromofluorobenzene	96		101		70-130	%	06.12.18 08:12

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

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

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

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



LT Environmental, Inc.
Golden Child CTB

Analytical Method: BTEX by EPA 8021B

Seq Number: 3053603

Parent Sample Id: 588822-002

Matrix: Soil

MS Sample Id: 588822-002 S

Prep Method: SW5030B

Date Prep: 06.14.18

MSD Sample Id: 588822-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0578	58	0.0661	65	70-130	13	35	mg/kg	06.14.18 17:55	X
Toluene	<0.00201	0.100	0.0592	59	0.0663	66	70-130	11	35	mg/kg	06.14.18 17:55	X
Ethylbenzene	<0.00201	0.100	0.0519	52	0.0592	59	70-130	13	35	mg/kg	06.14.18 17:55	X
m,p-Xylenes	<0.00402	0.201	0.107	53	0.120	60	70-130	11	35	mg/kg	06.14.18 17:55	X
o-Xylene	<0.00201	0.100	0.0520	52	0.0572	57	70-130	10	35	mg/kg	06.14.18 17:55	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		97		70-130	%	06.14.18 17:55
4-Bromofluorobenzene	106		123		70-130	%	06.14.18 17:55

Analytical Method: BTEX by EPA 8021B

Seq Number: 3053699

Parent Sample Id: 588766-001

Matrix: Soil

MS Sample Id: 588766-001 S

Prep Method: SW5030B

Date Prep: 06.15.18

MSD Sample Id: 588766-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0356	36	0.0325	33	70-130	9	35	mg/kg	06.15.18 08:07	X
Toluene	<0.00200	0.0998	0.0393	39	0.0342	34	70-130	14	35	mg/kg	06.15.18 08:07	X
Ethylbenzene	<0.00200	0.0998	0.0365	37	0.0349	35	70-130	4	35	mg/kg	06.15.18 08:07	X
m,p-Xylenes	<0.00399	0.200	0.0760	38	0.0722	36	70-130	5	35	mg/kg	06.15.18 08:07	X
o-Xylene	<0.00200	0.0998	0.0351	35	0.0327	33	70-130	7	35	mg/kg	06.15.18 08:07	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		96		70-130	%	06.15.18 08:07
4-Bromofluorobenzene	102		103		70-130	%	06.15.18 08:07

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

Client / Reporting Information										Project Information										Analytical Information										Matrix Codes																			
Company Name / Branch: LT Environmental - Premier Office										Project Name/Number: Golden Child CTB										Xenoco Quote #										Xenoco Job #																			
Company Address: 3300 North 14th St, Building 2, Unit 1115 Midvale, UT 84025										Project Location: NM										Xenoco Job #										Xenoco Job #																			
Email: AbaKereHenn.com, 432-704-5178										Invoice To: XTO Energy - Mike Littlell										Xenoco Job #										Xenoco Job #																			
Project Contact: Adrian Baker										PO Number: 22P-4636										Xenoco Job #										Xenoco Job #																			
Sampler's Name: Daniel Thomas										Field ID / Point of Collection										Xenoco Job #										Xenoco Job #																			
No.										Sample Depth										Xenoco Job #										Xenoco Job #																			
1										SW6										Xenoco Job #										Xenoco Job #																			
2										SW7										Xenoco Job #										Xenoco Job #																			
3										SW7A										Xenoco Job #										Xenoco Job #																			
4										SW7B										Xenoco Job #										Xenoco Job #																			
5										SW8										Xenoco Job #										Xenoco Job #																			
6										FS7										Xenoco Job #										Xenoco Job #																			
7										FS8										Xenoco Job #										Xenoco Job #																			
8										FS9										Xenoco Job #										Xenoco Job #																			
9																				Xenoco Job #										Xenoco Job #																			
10																				Xenoco Job #										Xenoco Job #																			
Turnaround Time (Business days)										Data Deliverable Information										Notes:																													
Same Day TAT										Level II Std QC										Level IV (Full Data Pkg / raw data)																													
Next Day EMERGENCY										7 Day TAT										Level III Std QC+ Forms										TRRP Level IV																			
2 Day EMERGENCY										Contract TAT										Level 3 (CLP Forms)										UST / RG -411																			
3 Day EMERGENCY										Standard										TRRP Checklist																													
TAT Starts Day received by Lab, if received by 5:00 pm																																																	
Relinquished by Sampler:										SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY										FED-EX / UPS: Tracking #																													
1										Date Time: 6/11/18 1:30										Received By: 1. [Signature]										Date Time: 6/12 15:30										Received By: 2. [Signature]									
3										Date Time:										Received By: 3. [Signature]										Date Time:										Received By: 4. [Signature]									
5										Date Time:										Received By: 5. [Signature]										Date Time:										Received By: 6. [Signature]									
Relinquished by:										Date Time:										Received By:										Date Time:										Received By:									
Cooler Temp.										Thermo. Corr. Factor																																							



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 06/08/2018 10:09:00 AM

Work Order #: 588647

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

#1 *Temperature of cooler(s)?	4.2
#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?	Yes
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 06/08/2018

Checklist reviewed by:

Jessica Kramer

Date: 06/08/2018

Analytical Report 597096

for
LT Environmental, Inc.

Project Manager: Adrian Baker

Golden Child 2RP-4636

Golden Child 2RP-4636

05-OCT-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



05-OCT-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **597096**

Golden Child 2RP-4636

Project Address: NM Eddy

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 597096. 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. 597096 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,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 597096****LT Environmental, Inc., Arvada, CO**

Golden Child 2RP-4636

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW09	S	08-23-18 17:10	2 ft	597096-001
SW10	S	08-23-18 17:15	2 ft	597096-002
SW11	S	08-23-18 17:25	2 ft	597096-003
FS10	S	08-23-18 17:20	4 ft	597096-004
BH01	S	08-23-18 17:30	24 ft	597096-005



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Golden Child 2RP-4636

Project ID: Golden Child 2RP-4636
Work Order Number(s): 597096

Report Date: 05-OCT-18
Date Received: 08/27/2018

Sample receipt non conformances and comments:

PER CLIENTS EMAIL, CORRECT SAMPLE 003 NAME FROM SW1 TO SW11. NEW VERSION GENERATED JKR 10/05/18

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3061402 BTEX by EPA 8021B

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



Certificate of Analysis Summary 597096

LT Environmental, Inc., Arvada, CO

Project Name: Golden Child 2RP-4636



Project Id: Golden Child 2RP-4636
Contact: Adrian Baker
Project Location: NM Eddy

Date Received in Lab: Mon Aug-27-18 10:00 am
Report Date: 05-OCT-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	597096-001	597096-002	597096-003	597096-004	597096-005	
	<i>Field Id:</i>	SW09	SW10	SW11	FS10	BH01	
	<i>Depth:</i>	2- ft	2- ft	2- ft	4- ft	24- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Aug-23-18 17:10	Aug-23-18 17:15	Aug-23-18 17:25	Aug-23-18 17:20	Aug-23-18 17:30	
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-27-18 12:00	Aug-27-18 12:00	Aug-27-18 12:00	Aug-27-18 12:00	Aug-27-18 12:00	
	<i>Analyzed:</i>	Aug-27-18 23:36	Aug-27-18 23:57	Aug-28-18 00:17	Aug-28-18 00:37	Aug-28-18 00:58	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	
m,p-Xylenes		<0.00402 0.00402	<0.00401 0.00401	<0.00398 0.00398	<0.00403 0.00403	<0.00404 0.00404	
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	
Inorganic Anions by EPA 300	<i>Extracted:</i>	Aug-27-18 15:00	Aug-27-18 15:00	Aug-27-18 15:00	Aug-27-18 15:00	Aug-27-18 15:00	
	<i>Analyzed:</i>	Aug-27-18 18:23	Aug-27-18 18:29	Aug-27-18 18:34	Aug-27-18 18:40	Aug-27-18 18:45	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		499 4.95	1800 25.0	2620 25.0	2590 25.0	2000 24.9	
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-27-18 11:00	Aug-27-18 11:00	Aug-27-18 11:00	Aug-27-18 11:00	Aug-27-18 11:00	
	<i>Analyzed:</i>	Aug-27-18 16:37	Aug-27-18 16:57	Aug-27-18 17:58	Aug-27-18 18:19	Aug-27-18 18:39	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 597096

LT Environmental, Inc., Arvada, CO

Golden Child 2RP-4636

Sample Id: **SW09**
 Lab Sample Id: 597096-001

Matrix: Soil
 Date Collected: 08.23.18 17.10

Date Received: 08.27.18 10.00
 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3061362

Date Prep: 08.27.18 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	499	4.95	mg/kg	08.27.18 18.23		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061397

Date Prep: 08.27.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.27.18 16.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.27.18 16.37	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.27.18 16.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.27.18 16.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.27.18 16.37	
o-Terphenyl	84-15-1	96	%	70-135	08.27.18 16.37	



Certificate of Analytical Results 597096



LT Environmental, Inc., Arvada, CO

Golden Child 2RP-4636

Sample Id: **SW09**
Lab Sample Id: 597096-001

Matrix: Soil
Date Collected: 08.23.18 17.10

Date Received: 08.27.18 10.00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3061402

Date Prep: 08.27.18 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.27.18 23.36	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.27.18 23.36	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.27.18 23.36	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.27.18 23.36	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.27.18 23.36	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.27.18 23.36	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.27.18 23.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	08.27.18 23.36		
1,4-Difluorobenzene	540-36-3	92	%	70-130	08.27.18 23.36		



Certificate of Analytical Results 597096

LT Environmental, Inc., Arvada, CO

Golden Child 2RP-4636

Sample Id: **SW10**
 Lab Sample Id: 597096-002

Matrix: Soil
 Date Collected: 08.23.18 17.15

Date Received: 08.27.18 10.00
 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3061362

Date Prep: 08.27.18 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1800	25.0	mg/kg	08.27.18 18.29		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061397

Date Prep: 08.27.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.27.18 16.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.27.18 16.57	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.27.18 16.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.27.18 16.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	08.27.18 16.57	
o-Terphenyl	84-15-1	92	%	70-135	08.27.18 16.57	



Certificate of Analytical Results 597096

LT Environmental, Inc., Arvada, CO

Golden Child 2RP-4636

Sample Id: **SW10**
 Lab Sample Id: 597096-002

Matrix: Soil
 Date Collected: 08.23.18 17.15

Date Received: 08.27.18 10.00
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3061402

Date Prep: 08.27.18 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.27.18 23.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.27.18 23.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.27.18 23.57	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.27.18 23.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.27.18 23.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.27.18 23.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.27.18 23.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	08.27.18 23.57		
4-Bromofluorobenzene	460-00-4	95	%	70-130	08.27.18 23.57		



Certificate of Analytical Results 597096

LT Environmental, Inc., Arvada, CO

Golden Child 2RP-4636

Sample Id: **SW11**
 Lab Sample Id: 597096-003

Matrix: Soil
 Date Collected: 08.23.18 17.25

Date Received: 08.27.18 10.00
 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3061362

Date Prep: 08.27.18 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2620	25.0	mg/kg	08.27.18 18.34		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061397

Date Prep: 08.27.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.27.18 17.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.27.18 17.58	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.27.18 17.58	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.27.18 17.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	08.27.18 17.58	
o-Terphenyl	84-15-1	91	%	70-135	08.27.18 17.58	



Certificate of Analytical Results 597096

LT Environmental, Inc., Arvada, CO

Golden Child 2RP-4636

Sample Id: **SW11**
 Lab Sample Id: 597096-003

Matrix: Soil
 Date Collected: 08.23.18 17.25

Date Received: 08.27.18 10.00
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3061402

Date Prep: 08.27.18 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.28.18 00.17	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.28.18 00.17	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.28.18 00.17	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.28.18 00.17	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.28.18 00.17	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.28.18 00.17	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.28.18 00.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	08.28.18 00.17		
4-Bromofluorobenzene	460-00-4	91	%	70-130	08.28.18 00.17		



Certificate of Analytical Results 597096



LT Environmental, Inc., Arvada, CO

Golden Child 2RP-4636

Sample Id: **FS10**
Lab Sample Id: 597096-004

Matrix: Soil
Date Collected: 08.23.18 17.20

Date Received: 08.27.18 10.00
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3061362

Date Prep: 08.27.18 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2590	25.0	mg/kg	08.27.18 18.40		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061397

Date Prep: 08.27.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.27.18 18.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.27.18 18.19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.27.18 18.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.27.18 18.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.27.18 18.19	
o-Terphenyl	84-15-1	94	%	70-135	08.27.18 18.19	



Certificate of Analytical Results 597096

LT Environmental, Inc., Arvada, CO

Golden Child 2RP-4636

Sample Id: **FS10**
 Lab Sample Id: 597096-004

Matrix: Soil
 Date Collected: 08.23.18 17.20

Date Received: 08.27.18 10.00
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3061402

Date Prep: 08.27.18 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.28.18 00.37	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.28.18 00.37	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.28.18 00.37	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	08.28.18 00.37	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.28.18 00.37	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.28.18 00.37	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.28.18 00.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	08.28.18 00.37		
1,4-Difluorobenzene	540-36-3	92	%	70-130	08.28.18 00.37		



Certificate of Analytical Results 597096



LT Environmental, Inc., Arvada, CO

Golden Child 2RP-4636

Sample Id: **BH01**
Lab Sample Id: 597096-005

Matrix: Soil
Date Collected: 08.23.18 17.30

Date Received: 08.27.18 10.00
Sample Depth: 24 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3061362

Date Prep: 08.27.18 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2000	24.9	mg/kg	08.27.18 18.45		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061397

Date Prep: 08.27.18 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	08.27.18 18.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	08.27.18 18.39	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	08.27.18 18.39	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	08.27.18 18.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	08.27.18 18.39	
o-Terphenyl	84-15-1	92	%	70-135	08.27.18 18.39	



Certificate of Analytical Results 597096

LT Environmental, Inc., Arvada, CO

Golden Child 2RP-4636

Sample Id: **BH01**
 Lab Sample Id: 597096-005

Matrix: Soil
 Date Collected: 08.23.18 17.30

Date Received: 08.27.18 10.00
 Sample Depth: 24 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3061402

Date Prep: 08.27.18 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.28.18 00.58	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.28.18 00.58	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.28.18 00.58	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	08.28.18 00.58	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.28.18 00.58	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.28.18 00.58	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.28.18 00.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	08.28.18 00.58		
1,4-Difluorobenzene	540-36-3	93	%	70-130	08.28.18 00.58		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
Golden Child 2RP-4636

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061362

MB Sample Id: 7661225-1-BLK

Matrix: Solid

LCS Sample Id: 7661225-1-BKS

Prep Method: E300P

Date Prep: 08.27.18

LCSD Sample Id: 7661225-1-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	248	99	252	101	90-110	2	20	mg/kg	08.27.18 16:01	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061362

Parent Sample Id: 596609-009

Matrix: Soil

MS Sample Id: 596609-009 S

Prep Method: E300P

Date Prep: 08.27.18

MSD Sample Id: 596609-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	149	287	428	97	432	99	90-110	1	20	mg/kg	08.27.18 17:39	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061362

Parent Sample Id: 597070-002

Matrix: Soil

MS Sample Id: 597070-002 S

Prep Method: E300P

Date Prep: 08.27.18

MSD Sample Id: 597070-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	91.9	248	340	100	336	98	90-110	1	20	mg/kg	08.27.18 16:17	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3061397

MB Sample Id: 7661243-1-BLK

Matrix: Solid

LCS Sample Id: 7661243-1-BKS

Prep Method: TX1005P

Date Prep: 08.27.18

LCSD Sample Id: 7661243-1-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	915	92	1020	102	70-135	11	20	mg/kg	08.27.18 12:35	
Diesel Range Organics (DRO)	<15.0	1000	935	94	1050	105	70-135	12	20	mg/kg	08.27.18 12:35	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		113		126		70-135	%	08.27.18 12:35
o-Terphenyl	100		100		109		70-135	%	08.27.18 12:35

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



LT Environmental, Inc.
Golden Child 2RP-4636

Analytical Method: TPH by SW8015 Mod

Seq Number: 3061397

Parent Sample Id: 596931-009

Matrix: Soil

MS Sample Id: 596931-009 S

Prep Method: TX1005P

Date Prep: 08.27.18

MSD Sample Id: 596931-009 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	888	89	886	89	70-135	0	20	mg/kg	08.27.18 13:35	
Diesel Range Organics (DRO)	<15.0	999	917	92	925	93	70-135	1	20	mg/kg	08.27.18 13:35	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		112		70-135	%	08.27.18 13:35
o-Terphenyl	101		102		70-135	%	08.27.18 13:35

Analytical Method: BTEX by EPA 8021B

Seq Number: 3061402

MB Sample Id: 7661244-1-BLK

Matrix: Solid

LCS Sample Id: 7661244-1-BKS

Prep Method: SW5030B

Date Prep: 08.27.18

LCSD Sample Id: 7661244-1-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	0.108	108	0.103	102	70-130	5	35	mg/kg	08.27.18 14:54	
Toluene	<0.00200	0.100	0.104	104	0.104	103	70-130	0	35	mg/kg	08.27.18 14:54	
Ethylbenzene	<0.00200	0.100	0.115	115	0.110	109	70-130	4	35	mg/kg	08.27.18 14:54	
m,p-Xylenes	<0.00401	0.200	0.223	112	0.211	104	70-130	6	35	mg/kg	08.27.18 14:54	
o-Xylene	<0.00200	0.100	0.103	103	0.0973	96	70-130	6	35	mg/kg	08.27.18 14:54	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		98		91		70-130	%	08.27.18 14:54
4-Bromofluorobenzene	94		94		91		70-130	%	08.27.18 14:54

Analytical Method: BTEX by EPA 8021B

Seq Number: 3061402

Parent Sample Id: 596507-003

Matrix: Soil

MS Sample Id: 596507-003 S

Prep Method: SW5030B

Date Prep: 08.27.18

MSD Sample Id: 596507-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0749	75	0.0881	88	70-130	16	35	mg/kg	08.27.18 15:36	
Toluene	<0.00200	0.0998	0.0548	55	0.0952	95	70-130	54	35	mg/kg	08.27.18 15:36	XF
Ethylbenzene	<0.00200	0.0998	0.0424	42	0.0811	81	70-130	63	35	mg/kg	08.27.18 15:36	XF
m,p-Xylenes	<0.00399	0.200	0.0800	40	0.156	78	70-130	64	35	mg/kg	08.27.18 15:36	XF
o-Xylene	<0.00200	0.0998	0.0377	38	0.0700	70	70-130	60	35	mg/kg	08.27.18 15:36	XF

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		78		70-130	%	08.27.18 15:36
4-Bromofluorobenzene	94		93		70-130	%	08.27.18 15:36

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



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Client / Reporting Information				Project Information				Analytical Information				Matrix Codes				
Company Name / Branch: IT Environmental, Inc. Pelina Office				Project/Name/Number: 2RP-4636												
Company Address: 300 N. St. Building Unit 103 Midland, TX 79702				Project Location: NM Eddy												
Email: ahabero@itenv.com (432) 704-5178				Invoice To: XTO Energy - Kyle Little												
Project Contact: Adrian Baber				PO Number:												
Sampler's Name: Lyle Little																
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments	
1	SW 09	2'	8/26/18	17:10	S	1									X	BTEX 8021 (only BTEX)
2	SW 10	2'		17:15	S	1									X	TPH (DRG, GRO, MRO) 8015
3	SW 11	2'		17:25	S	1									X	chloride (300.0)
4	FS 10	4'		17:20	S	1									X	
5	BH 01	24'		17:30	S	1									X	24' bgs
6																
7																
8																
9																
10																
Turnaround Time (Business days)				Data Deliverable Information				Notes:								
☒ Same Day TAT				☐ 5 Day TAT				☐ Level II Std QC				☐ Level IV (Full Data Pkg / raw data)				
☐ Next Day EMERGENCY				☐ 7 Day TAT				☐ Level III Std QC+ Forms				☐ TRRP Level IV				
☐ 2 Day EMERGENCY				☐ Contract TAT				☐ Level 3 (CLP Forms)				☐ UST / RG 411				
☐ 3 Day EMERGENCY				☐ TRRP Checklist												
TAT Starts Day received by Lab, if received by 5:00 pm																
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																
Relinquished by Sampler:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		
1		8/26/18 7:15		1 Rae-N-Mil cooler		8/24/18 5:30		2 Rae-N-Mil cooler		8/24/18 5:30		2		8/27/18 10:00		
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		
3				3				4				4				
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		
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Client: LT Environmental, Inc.

Date/ Time Received: 08/27/2018 10:00:00 AM

Work Order #: 597096

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)?	1.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Connie Hernandez

Date: 08/27/2018

Checklist reviewed by:

Jessica Kramer

Date: 08/27/2018

Analytical Report 645425

for
LT Environmental, Inc.

Project Manager: Aimee Cole

Goldenchild CTB

12-DEC-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 (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)



12-DEC-19

Project Manager: **Aimee Cole**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **645425**

Goldenchild CTB

Project Address: Rural Eddy County

Aimee Cole:

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) 645425. 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. 645425 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,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS11	S	12-04-19 10:05	4.5 ft	645425-001
FS12	S	12-04-19 10:15	4.5 ft	645425-002
FS13	S	12-04-19 10:20	3 ft	645425-003
FS14	S	12-04-19 11:15	5 ft	645425-004
FS15	S	12-04-19 12:00	4 ft	645425-005
FS16	S	12-04-19 11:50	2.5 ft	645425-006
FS17	S	12-04-19 13:40	4.5 ft	645425-007
FS18	S	12-04-19 14:00	1.5 ft	645425-008
FS19	S	12-04-19 14:35	1 ft	645425-009
FS20	S	12-04-19 11:05	5.5 ft	645425-010
FS21	S	12-04-19 11:30	4 ft	645425-011
FS22	S	12-04-19 15:55	4 ft	645425-012
SW12	S	12-04-19 10:25	2 ft	645425-013
SW13	S	12-04-19 11:17	1.5 ft	645425-014
SW14	S	12-04-19 14:45	0.5 ft	645425-015
SW15	S	12-04-19 11:40	2.5 ft	645425-016
SW16	S	12-04-19 11:30	1 ft	645425-017
SW17	S	12-04-19 11:00	2 ft	645425-018
SW18	S	12-04-19 10:50	1 ft	645425-019
SW19	S	12-04-19 15:50	2 ft	645425-020

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: Goldenchild CTB**

Project ID:
Work Order Number(s): 645425

Report Date: 12-DEC-19
Date Received: 12/06/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3109775 BTEX by EPA 8021B

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

Batch: LBA-3109879 Chloride by EPA 300

Lab Sample ID 645425-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 645425-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015.

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



Certificate of Analysis Summary 645425

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild CTB

Project Id:

Contact: Aimee Cole

Project Location: Rural Eddy County

Date Received in Lab: Fri Dec-06-19 08:30 am

Report Date: 12-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	645425-001	645425-002	645425-003	645425-004	645425-005	645425-006
	<i>Field Id:</i>	FS11	FS12	FS13	FS14	FS15	FS16
	<i>Depth:</i>	4.5- ft	4.5- ft	3- ft	5- ft	4- ft	2.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-04-19 10:05	Dec-04-19 10:15	Dec-04-19 10:20	Dec-04-19 11:15	Dec-04-19 12:00	Dec-04-19 11:50
BTEX by EPA 8021B SUB: T104704400-19-19	<i>Extracted:</i>	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25
	<i>Analyzed:</i>	Dec-08-19 13:17	Dec-08-19 13:38	Dec-08-19 13:58	Dec-08-19 14:18	Dec-08-19 14:38	Dec-08-19 14:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00397 0.00397	<0.00400 0.00400	<0.00402 0.00402	<0.00402 0.00402	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Chloride by EPA 300 SUB: T104704400-19-19	<i>Extracted:</i>	Dec-09-19 11:30	Dec-09-19 11:30	Dec-09-19 11:30	Dec-09-19 11:30	Dec-09-19 11:30	Dec-09-19 11:30
	<i>Analyzed:</i>	Dec-09-19 13:06	Dec-09-19 13:12	Dec-09-19 13:19	Dec-09-19 12:46	Dec-09-19 13:26	Dec-09-19 14:19
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2970 24.8	2770 25.0	969 24.8	752 5.00	2230 24.8	290 5.05
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00
	<i>Analyzed:</i>	Dec-09-19 19:06	Dec-09-19 20:10	Dec-09-19 20:31	Dec-09-19 20:52	Dec-09-19 21:13	Dec-09-19 21:34
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0
Total GRO-DRO		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0
Total TPH		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 645425

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild CTB

Project Id:

Contact: Aimee Cole

Project Location: Rural Eddy County

Date Received in Lab: Fri Dec-06-19 08:30 am

Report Date: 12-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	645425-007	645425-008	645425-009	645425-010	645425-011	645425-012
	<i>Field Id:</i>	FS17	FS18	FS19	FS20	FS21	FS22
	<i>Depth:</i>	4.5- ft	1.5- ft	1- ft	5.5- ft	4- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-04-19 13:40	Dec-04-19 14:00	Dec-04-19 14:35	Dec-04-19 11:05	Dec-04-19 11:30	Dec-04-19 15:55
BTEX by EPA 8021B SUB: T104704400-19-19	<i>Extracted:</i>	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25
	<i>Analyzed:</i>	Dec-08-19 15:18	Dec-08-19 15:38	Dec-08-19 15:59	Dec-08-19 16:19	Dec-08-19 17:38	Dec-08-19 17:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00397 0.00397	<0.00398 0.00398	<0.00404 0.00404	<0.00398 0.00398	<0.00400 0.00400	<0.00399 0.00399
o-Xylene		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300 SUB: T104704400-19-19	<i>Extracted:</i>	Dec-09-19 11:30	Dec-09-19 11:30	Dec-09-19 11:30	Dec-09-19 11:30	Dec-09-19 11:30	Dec-09-19 11:30
	<i>Analyzed:</i>	Dec-09-19 13:46	Dec-09-19 13:52	Dec-09-19 13:59	Dec-09-19 14:06	Dec-09-19 14:12	Dec-09-19 14:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1170 24.9	1680 25.1	567 4.96	3040 25.0	2950 24.8	1960 24.9
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00
	<i>Analyzed:</i>	Dec-09-19 21:55	Dec-09-19 22:16	Dec-09-19 22:37	Dec-09-19 22:58	Dec-09-19 23:40	Dec-10-19 00:01
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Total TPH		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 645425

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild CTB

Project Id:

Contact: Aimee Cole

Project Location: Rural Eddy County

Date Received in Lab: Fri Dec-06-19 08:30 am

Report Date: 12-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	645425-013	645425-014	645425-015	645425-016	645425-017	645425-018
	<i>Field Id:</i>	SW12	SW13	SW14	SW15	SW16	SW17
	<i>Depth:</i>	2- ft	1.5- ft	0.5- ft	2.5- ft	1- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-04-19 10:25	Dec-04-19 11:17	Dec-04-19 14:45	Dec-04-19 11:40	Dec-04-19 11:30	Dec-04-19 11:00
BTEX by EPA 8021B SUB: T104704400-19-19	<i>Extracted:</i>	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25	Dec-07-19 15:25
	<i>Analyzed:</i>	Dec-08-19 18:18	Dec-08-19 18:38	Dec-08-19 18:58	Dec-08-19 19:18	Dec-08-19 19:39	Dec-08-19 19:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00199 0.00199	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00199 0.00199	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00398 0.00398	<0.00403 0.00403	<0.00402 0.00402	<0.00398 0.00398	<0.00401 0.00401	<0.00397 0.00397
o-Xylene		<0.00199 0.00199	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00199 0.00199	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00199 0.00199	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Chloride by EPA 300 SUB: T104704400-19-19	<i>Extracted:</i>	Dec-09-19 11:30	Dec-09-19 11:30	Dec-09-19 11:30	Dec-09-19 10:45	Dec-09-19 10:45	Dec-09-19 10:45
	<i>Analyzed:</i>	Dec-09-19 14:45	Dec-09-19 15:05	Dec-09-19 15:12	Dec-09-19 14:29	Dec-09-19 16:21	Dec-09-19 14:40
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		856 4.99	2370 25.1	1650 24.8	236 5.00	1140 25.2	188 4.95
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00	Dec-09-19 14:00
	<i>Analyzed:</i>	Dec-10-19 00:22	Dec-10-19 00:43	Dec-10-19 01:04	Dec-10-19 01:26	Dec-10-19 01:47	Dec-10-19 02:08
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8
Diesel Range Organics (DRO)		<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8
Total GRO-DRO		<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8
Total TPH		<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 645425

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild CTB

Project Id:

Contact: Aimee Cole

Project Location: Rural Eddy County

Date Received in Lab: Fri Dec-06-19 08:30 am

Report Date: 12-DEC-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	645425-019	645425-020				
	Field Id:	SW18	SW19				
	Depth:	1- ft	2- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Dec-04-19 10:50	Dec-04-19 15:50				
BTEX by EPA 8021B SUB: T104704400-19-19	Extracted:	Dec-07-19 15:25	Dec-07-19 15:25				
	Analyzed:	Dec-08-19 20:19	Dec-08-19 20:39				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00200 0.00200	<0.00199 0.00199				
	Toluene	<0.00200 0.00200	<0.00199 0.00199				
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199				
m,p-Xylenes		<0.00399 0.00399	<0.00398 0.00398				
o-Xylene		<0.00200 0.00200	<0.00199 0.00199				
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199				
Total BTEX		<0.00200 0.00200	<0.00199 0.00199				
Chloride by EPA 300 SUB: T104704400-19-19	Extracted:	Dec-09-19 10:45	Dec-09-19 10:45				
	Analyzed:	Dec-09-19 14:45	Dec-09-19 14:51				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	35.4 4.99	13.5 5.02				
TPH by SW8015 Mod SUB: T104704400-19-19	Extracted:	Dec-09-19 14:00	Dec-09-19 14:00				
	Analyzed:	Dec-10-19 02:29	Dec-10-19 02:50				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<50.0 50.0	<49.9 49.9				
	Diesel Range Organics (DRO)	70.1 50.0	<49.9 49.9				
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9				
Total GRO-DRO		70.1 50.0	<49.9 49.9				
Total TPH		70.1 50.0	<49.9 49.9				

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS11** Matrix: Soil Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-001 Date Collected: 12.04.19 10.05 Sample Depth: 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 12.09.19 11.30 Basis: Wet Weight
 Seq Number: 3109879 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2970	24.8	mg/kg	12.09.19 13.06		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 12.09.19 14.00 Basis: Wet Weight
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.09.19 19.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.09.19 19.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.09.19 19.06	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.09.19 19.06	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.09.19 19.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	12.09.19 19.06	
o-Terphenyl	84-15-1	88	%	70-135	12.09.19 19.06	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS11**
 Lab Sample Id: 645425-001

Matrix: Soil
 Date Collected: 12.04.19 10.05

Date Received: 12.06.19 08.30
 Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.19 13.17	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.19 13.17	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.19 13.17	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.19 13.17	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.19 13.17	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.08.19 13.17	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.08.19 13.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.08.19 13.17		
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.08.19 13.17		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS12** Matrix: **Soil** Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-002 Date Collected: 12.04.19 10.15 Sample Depth: 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **CHE** % Moisture:
 Analyst: **CHE** Date Prep: 12.09.19 11.30 Basis: **Wet Weight**
 Seq Number: 3109879 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2770	25.0	mg/kg	12.09.19 13.12		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 12.09.19 14.00 Basis: **Wet Weight**
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.09.19 20.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.09.19 20.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.09.19 20.10	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.09.19 20.10	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.09.19 20.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.09.19 20.10	
o-Terphenyl	84-15-1	91	%	70-135	12.09.19 20.10	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS12**
 Lab Sample Id: 645425-002

Matrix: Soil
 Date Collected: 12.04.19 10.15

Date Received: 12.06.19 08.30
 Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.08.19 13.38	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.08.19 13.38	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.08.19 13.38	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.08.19 13.38	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.08.19 13.38	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.08.19 13.38	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.08.19 13.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.08.19 13.38		
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.08.19 13.38		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS13** Matrix: **Soil** Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-003 Date Collected: 12.04.19 10.20 Sample Depth: 3 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **CHE** % Moisture:
 Analyst: **CHE** Date Prep: 12.09.19 11.30 Basis: **Wet Weight**
 Seq Number: 3109879 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	969	24.8	mg/kg	12.09.19 13.19		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 12.09.19 14.00 Basis: **Wet Weight**
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.09.19 20.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.09.19 20.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.09.19 20.31	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.09.19 20.31	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.09.19 20.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	12.09.19 20.31	
o-Terphenyl	84-15-1	90	%	70-135	12.09.19 20.31	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS13**
 Lab Sample Id: 645425-003

Matrix: Soil
 Date Collected: 12.04.19 10.20

Date Received: 12.06.19 08.30
 Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 12.07.19 15.25

Basis: Wet Weight

Seq Number: 3109775

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.19 13.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.19 13.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.19 13.58	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.08.19 13.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.19 13.58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.08.19 13.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.08.19 13.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.08.19 13.58		
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.08.19 13.58		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS14** Matrix: Soil Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-004 Date Collected: 12.04.19 11.15 Sample Depth: 5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 12.09.19 11.30 Basis: Wet Weight
 Seq Number: 3109879 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	752	5.00	mg/kg	12.09.19 12.46		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 12.09.19 14.00 Basis: Wet Weight
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.09.19 20.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.09.19 20.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.09.19 20.52	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.09.19 20.52	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.09.19 20.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	12.09.19 20.52	
o-Terphenyl	84-15-1	90	%	70-135	12.09.19 20.52	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS14**
 Lab Sample Id: 645425-004

Matrix: Soil
 Date Collected: 12.04.19 11.15

Date Received: 12.06.19 08.30
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 12.07.19 15.25

Basis: Wet Weight

Seq Number: 3109775

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.08.19 14.18	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.08.19 14.18	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.08.19 14.18	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.08.19 14.18	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.08.19 14.18	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.08.19 14.18	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.08.19 14.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	12.08.19 14.18		
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.08.19 14.18		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS15** Matrix: **Soil** Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-005 Date Collected: 12.04.19 12.00 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **CHE** % Moisture:
 Analyst: **CHE** Date Prep: 12.09.19 11.30 Basis: **Wet Weight**
 Seq Number: 3109879 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2230	24.8	mg/kg	12.09.19 13.26		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 12.09.19 14.00 Basis: **Wet Weight**
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.09.19 21.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.09.19 21.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.09.19 21.13	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.09.19 21.13	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.09.19 21.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	12.09.19 21.13	
o-Terphenyl	84-15-1	89	%	70-135	12.09.19 21.13	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS15**
 Lab Sample Id: 645425-005

Matrix: Soil
 Date Collected: 12.04.19 12.00

Date Received: 12.06.19 08.30
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.08.19 14.38	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.08.19 14.38	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.08.19 14.38	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.08.19 14.38	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.08.19 14.38	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.08.19 14.38	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.08.19 14.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.08.19 14.38		
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.08.19 14.38		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS16** Matrix: Soil Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-006 Date Collected: 12.04.19 11.50 Sample Depth: 2.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 12.09.19 11.30 Basis: Wet Weight
 Seq Number: 3109879 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	290	5.05	mg/kg	12.09.19 14.19		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 12.09.19 14.00 Basis: Wet Weight
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.09.19 21.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.09.19 21.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.09.19 21.34	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.09.19 21.34	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.09.19 21.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	12.09.19 21.34	
o-Terphenyl	84-15-1	85	%	70-135	12.09.19 21.34	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS16**
 Lab Sample Id: 645425-006

Matrix: Soil
 Date Collected: 12.04.19 11.50

Date Received: 12.06.19 08.30
 Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.19 14.58	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.19 14.58	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.19 14.58	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.19 14.58	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.19 14.58	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.08.19 14.58	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.08.19 14.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.08.19 14.58		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.08.19 14.58		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS17**
Lab Sample Id: 645425-007

Matrix: Soil
Date Collected: 12.04.19 13.40

Date Received: 12.06.19 08.30
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3109879

Date Prep: 12.09.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1170	24.9	mg/kg	12.09.19 13.46		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3109954

Date Prep: 12.09.19 14.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.09.19 21.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.09.19 21.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.09.19 21.55	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.09.19 21.55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.09.19 21.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	12.09.19 21.55	
o-Terphenyl	84-15-1	88	%	70-135	12.09.19 21.55	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS17**
 Lab Sample Id: 645425-007

Matrix: Soil
 Date Collected: 12.04.19 13.40

Date Received: 12.06.19 08.30
 Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.08.19 15.18	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.08.19 15.18	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.08.19 15.18	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.08.19 15.18	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.08.19 15.18	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.08.19 15.18	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.08.19 15.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.08.19 15.18		
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.08.19 15.18		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS18** Matrix: Soil Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-008 Date Collected: 12.04.19 14.00 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 12.09.19 11.30 Basis: Wet Weight
 Seq Number: 3109879 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1680	25.1	mg/kg	12.09.19 13.52		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 12.09.19 14.00 Basis: Wet Weight
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.09.19 22.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.09.19 22.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.09.19 22.16	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.09.19 22.16	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.09.19 22.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	12.09.19 22.16	
o-Terphenyl	84-15-1	89	%	70-135	12.09.19 22.16	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS18**
Lab Sample Id: 645425-008

Matrix: Soil
Date Collected: 12.04.19 14.00

Date Received: 12.06.19 08.30
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.19 15.38	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.19 15.38	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.19 15.38	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.19 15.38	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.19 15.38	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.08.19 15.38	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.08.19 15.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.08.19 15.38		
4-Bromofluorobenzene	460-00-4	101	%	70-130	12.08.19 15.38		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS19** Matrix: Soil Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-009 Date Collected: 12.04.19 14.35 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 12.09.19 11.30 Basis: Wet Weight
 Seq Number: 3109879 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	567	4.96	mg/kg	12.09.19 13.59		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 12.09.19 14.00 Basis: Wet Weight
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.09.19 22.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.09.19 22.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.09.19 22.37	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.09.19 22.37	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.09.19 22.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	12.09.19 22.37	
o-Terphenyl	84-15-1	89	%	70-135	12.09.19 22.37	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS19**
 Lab Sample Id: 645425-009

Matrix: Soil
 Date Collected: 12.04.19 14.35

Date Received: 12.06.19 08.30
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.08.19 15.59	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.08.19 15.59	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.08.19 15.59	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.08.19 15.59	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.08.19 15.59	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.08.19 15.59	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.08.19 15.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.08.19 15.59		
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.08.19 15.59		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS20**
Lab Sample Id: 645425-010

Matrix: Soil
Date Collected: 12.04.19 11.05

Date Received: 12.06.19 08.30
Sample Depth: 5.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3109879

Date Prep: 12.09.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3040	25.0	mg/kg	12.09.19 14.06		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3109954

Date Prep: 12.09.19 14.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.09.19 22.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.09.19 22.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.09.19 22.58	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.09.19 22.58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.09.19 22.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	12.09.19 22.58	
o-Terphenyl	84-15-1	89	%	70-135	12.09.19 22.58	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS20**
 Lab Sample Id: 645425-010

Matrix: Soil
 Date Collected: 12.04.19 11.05

Date Received: 12.06.19 08.30
 Sample Depth: 5.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.19 16.19	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.19 16.19	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.19 16.19	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.19 16.19	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.19 16.19	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.08.19 16.19	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.08.19 16.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.08.19 16.19		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.08.19 16.19		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: FS21 Matrix: Soil Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-011 Date Collected: 12.04.19 11.30 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 12.09.19 11.30 Basis: Wet Weight
 Seq Number: 3109879 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2950	24.8	mg/kg	12.09.19 14.12		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 12.09.19 14.00 Basis: Wet Weight
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.09.19 23.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.09.19 23.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.09.19 23.40	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.09.19 23.40	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.09.19 23.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	12.09.19 23.40	
o-Terphenyl	84-15-1	89	%	70-135	12.09.19 23.40	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS21**
 Lab Sample Id: 645425-011

Matrix: Soil
 Date Collected: 12.04.19 11.30

Date Received: 12.06.19 08.30
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.19 17.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.19 17.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.19 17.38	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.08.19 17.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.19 17.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.08.19 17.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.08.19 17.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	12.08.19 17.38		
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.08.19 17.38		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: FS22
Lab Sample Id: 645425-012

Matrix: Soil
Date Collected: 12.04.19 15.55

Date Received: 12.06.19 08.30
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3109879

Date Prep: 12.09.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1960	24.9	mg/kg	12.09.19 14.39		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3109954

Date Prep: 12.09.19 14.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.10.19 00.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.10.19 00.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.10.19 00.01	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.10.19 00.01	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.10.19 00.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	12.10.19 00.01	
o-Terphenyl	84-15-1	90	%	70-135	12.10.19 00.01	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: FS22
Lab Sample Id: 645425-012

Matrix: Soil
Date Collected: 12.04.19 15.55

Date Received: 12.06.19 08.30
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.19 17.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.19 17.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.19 17.58	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.08.19 17.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.19 17.58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.08.19 17.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.08.19 17.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.08.19 17.58		
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.08.19 17.58		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW12**
Lab Sample Id: 645425-013

Matrix: Soil
Date Collected: 12.04.19 10.25

Date Received: 12.06.19 08.30
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3109879

Date Prep: 12.09.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	856	4.99	mg/kg	12.09.19 14.45		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3109954

Date Prep: 12.09.19 14.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.10.19 00.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.10.19 00.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.10.19 00.22	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.10.19 00.22	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.10.19 00.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	12.10.19 00.22	
o-Terphenyl	84-15-1	90	%	70-135	12.10.19 00.22	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW12**
 Lab Sample Id: 645425-013

Matrix: Soil
 Date Collected: 12.04.19 10.25

Date Received: 12.06.19 08.30
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.19 18.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.19 18.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.19 18.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.19 18.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.19 18.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.08.19 18.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.08.19 18.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.08.19 18.18		
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.08.19 18.18		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW13**
Lab Sample Id: 645425-014

Matrix: Soil
Date Collected: 12.04.19 11.17

Date Received: 12.06.19 08.30
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3109879

Date Prep: 12.09.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2370	25.1	mg/kg	12.09.19 15.05		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3109954

Date Prep: 12.09.19 14.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.10.19 00.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.10.19 00.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.10.19 00.43	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.10.19 00.43	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.10.19 00.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	12.10.19 00.43	
o-Terphenyl	84-15-1	90	%	70-135	12.10.19 00.43	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW13**
 Lab Sample Id: 645425-014

Matrix: Soil
 Date Collected: 12.04.19 11.17

Date Received: 12.06.19 08.30
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.08.19 18.38	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.08.19 18.38	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.08.19 18.38	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.08.19 18.38	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.08.19 18.38	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.08.19 18.38	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.08.19 18.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.08.19 18.38		
4-Bromofluorobenzene	460-00-4	105	%	70-130	12.08.19 18.38		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW14**
Lab Sample Id: 645425-015

Matrix: Soil
Date Collected: 12.04.19 14.45

Date Received: 12.06.19 08.30
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3109879

Date Prep: 12.09.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1650	24.8	mg/kg	12.09.19 15.12		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3109954

Date Prep: 12.09.19 14.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.10.19 01.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.10.19 01.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.10.19 01.04	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.10.19 01.04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.10.19 01.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.10.19 01.04	
o-Terphenyl	84-15-1	89	%	70-135	12.10.19 01.04	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW14**
 Lab Sample Id: 645425-015

Matrix: Soil
 Date Collected: 12.04.19 14.45

Date Received: 12.06.19 08.30
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.08.19 18.58	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.08.19 18.58	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.08.19 18.58	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.08.19 18.58	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.08.19 18.58	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.08.19 18.58	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.08.19 18.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.08.19 18.58		
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.08.19 18.58		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW15**
Lab Sample Id: 645425-016

Matrix: Soil
Date Collected: 12.04.19 11.40

Date Received: 12.06.19 08.30
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3109877

Date Prep: 12.09.19 10.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	236	5.00	mg/kg	12.09.19 14.29		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3109954

Date Prep: 12.09.19 14.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.10.19 01.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.10.19 01.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.10.19 01.26	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.10.19 01.26	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.10.19 01.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	12.10.19 01.26	
o-Terphenyl	84-15-1	85	%	70-135	12.10.19 01.26	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW15**
 Lab Sample Id: 645425-016

Matrix: Soil
 Date Collected: 12.04.19 11.40

Date Received: 12.06.19 08.30
 Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.19 19.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.19 19.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.19 19.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.19 19.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.19 19.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.08.19 19.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.08.19 19.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.08.19 19.18		
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.08.19 19.18		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW16**
Lab Sample Id: 645425-017

Matrix: Soil
Date Collected: 12.04.19 11.30

Date Received: 12.06.19 08.30
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3109877

Date Prep: 12.09.19 10.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1140	25.2	mg/kg	12.09.19 16.21		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3109954

Date Prep: 12.09.19 14.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.10.19 01.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.10.19 01.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.10.19 01.47	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.10.19 01.47	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.10.19 01.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	12.10.19 01.47	
o-Terphenyl	84-15-1	88	%	70-135	12.10.19 01.47	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW16**
 Lab Sample Id: 645425-017

Matrix: Soil
 Date Collected: 12.04.19 11.30

Date Received: 12.06.19 08.30
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.19 19.39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.19 19.39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.19 19.39	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.08.19 19.39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.19 19.39	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.08.19 19.39	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.08.19 19.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.08.19 19.39		
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.08.19 19.39		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW17** Matrix: Soil Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-018 Date Collected: 12.04.19 11.00 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 12.09.19 10.45 Basis: Wet Weight
 Seq Number: 3109877 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	188	4.95	mg/kg	12.09.19 14.40		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 12.09.19 14.00 Basis: Wet Weight
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.10.19 02.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.10.19 02.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.10.19 02.08	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.10.19 02.08	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.10.19 02.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	12.10.19 02.08	
o-Terphenyl	84-15-1	90	%	70-135	12.10.19 02.08	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW17**
 Lab Sample Id: 645425-018

Matrix: Soil
 Date Collected: 12.04.19 11.00

Date Received: 12.06.19 08.30
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.08.19 19.59	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.08.19 19.59	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.08.19 19.59	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.08.19 19.59	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.08.19 19.59	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.08.19 19.59	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.08.19 19.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.08.19 19.59		
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.08.19 19.59		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW18** Matrix: Soil Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-019 Date Collected: 12.04.19 10.50 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 12.09.19 10.45 Basis: Wet Weight
 Seq Number: 3109877 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	35.4	4.99	mg/kg	12.09.19 14.45		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 12.09.19 14.00 Basis: Wet Weight
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.10.19 02.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	70.1	50.0	mg/kg	12.10.19 02.29		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.10.19 02.29	U	1
Total GRO-DRO	PHC628	70.1	50.0	mg/kg	12.10.19 02.29		1
Total TPH	PHC635	70.1	50.0	mg/kg	12.10.19 02.29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	12.10.19 02.29	
o-Terphenyl	84-15-1	89	%	70-135	12.10.19 02.29	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW18**
 Lab Sample Id: 645425-019

Matrix: Soil
 Date Collected: 12.04.19 10.50

Date Received: 12.06.19 08.30
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.19 20.19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.19 20.19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.19 20.19	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.08.19 20.19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.19 20.19	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.08.19 20.19	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.08.19 20.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.08.19 20.19		
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.08.19 20.19		



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW19** Matrix: Soil Date Received: 12.06.19 08.30
 Lab Sample Id: 645425-020 Date Collected: 12.04.19 15.50 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 12.09.19 10.45 Basis: Wet Weight
 Seq Number: 3109877 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.5	5.02	mg/kg	12.09.19 14.51		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 12.09.19 14.00 Basis: Wet Weight
 Seq Number: 3109954 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.10.19 02.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.10.19 02.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.10.19 02.50	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.10.19 02.50	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.10.19 02.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	12.10.19 02.50	
o-Terphenyl	84-15-1	87	%	70-135	12.10.19 02.50	



Certificate of Analytical Results 645425

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW19**
 Lab Sample Id: 645425-020

Matrix: Soil
 Date Collected: 12.04.19 15.50

Date Received: 12.06.19 08.30
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3109775

Prep Method: SW5030B

% Moisture:

Date Prep: 12.07.19 15.25

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.19 20.39	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.19 20.39	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.19 20.39	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.19 20.39	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.19 20.39	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.08.19 20.39	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.08.19 20.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.08.19 20.39		
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.08.19 20.39		



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



LT Environmental, Inc.
Goldenchild CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3109877

MB Sample Id: 7691969-1-BLK

Matrix: Solid

LCS Sample Id: 7691969-1-BKS

Prep Method: E300P

Date Prep: 12.09.19

LCSD Sample Id: 7691969-1-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	263	105	266	106	90-110	1	20	mg/kg	12.09.19 12:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3109877

MB Sample Id: 7691970-1-BLK

Matrix: Solid

LCS Sample Id: 7691970-1-BKS

Prep Method: E300P

Date Prep: 12.09.19

LCSD Sample Id: 7691970-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	251	100	251	100	90-110	0	20	mg/kg	12.09.19 12:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3109877

Parent Sample Id: 645405-001

Matrix: Soil

MS Sample Id: 645405-001 S

Prep Method: E300P

Date Prep: 12.09.19

MSD Sample Id: 645405-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.96	249	241	96	241	96	90-110	0	20	mg/kg	12.09.19 13:47	

Analytical Method: Chloride by EPA 300

Seq Number: 3109877

Parent Sample Id: 645465-002

Matrix: Soil

MS Sample Id: 645465-002 S

Prep Method: E300P

Date Prep: 12.09.19

MSD Sample Id: 645465-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	89.2	251	326	94	328	95	90-110	1	20	mg/kg	12.09.19 12:32	

Analytical Method: Chloride by EPA 300

Seq Number: 3109879

Parent Sample Id: 645425-004

Matrix: Soil

MS Sample Id: 645425-004 S

Prep Method: E300P

Date Prep: 12.09.19

MSD Sample Id: 645425-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	752	250	960	83	961	84	90-110	0	20	mg/kg	12.09.19 12:53	X

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

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

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

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



LT Environmental, Inc.
Goldenchild CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3109879

Parent Sample Id: 645425-006

Matrix: Soil

MS Sample Id: 645425-006 S

Prep Method: E300P

Date Prep: 12.09.19

MSD Sample Id: 645425-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	290	253	530	95	530	95	90-110	0	20	mg/kg	12.09.19 14:26	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109954

MB Sample Id: 7691990-1-BLK

Matrix: Solid

LCS Sample Id: 7691990-1-BKS

Prep Method: SW8015P

Date Prep: 12.09.19

LCSD Sample Id: 7691990-1-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	825	83	828	83	70-135	0	20	mg/kg	12.09.19 18:24	
Diesel Range Organics (DRO)	<15.0	1000	835	84	856	86	70-135	2	20	mg/kg	12.09.19 18:24	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	81		111		94		70-135	%	12.09.19 18:24
o-Terphenyl	84		100		96		70-135	%	12.09.19 18:24

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109954

Matrix: Solid

MB Sample Id: 7691990-1-BLK

Prep Method: SW8015P

Date Prep: 12.09.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.09.19 18:03	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109954

Matrix: Soil

Parent Sample Id: 645425-001

MS Sample Id: 645425-001 S

Prep Method: SW8015P

Date Prep: 12.09.19

MSD Sample Id: 645425-001 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	997	1030	103	1040	104	70-135	1	20	mg/kg	12.09.19 19:28	
Diesel Range Organics (DRO)	<15.0	997	964	97	981	98	70-135	2	20	mg/kg	12.09.19 19:28	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		99		70-135	%	12.09.19 19:28
o-Terphenyl	95		95		70-135	%	12.09.19 19:28

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



LT Environmental, Inc.
Goldenchild CTB

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109775

MB Sample Id: 7691902-1-BLK

Matrix: Solid

LCS Sample Id: 7691902-1-BKS

Prep Method: SW5030B

Date Prep: 12.07.19

LCSD Sample Id: 7691902-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0995	100	0.0989	99	70-130	1	35	mg/kg	12.08.19 11:17	
Toluene	<0.000456	0.100	0.0951	95	0.0981	98	70-130	3	35	mg/kg	12.08.19 11:17	
Ethylbenzene	<0.000565	0.100	0.0909	91	0.0949	95	70-130	4	35	mg/kg	12.08.19 11:17	
m,p-Xylenes	<0.00101	0.200	0.183	92	0.193	97	70-130	5	35	mg/kg	12.08.19 11:17	
o-Xylene	<0.000344	0.100	0.0924	92	0.0999	100	70-130	8	35	mg/kg	12.08.19 11:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		94		98		70-130	%	12.08.19 11:17
4-Bromofluorobenzene	91		100		107		70-130	%	12.08.19 11:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109775

Parent Sample Id: 645425-001

Matrix: Soil

MS Sample Id: 645425-001 S

Prep Method: SW5030B

Date Prep: 12.07.19

MSD Sample Id: 645425-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.0830	83	0.0788	79	70-130	5	35	mg/kg	12.08.19 11:58	
Toluene	<0.000455	0.0998	0.0793	79	0.0797	80	70-130	1	35	mg/kg	12.08.19 11:58	
Ethylbenzene	<0.000564	0.0998	0.0765	77	0.0788	79	70-130	3	35	mg/kg	12.08.19 11:58	
m,p-Xylenes	<0.00101	0.200	0.152	76	0.159	80	70-130	5	35	mg/kg	12.08.19 11:58	
o-Xylene	<0.000344	0.0998	0.0756	76	0.0794	80	70-130	5	35	mg/kg	12.08.19 11:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	12.08.19 11:58
4-Bromofluorobenzene	104		111		70-130	%	12.08.19 11:58

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

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

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

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



Chain of Custody

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

Work Order No: 6415 425

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Project Manager:	Aimee Cole	Bill to: (if different)	Kyle Litrell
Company Name:	LT Environmental	Company Name:	KTD
Address:	3300 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Casabad NM 88220
Phone:	720 384 7365	Email:	acole@ltenv.com

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

Project Name:	Gelderschild CTB	Turn Around	☐
Project Number:		Routine	☐
Project Location:	Rural Eddy County	Rush:	5 DAY
Sampler's Name:	Anna Byers	Due Date:	
PO #:	22P-4636	Quote #:	

SAMPLE RECEIPT		Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):	2.5	Thermometer ID	T-NM-001		
Received Intact:	☒ Yes ☐ No	Correction Factor:	-0.2		
Cooler Custody Seals:	☒ Yes ☐ No	Total Containers:	20		
Sample Custody Seals:	☒ Yes ☐ No				

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
FS11		S	12/4/19	100.5	4.5'	1	TPH (EPA 8015)	MeOH: Me	
FS12				101.5	4.5'	1	BTEX (EPA 8021)	None: NO	
FS13				102.0	3'	1	Chloride (EPA 300.0)	HNO3: HN	
FS14				111.5	5'	1		H2SO4: H2	
FS15				120.0	4'	1		HCL: HL	
FS16				115.0	2.5'	1		NaOH: Na	
FS17				134.0	4.5'	1		Zn Acetate+ NaOH: Zn	
FS18				140.0	1.5'	1			
FS19				143.5	1'	1			
FS20				110.5	5.5'	1			

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

BRORA 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 Ti Sn U V Zn
TCLP / SPLP 6010: BRORA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Anna By</i>	<i>Anna By</i>	12/6/19 08:30	<i>Anna By</i>	<i>Anna By</i>	12/6/19 08:30



Chain of Custody

Work Order No. 1045425

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) 794-1236
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 889-6701

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Project Manager:	Aimee Cole	Bill to: (if different)	Kyle Little
Company Name:	LT Environmental	Company Name:	XFB
Address:	3300 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79405	City, State ZIP:	Carlsbad NM 88220
Phone:	720 384 7365	Email:	acole@ltenv.com acole@xenco.com

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

Project Name:	Goldenschild CTB	Tum Around	☐
Project Number:		Routine	☐
Project Location:	Rural Eddy County	Rush:	SDAY
Sampler's Name:	Aimee Cole	Due Date:	
PO #:	22P-4636	Quote #:	

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

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
FS21		S	12/4/19	1130	4'		TPH (EPA 8015)	MeOH: Me	
FS22				1555	4'		BTEX (EPA 8021)	None: NO	
SW12				1625	2'		Chloride (EPA 800.0)	HNO3: HN	
SW13				1117	1.5'			H2SO4: H2	
SW14				1445	0.5'			HCL: HL	
SW15				1140	2.5'			NaOH: Na	
SW16				1130	1'			Zn Acetate+ NaOH: Zn	
SW17				1100	2'				
SW18				1050	1'				
SW19				1550	2'				

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

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 Ti Sn U V Zn

TCPLP/SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Aimee Cole	Aimee Cole	12/06/19 0830	Aimee Cole	Aimee Cole	12/06/19 0830

Inter-Office Shipment

IOS Number **53694**

Date/Time: 12/06/19 13:41

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 7771 7682 4669

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
645425-001	S	FS11	12/04/19 10:05	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-001	S	FS11	12/04/19 10:05	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-001	S	FS11	12/04/19 10:05	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-002	S	FS12	12/04/19 10:15	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-002	S	FS12	12/04/19 10:15	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-002	S	FS12	12/04/19 10:15	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-003	S	FS13	12/04/19 10:20	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-003	S	FS13	12/04/19 10:20	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-003	S	FS13	12/04/19 10:20	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-004	S	FS14	12/04/19 11:15	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-004	S	FS14	12/04/19 11:15	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-004	S	FS14	12/04/19 11:15	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-005	S	FS15	12/04/19 12:00	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-005	S	FS15	12/04/19 12:00	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-005	S	FS15	12/04/19 12:00	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-006	S	FS16	12/04/19 11:50	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-006	S	FS16	12/04/19 11:50	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-006	S	FS16	12/04/19 11:50	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-007	S	FS17	12/04/19 13:40	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-007	S	FS17	12/04/19 13:40	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-007	S	FS17	12/04/19 13:40	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-008	S	FS18	12/04/19 14:00	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-008	S	FS18	12/04/19 14:00	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-008	S	FS18	12/04/19 14:00	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-009	S	FS19	12/04/19 14:35	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	



Inter-Office Shipment

IOS Number **53694**

Date/Time: 12/06/19 13:41

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 7771 7682 4669

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
645425-009	S	FS19	12/04/19 14:35	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-009	S	FS19	12/04/19 14:35	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-010	S	FS20	12/04/19 11:05	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-010	S	FS20	12/04/19 11:05	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-010	S	FS20	12/04/19 11:05	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-011	S	FS21	12/04/19 11:30	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-011	S	FS21	12/04/19 11:30	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-011	S	FS21	12/04/19 11:30	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-012	S	FS22	12/04/19 15:55	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-012	S	FS22	12/04/19 15:55	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-012	S	FS22	12/04/19 15:55	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-013	S	SW12	12/04/19 10:25	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-013	S	SW12	12/04/19 10:25	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-013	S	SW12	12/04/19 10:25	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-014	S	SW13	12/04/19 11:17	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-014	S	SW13	12/04/19 11:17	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-014	S	SW13	12/04/19 11:17	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-015	S	SW14	12/04/19 14:45	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-015	S	SW14	12/04/19 14:45	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-015	S	SW14	12/04/19 14:45	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-016	S	SW15	12/04/19 11:40	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-016	S	SW15	12/04/19 11:40	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	
645425-016	S	SW15	12/04/19 11:40	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-017	S	SW16	12/04/19 11:30	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-017	S	SW16	12/04/19 11:30	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:



Inter-Office Shipment

Page 3 of 3

IOS Number **53694**

Date/Time: 12/06/19 13:41

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 7771 7682 4669

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
645425-017	S	SW16	12/04/19 11:30	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-018	S	SW17	12/04/19 11:00	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PI	
645425-018	S	SW17	12/04/19 11:00	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-018	S	SW17	12/04/19 11:00	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-019	S	SW18	12/04/19 10:50	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PI	
645425-019	S	SW18	12/04/19 10:50	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-019	S	SW18	12/04/19 10:50	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-020	S	SW19	12/04/19 15:50	SW8021B	BTEX by EPA 8021B	12/12/19	12/18/19	JKR	BZ BZME EBZ XYLENES	
645425-020	S	SW19	12/04/19 15:50	E300_CL	Chloride by EPA 300	12/12/19	06/01/20	JKR	CL	
645425-020	S	SW19	12/04/19 15:50	SW8015MOD_NM	TPH by SW8015 Mod	12/12/19	12/18/19	JKR	GRO-DRO PHCC10C28 PI	

Inter Office Shipment or Sample Comments:

Relinquished By:

Date Relinquished:

Elizabeth McClellan

12/06/2019

Received By:

Brianna Teel

Date Received:

12/09/2019 07:19

Cooler Temperature:

2.5



Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 53694

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 12/06/2019 01:41 PM

Received By: Brianna Teel

Date Received: 12/09/2019 07:19 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.5
#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: 12/09/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/06/2019 08:30:00 AM

Work Order #: 645425

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.5
#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)?	Yes Subbed to 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: 12/06/2019

Checklist reviewed by:

Jessica Kramer

Date: 12/10/2019

Analytical Report 653665

for
LT Environmental, Inc.

Project Manager: Dan Moir

Goldenchild CTB

012918021

26-FEB-20

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 (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)



26-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **653665**

Goldenchild CTB

Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 653665. 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. 653665 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,

A handwritten signature in black ink that reads 'Jessica Kramer'. The signature is written in a cursive, flowing style.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 653665

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW20	S	02-25-20 11:30	0 - 5 ft	653665-001



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *Goldenchild CTB*

Project ID: 012918021

Work Order Number(s): 653665

Report Date: 26-FEB-20

Date Received: 02/25/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3117673 BTEX by EPA 8021B

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



Certificate of Analysis Summary 653665

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild CTB

Project Id: 012918021

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Feb-25-20 03:43 pm

Report Date: 26-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	653665-001					
	Field Id:	SW20					
	Depth:	0-5 ft					
	Matrix:	SOIL					
	Sampled:	Feb-25-20 11:30					
BTEX by EPA 8021B	Extracted:	Feb-25-20 16:00					
	Analyzed:	Feb-25-20 19:54					
	Units/RL:	mg/kg RL					
Benzene		<0.00198 0.00198					
Toluene		<0.00198 0.00198					
Ethylbenzene		<0.00198 0.00198					
m,p-Xylenes		<0.00397 0.00397					
o-Xylene		<0.00198 0.00198					
Total Xylenes		<0.00198 0.00198					
Total BTEX		<0.00198 0.00198					
Chloride by EPA 300	Extracted:	Feb-25-20 17:00					
	Analyzed:	Feb-25-20 17:33					
	Units/RL:	mg/kg RL					
Chloride		171 9.92					
TPH by SW8015 Mod	Extracted:	Feb-25-20 17:30					
	Analyzed:	Feb-26-20 07:43					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0					
Diesel Range Organics (DRO)		<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0					
Total GRO-DRO		<50.0 50.0					
Total TPH		<50.0 50.0					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 653665

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW20**
Lab Sample Id: 653665-001

Matrix: Soil
Date Collected: 02.25.20 11.30

Date Received: 02.25.20 15.43
Sample Depth: 0 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3117676

Date Prep: 02.25.20 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	171	9.92	mg/kg	02.25.20 17.33		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3117697

Date Prep: 02.25.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.26.20 07.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.26.20 07.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.26.20 07.43	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.26.20 07.43	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.26.20 07.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.26.20 07.43	
o-Terphenyl	84-15-1	117	%	70-135	02.26.20 07.43	



Certificate of Analytical Results 653665

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **SW20**
Lab Sample Id: 653665-001

Matrix: Soil
Date Collected: 02.25.20 11.30

Date Received: 02.25.20 15.43
Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.25.20 16.00

Basis: Wet Weight

Seq Number: 3117673

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.25.20 19.54	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.25.20 19.54	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.25.20 19.54	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.25.20 19.54	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.25.20 19.54	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.25.20 19.54	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.25.20 19.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.25.20 19.54		
4-Bromofluorobenzene	460-00-4	94	%	70-130	02.25.20 19.54		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
Goldenchild CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3117676

MB Sample Id: 7697408-1-BLK

Matrix: Solid

LCS Sample Id: 7697408-1-BKS

Prep Method: E300P

Date Prep: 02.25.20

LCSD Sample Id: 7697408-1-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	250	100	256	102	90-110	2	20	mg/kg	02.25.20 13:51	

Analytical Method: Chloride by EPA 300

Seq Number: 3117676

Parent Sample Id: 653581-005

Matrix: Soil

MS Sample Id: 653581-005 S

Prep Method: E300P

Date Prep: 02.25.20

MSD Sample Id: 653581-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	154	200	373	110	370	107	90-110	1	20	mg/kg	02.25.20 14:12	

Analytical Method: Chloride by EPA 300

Seq Number: 3117676

Parent Sample Id: 653662-003

Matrix: Soil

MS Sample Id: 653662-003 S

Prep Method: E300P

Date Prep: 02.25.20

MSD Sample Id: 653662-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	31.4	199	229	99	218	94	90-110	5	20	mg/kg	02.25.20 18:18	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117697

MB Sample Id: 7697467-1-BLK

Matrix: Solid

LCS Sample Id: 7697467-1-BKS

Prep Method: SW8015P

Date Prep: 02.25.20

LCSD Sample Id: 7697467-1-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	1100	110	1240	124	70-135	12	35	mg/kg	02.26.20 06:45	
Diesel Range Organics (DRO)	<50.0	1000	1320	132	1310	131	70-135	1	35	mg/kg	02.26.20 06:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		125		120		70-135	%	02.26.20 06:45
o-Terphenyl	130		116		116		70-135	%	02.26.20 06:45

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117697

Matrix: Solid

MB Sample Id: 7697467-1-BLK

Prep Method: SW8015P

Date Prep: 02.25.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.26.20 06:45	

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

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

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



LT Environmental, Inc.
Goldenchild CTB

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117697

Parent Sample Id: 653655-001

Matrix: Soil

MS Sample Id: 653655-001 S

Prep Method: SW8015P

Date Prep: 02.25.20

MSD Sample Id: 653655-001 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)	<50.1	1000	1060	106	923	93	70-135	14	35	mg/kg	02.26.20 07:23	
Diesel Range Organics (DRO)	<50.1	1000	1160	116	1060	107	70-135	9	35	mg/kg	02.26.20 07:23	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		119		70-135	%	02.26.20 07:23
o-Terphenyl	133		126		70-135	%	02.26.20 07:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3117673

MB Sample Id: 7697461-1-BLK

Matrix: Solid

LCS Sample Id: 7697461-1-BKS

Prep Method: SW5030B

Date Prep: 02.25.20

LCSD Sample Id: 7697461-1-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	0.109	109	0.111	111	70-130	2	35	mg/kg	02.25.20 17:51	
Toluene	<0.00200	0.100	0.105	105	0.106	106	70-130	1	35	mg/kg	02.25.20 17:51	
Ethylbenzene	<0.00200	0.100	0.101	101	0.102	102	71-129	1	35	mg/kg	02.25.20 17:51	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.210	105	70-135	0	35	mg/kg	02.25.20 17:51	
o-Xylene	<0.00200	0.100	0.104	104	0.105	105	71-133	1	35	mg/kg	02.25.20 17:51	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		105		70-130	%	02.25.20 17:51
4-Bromofluorobenzene	96		94		94		70-130	%	02.25.20 17:51

Analytical Method: BTEX by EPA 8021B

Seq Number: 3117673

Parent Sample Id: 653655-001

Matrix: Soil

MS Sample Id: 653655-001 S

Prep Method: SW5030B

Date Prep: 02.25.20

MSD Sample Id: 653655-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.105	105	0.129	130	70-130	21	35	mg/kg	02.25.20 18:32	
Toluene	<0.00200	0.100	0.101	101	0.123	124	70-130	20	35	mg/kg	02.25.20 18:32	
Ethylbenzene	<0.00200	0.100	0.0968	97	0.118	119	71-129	20	35	mg/kg	02.25.20 18:32	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.242	122	70-135	19	35	mg/kg	02.25.20 18:32	
o-Xylene	<0.00200	0.100	0.0995	100	0.120	121	71-133	19	35	mg/kg	02.25.20 18:32	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		105		70-130	%	02.25.20 18:32
4-Bromofluorobenzene	100		93		70-130	%	02.25.20 18:32

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

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

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

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



Chain of Custody

Work Order No:

253605

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3333

Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crasabad, NM (432) 704-5440

Phoenix, AZ (480) 335-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6700

Page 1 of 1
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of

Project Manager:	Don Meier	Bill to: (if different)	Kyle C. Hell
Company Name:	LT Envision Mentel, Inc. Permian Office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432-236-3849	Email:	StoelHeav.com, dmeier@Heav.com, acole@Heav.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:

[illegible]

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

[illegible]

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenoco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenoco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenoco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenoco, but not analyzed. These terms will be enforced unless previously negotiated.

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		2/25/2015:432			
		4			
		6			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.25.2020 03.43.00 PM

Work Order #: 653665

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)?	1.8
#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: 02.25.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.26.2020

Analytical Report 653672

for
LT Environmental, Inc.

Project Manager: Dan Moir

Goldenchild CTB

012918021

26-FEB-20

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 (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)



26-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **653672**

Goldenchild CTB

Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 653672. 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. 653672 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,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 653672

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS23	S	02-25-20 13:45	5 ft	653672-001



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *Goldenchild CTB*

Project ID: 012918021
Work Order Number(s): 653672

Report Date: 26-FEB-20
Date Received: 02/25/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3117673 BTEX by EPA 8021B

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



Certificate of Analysis Summary 653672

LT Environmental, Inc., Arvada, CO

Project Name: Goldenchild CTB

Project Id: 012918021

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Feb-25-20 03:43 pm

Report Date: 26-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	653672-001					
	Field Id:	FS23					
	Depth:	5- ft					
	Matrix:	SOIL					
	Sampled:	Feb-25-20 13:45					
BTEX by EPA 8021B	Extracted:	Feb-25-20 16:00					
	Analyzed:	Feb-25-20 20:14					
	Units/RL:	mg/kg RL					
Benzene		<0.00199 0.00199					
Toluene		<0.00199 0.00199					
Ethylbenzene		<0.00199 0.00199					
m,p-Xylenes		<0.00398 0.00398					
o-Xylene		<0.00199 0.00199					
Total Xylenes		<0.00199 0.00199					
Total BTEX		<0.00199 0.00199					
Chloride by EPA 300	Extracted:	Feb-25-20 17:00					
	Analyzed:	Feb-25-20 17:44					
	Units/RL:	mg/kg RL					
Chloride		25.9 9.98					
TPH by SW8015 Mod	Extracted:	Feb-25-20 17:30					
	Analyzed:	Feb-26-20 08:02					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0					
Diesel Range Organics (DRO)		<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0					
Total GRO-DRO		<50.0 50.0					
Total TPH		<50.0 50.0					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 653672

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: FS23
Lab Sample Id: 653672-001

Matrix: Soil
Date Collected: 02.25.20 13.45

Date Received: 02.25.20 15.43
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3117676

Date Prep: 02.25.20 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.9	9.98	mg/kg	02.25.20 17.44		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3117697

Date Prep: 02.25.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.26.20 08.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.26.20 08.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.26.20 08.02	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.26.20 08.02	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.26.20 08.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.26.20 08.02	
o-Terphenyl	84-15-1	114	%	70-135	02.26.20 08.02	



Certificate of Analytical Results 653672

LT Environmental, Inc., Arvada, CO

Goldenchild CTB

Sample Id: **FS23**
 Lab Sample Id: 653672-001

Matrix: Soil
 Date Collected: 02.25.20 13.45

Date Received: 02.25.20 15.43
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.25.20 16.00

Basis: Wet Weight

Seq Number: 3117673

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.25.20 20.14	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.25.20 20.14	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.25.20 20.14	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.25.20 20.14	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.25.20 20.14	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.25.20 20.14	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.25.20 20.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.25.20 20.14		
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.25.20 20.14		



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



LT Environmental, Inc.
Goldenchild CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3117676

MB Sample Id: 7697408-1-BLK

Matrix: Solid

LCS Sample Id: 7697408-1-BKS

Prep Method: E300P

Date Prep: 02.25.20

LCSD Sample Id: 7697408-1-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	250	100	256	102	90-110	2	20	mg/kg	02.25.20 13:51	

Analytical Method: Chloride by EPA 300

Seq Number: 3117676

Parent Sample Id: 653581-005

Matrix: Soil

MS Sample Id: 653581-005 S

Prep Method: E300P

Date Prep: 02.25.20

MSD Sample Id: 653581-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	154	200	373	110	370	107	90-110	1	20	mg/kg	02.25.20 14:12	

Analytical Method: Chloride by EPA 300

Seq Number: 3117676

Parent Sample Id: 653662-003

Matrix: Soil

MS Sample Id: 653662-003 S

Prep Method: E300P

Date Prep: 02.25.20

MSD Sample Id: 653662-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	31.4	199	229	99	218	94	90-110	5	20	mg/kg	02.25.20 18:18	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117697

MB Sample Id: 7697467-1-BLK

Matrix: Solid

LCS Sample Id: 7697467-1-BKS

Prep Method: SW8015P

Date Prep: 02.25.20

LCSD Sample Id: 7697467-1-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	1100	110	1240	124	70-135	12	35	mg/kg	02.26.20 06:45	
Diesel Range Organics (DRO)	<50.0	1000	1320	132	1310	131	70-135	1	35	mg/kg	02.26.20 06:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		125		120		70-135	%	02.26.20 06:45
o-Terphenyl	130		116		116		70-135	%	02.26.20 06:45

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117697

Matrix: Solid

MB Sample Id: 7697467-1-BLK

Prep Method: SW8015P

Date Prep: 02.25.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.26.20 06:45	

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

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

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



LT Environmental, Inc.
Goldenchild CTB

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117697

Parent Sample Id: 653655-001

Matrix: Soil

MS Sample Id: 653655-001 S

Prep Method: SW8015P

Date Prep: 02.25.20

MSD Sample Id: 653655-001 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)	<50.1	1000	1060	106	923	93	70-135	14	35	mg/kg	02.26.20 07:23	
Diesel Range Organics (DRO)	<50.1	1000	1160	116	1060	107	70-135	9	35	mg/kg	02.26.20 07:23	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		119		70-135	%	02.26.20 07:23
o-Terphenyl	133		126		70-135	%	02.26.20 07:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3117673

MB Sample Id: 7697461-1-BLK

Matrix: Solid

LCS Sample Id: 7697461-1-BKS

Prep Method: SW5030B

Date Prep: 02.25.20

LCSD Sample Id: 7697461-1-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	0.109	109	0.111	111	70-130	2	35	mg/kg	02.25.20 17:51	
Toluene	<0.00200	0.100	0.105	105	0.106	106	70-130	1	35	mg/kg	02.25.20 17:51	
Ethylbenzene	<0.00200	0.100	0.101	101	0.102	102	71-129	1	35	mg/kg	02.25.20 17:51	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.210	105	70-135	0	35	mg/kg	02.25.20 17:51	
o-Xylene	<0.00200	0.100	0.104	104	0.105	105	71-133	1	35	mg/kg	02.25.20 17:51	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		105		70-130	%	02.25.20 17:51
4-Bromofluorobenzene	96		94		94		70-130	%	02.25.20 17:51

Analytical Method: BTEX by EPA 8021B

Seq Number: 3117673

Parent Sample Id: 653655-001

Matrix: Soil

MS Sample Id: 653655-001 S

Prep Method: SW5030B

Date Prep: 02.25.20

MSD Sample Id: 653655-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.105	105	0.129	130	70-130	21	35	mg/kg	02.25.20 18:32	
Toluene	<0.00200	0.100	0.101	101	0.123	124	70-130	20	35	mg/kg	02.25.20 18:32	
Ethylbenzene	<0.00200	0.100	0.0968	97	0.118	119	71-129	20	35	mg/kg	02.25.20 18:32	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.242	122	70-135	19	35	mg/kg	02.25.20 18:32	
o-Xylene	<0.00200	0.100	0.0995	100	0.120	121	71-133	19	35	mg/kg	02.25.20 18:32	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		105		70-130	%	02.25.20 18:32
4-Bromofluorobenzene	100		93		70-130	%	02.25.20 18:32

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

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

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

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



Chain of Custody

Work Order No: 653672

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

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Project Manager:	Don Moir	Bill to: (if different)	Kyle L. Howell
Company Name:	LT Environmental, Inc. Permian Office	Company Name:	WTO Energy
Address:	3300 North A Street	Address:	400 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Casabad, NM 88220
Phone:	432-236-3849	Email:	slc@henv.com, dmoir@henv.com, acole@henv.com

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:	Coldenchild CTB	Turn Around	☐
Project Number:	012918024	Routine	☐
Project Location:		Rush:	24/7
Sampler's Name:		Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	1.8			Thermometer ID		
Received Intact:	Yes	No				
Cooler Custody Seals:	Yes	No	Correction Factor:	-0.2		
Sample Custody Seals:	Yes	No	Total Containers:	1		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth
	F523	S	2-25-20	1345	5"

ANALYSIS REQUEST										PRESERVATIVE CODES											
Pres. Code											MeOH: Me										
											None: NO										
											HNO3: HN										
											H2SO4: H2										
											HCL: HL										
											NaOH: Na										
											Zn Acetate+ NaOH: Zn										
TAT starts the day received by the lab, if received by 4:00pm																					
Sample Comments																					

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		2/25/201545			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.25.2020 03.43.00 PM

Work Order #: 653672

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)?	1.8
#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: 02.25.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.26.2020