



LT Environmental, Inc.

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

April 1, 2020

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

**RE: Closure Request
Poker Lake Unit 423H Tank Battery
Remediation Permit Number 2RP-4466
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 Poker Lake Unit (PLU) 423H Tank Battery (Site) in Unit I, Section 19, Township 25 South, Range 30 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 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.

RELEASE BACKGROUND

On July 21, 2017, the saltwater disposal (SWD) line ruptured at a poly-to-steel weld of the SWD riser on the west side of the facility containment. Approximately 1,249 barrels (bbls) of produced water were released onto the surface of the caliche well pad and adjacent pasture. A vacuum truck recovered approximately 960 bbls of free-standing fluids. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on November 1, 2017 and was assigned Remediation Permit (RP) Number 2RP-4466 (Attachment 1). Based on the site assessment activities and results of the soil sampling events, XTO is requesting no further action for this release.



SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of 19.15.29.12 of the NMAC. Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is United States Geological Survey (USGS) Well 320628103533001, located approximately 7,423 feet southeast of the Site. The water well has a depth to groundwater of 265 feet and a total depth of 288 feet. Ground surface elevation at the water well location is 3,207 feet above mean sea level (AMSL), which is approximately 26 feet higher in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an intermittent stream located approximately 900 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low-potential karst area.

In an effort to confirm depth to water in the area, a soil boring was advanced to a depth of 110 feet bgs via truck-mounted sonic drill rig. An LTE geologist logged and described soils continuously. The borehole lithologic/soil sampling log is included in Attachment 2. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 110 feet. The borehole was properly abandoned with hydrated bentonite chips.

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;
- TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg;
- Total petroleum hydrocarbons (TPH): 2,500 mg/kg; and
- Chloride: 20,000 mg/kg.

A closure criteria of 600 mg/kg chloride was applied to the top 4 feet the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.



Billings, B.
Page 3

PRELIMINARY SOIL SAMPLING ACTIVITIES

On February 15, 2018, LTE personnel inspected the Site to evaluate the release extent. Thirteen preliminary soil samples (SS01 through SS13) were collected within and around the release area to assess the lateral extent of impacted soil. The soil sample locations, depicted on Figure 2, were selected based on information provided on the initial Form C-141 and field observations. On August 17, 2018, LTE personnel returned to the site to collect additional soil samples to assess the vertical extent of impacted soil. Soil samples SS03A, SS07A, SS09A, SS10A, SS11A, and SS13A were collected from depths ranging from 4 feet to 10 feet bgs at the SS03, SS07, SS09, SS10, SS11, and SS13 preliminary soil sample locations.

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, or Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0. The soil sample locations are depicted on Figure 2.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

Between August 2019 and February 2020, LTE personnel returned to the Site to oversee site assessment and excavation activities.

Potholes were advanced via track hoe at 22 locations on the well pad and pasture area south and west of the well pad to determine the lateral and vertical extent impacted soil. Potholes PH01 through PH22 were advanced to depths ranging from 4 feet to 18 feet bgs. Delineation soil samples were collected from each pothole from depths ranging from 1 foot to 18 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Attachment 2. The preliminary and delineation soil sample locations are depicted on Figure 3.

Impacted soil was excavated from the release area as indicated by visual observations, field screening activities, and laboratory analytical results for the preliminary and delineation soil samples. The well pad and pasture excavations were separated by the production and process equipment containment areas that were not impacted by the release. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Impacted soil was excavated to depths ranging from 4 feet to 14.5 feet bgs. Following removal of impacted soil, LTE collected 5-point composite



Billings, B.
Page 4

soil samples from the sidewalls and floors of the excavations. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW57 were collected from the sidewalls of the excavations from depths ranging from the ground surface to 10 feet bgs. Composite soil samples FS01 through FS75 were collected from the floors of the excavations from depths ranging from 4 feet to 14.5 feet bgs. The excavation extents and excavation soil sample locations are depicted on Figure 4.

The delineation and excavation soil samples were collected, handled, and analyzed as described above and submitted to Xenco. Photographic documentation was conducted during the Site visits. Photographs are included in Attachment 3.

A total of approximately 9,500 cubic yards of impacted soil were removed from the excavations. The impacted soil was transported and properly disposed of at the R360 Landfill located in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results for soil samples SS02, SS03A, SS05, SS06, SS07A, SS08, SS09A, SS10/SS10A, SS11A, SS13/SS13A indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria, and chloride concentrations were below 600 mg/kg in samples collected from the top four feet in the pasture. Laboratory analytical results indicated that GRO/DRO, TPH, and/or chloride concentrations exceeded the Closure Criteria in preliminary soil samples SS01, SS09, SS11, and SS12, collected on the well pad from a depth of 0.3 feet bgs. Laboratory analytical results indicated that chloride concentrations exceeded 600 mg/kg in preliminary soil samples SS03, SS04, and SS07, collected in the pasture from a depth of 0.3 feet bgs. Laboratory analytical results for the preliminary soil samples are summarized in Table 1. Based on laboratory analytical results for the preliminary soil samples, delineation and excavation of impacted soil was conducted.

Laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH12, PH15, PH17, and PH19 through PH22 indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria, and chloride concentrations were below 600 mg/kg in samples collected from the top four feet in the pasture. Laboratory analytical results indicated that chloride concentrations exceeded 600 mg/kg in delineation soil samples PH13, PH14, PH16, and PH18, collected in the pasture from depths of 1 foot to 3 feet bgs. Subsequent vertical delineation soil samples collected from potholes PH13, PH14, PH16, and PH18 were compliant with the Closure Criteria. Laboratory analytical results for the delineation soil samples are summarized in Table 2. Based on laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH22, the lateral and vertical extent of impacted soil was successfully defined, and impacted soil was excavated.

Billings, B.
Page 5

Laboratory analytical results for excavation soil samples SW01 through SW15, SW17, SW20 through SW32, SW34 through SW38, SW41, and SW44 through SW57, and FS01 through FS75 indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and chloride concentrations were below 600 mg/kg in samples collected in the pasture from the top four feet of the subsurface. Excavation sidewall samples SW16, SW18, SW19, SW33, SW39, SW40, SW42, and SW43 collected from the pasture excavation, initially exceeded a chloride concentration of 600 mg/kg. Additional soil was removed from these areas and sidewall samples SW44 through SW45, SW51 through SW55, and SW57, collected from the final excavation extent, were compliant with the Closure Criteria. Laboratory analytical results for the excavation soil samples are summarized in Table 3. The complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the July 21, 2017, release of produced water. Delineation soil sampling was completed in and around the release extent to define the lateral and vertical extent of impacted soil. Based on the laboratory analytical results for the delineation soil samples, impacted soil was excavated. Laboratory analytical results for excavation soil samples, collected from the final excavation extent, indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Additionally, chloride concentrations were below 600 mg/kg in excavation soil samples collected in the pasture from the top four feet of the subsurface. Based on the excavation and delineation soil sample analytical results, no further remediation was required.

Initial response efforts, natural attenuation, and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for RP Number 2RP-4466. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included in Attachment 1.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Aimee Cole
Project Environmental Scientist

Ashley L. Ager, P.G.
Senior Geologist



Billings, B.
Page 6

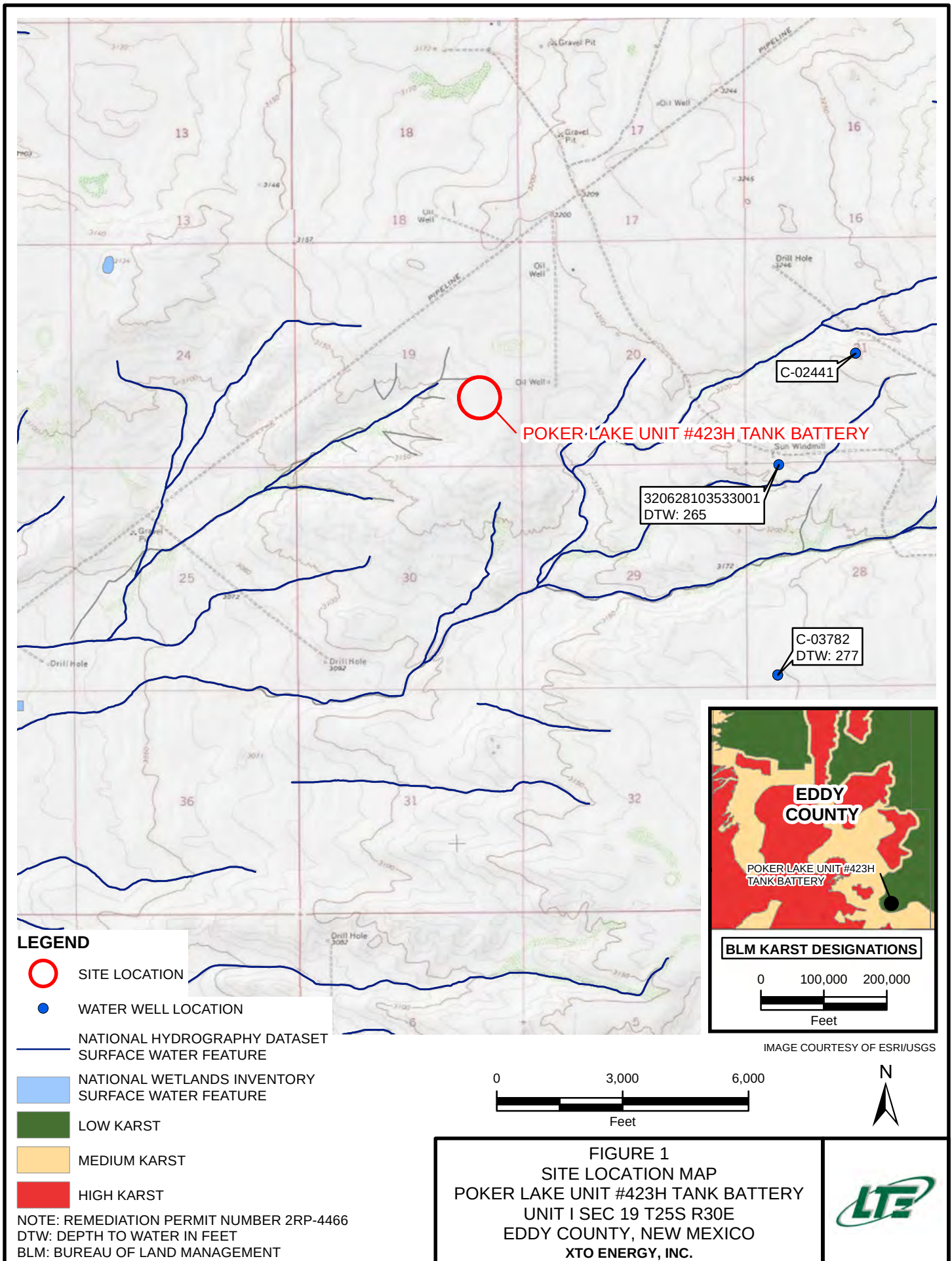
cc: Kyle Littrell, XTO
Bureau of Land Management
Mike Bratcher, NMOCD

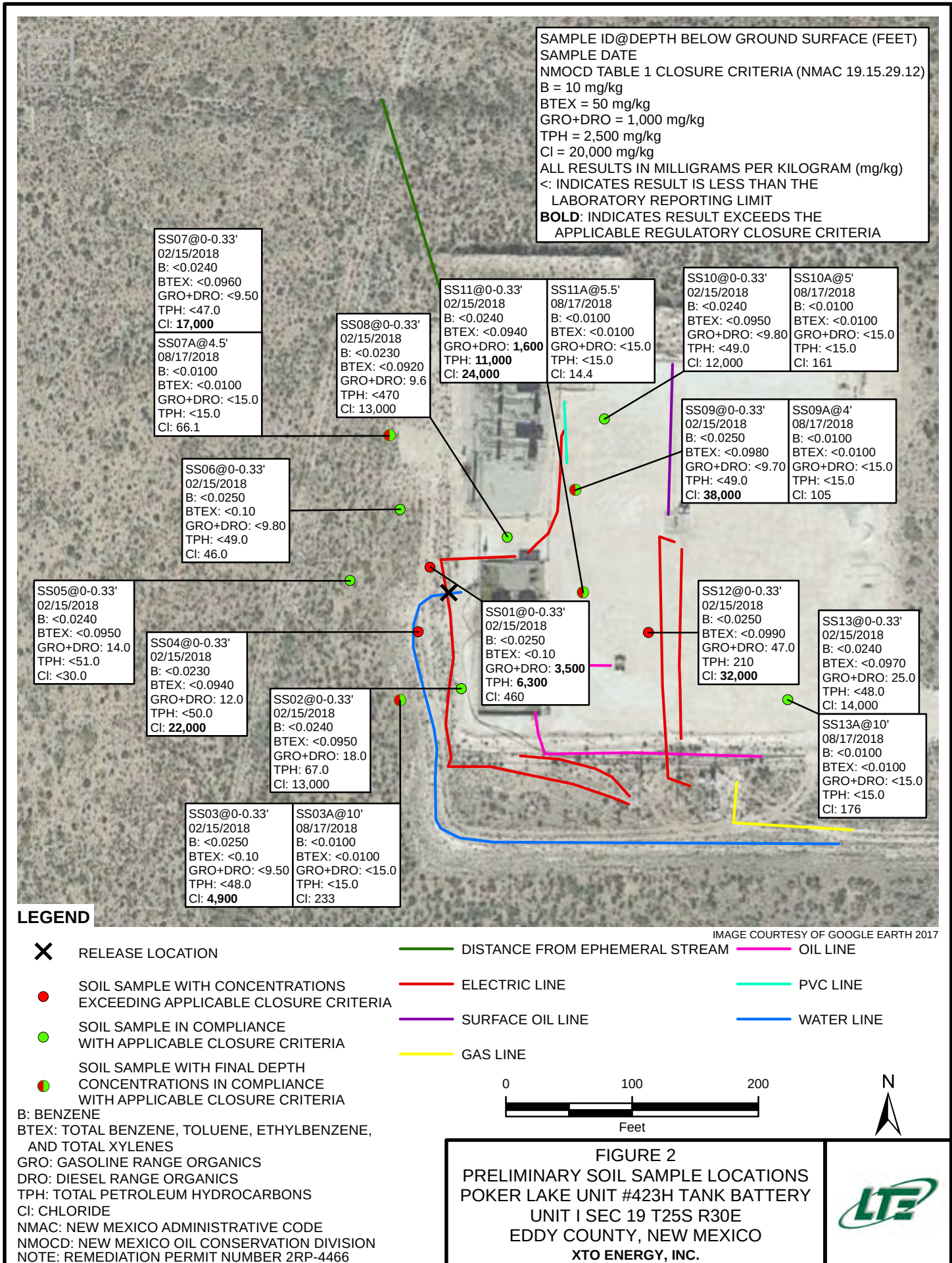
Attachments:

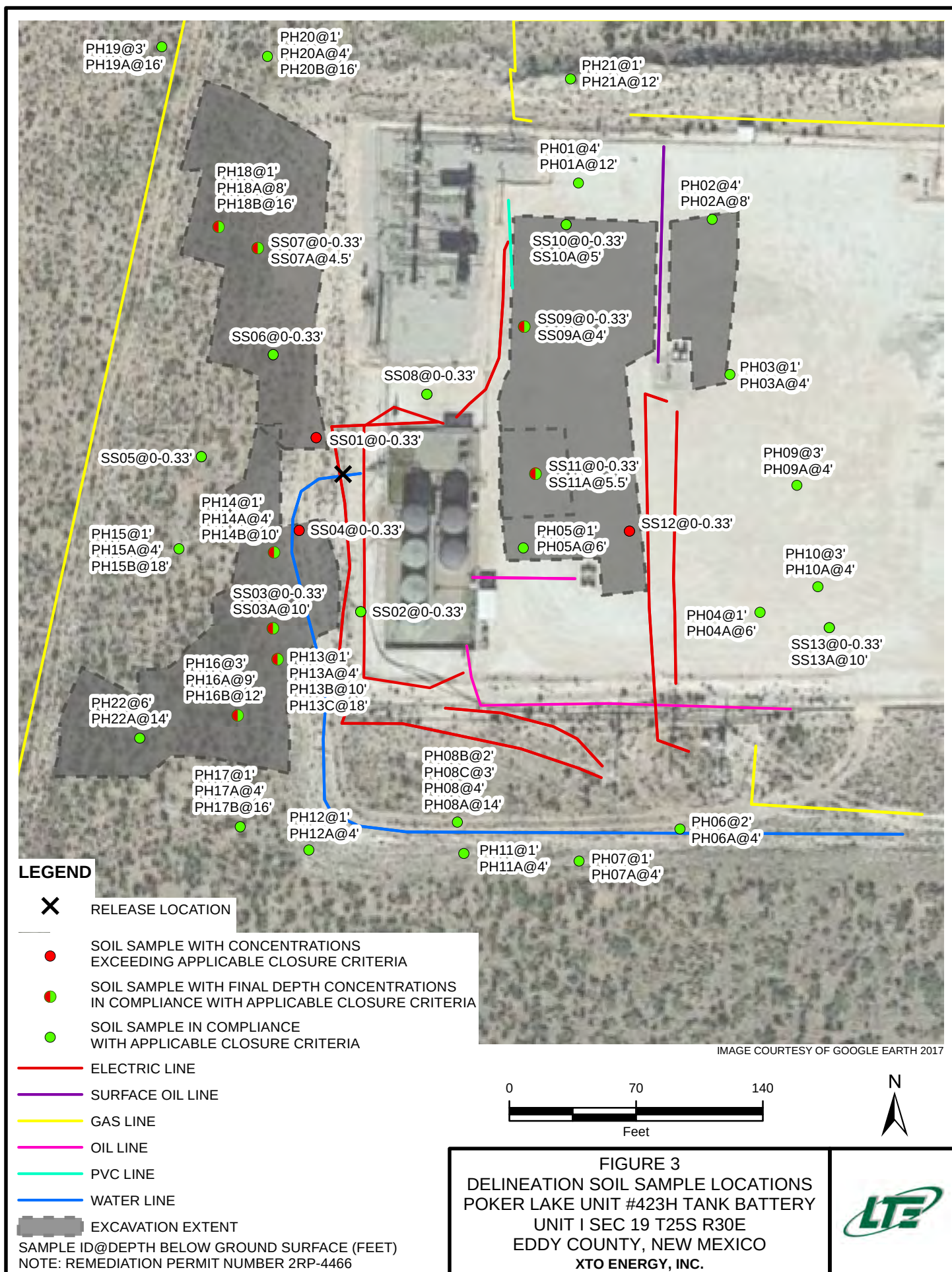
Figure 1 Site Location Map
Figure 2 Preliminary Soil Sample Locations
Figure 3 Excavation Soil Sample Locations
Figure 4 Delineation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-4466)
Attachment 2 Lithologic / Soil Sample Logs
Attachment 3 Photographic Log
Attachment 4 Laboratory Analytical Reports

FIGURES

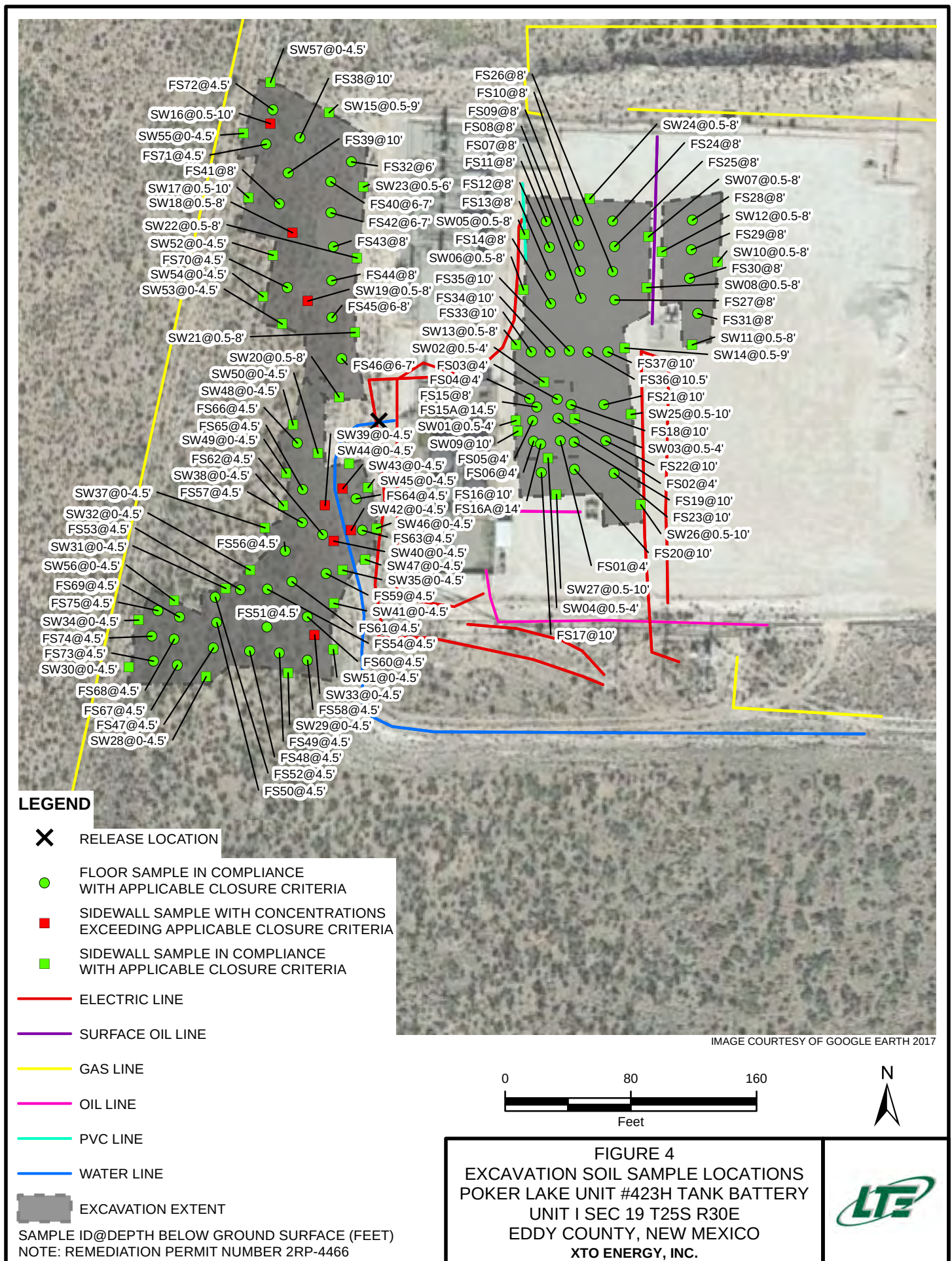








P:\XTO Energy\GIS\MXD\012917043_PLU 423H TANK BATTERY\012917043_FIG03_DELINEATION_4466_1.mxd



TABLES



TABLE 1
SOIL ANALYTICAL RESULTS
POKER LAKE UNIT #423H TANK BATTERY
REMEDATION PERMIT NUMBER 2RP-4466
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	20,000
SS01	0 - 0.33	02/15/2018	<0.0250	<0.0500	<0.0500	<0.100	<0.100	<5.00	3,500	2,800	3,500	6,300	460
SS02	0 - 0.33	02/15/2018	<0.0240	<0.0480	<0.0480	<0.0950	<0.0950	<4.80	18.0	49.0	18.0	67.0	13,000
SS03	0 - 0.33	02/15/2018	<0.0250	<0.0500	<0.0500	<0.100	<0.100	<5.00	<9.50	<48.0	<9.50	<48.0	4,900*
SS03A	10	08/17/2018	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<15.0	<15.0	<15.0	<15.0	<15.0	233
SS04	0 - 0.33	02/15/2018	<0.0230	<0.0470	<0.0470	<0.0940	<0.0940	<4.70	12.0	<50.0	12.0	<50.0	22,000*
SS05	0 - 0.33	02/15/2018	<0.0240	<0.0480	<0.0480	<0.0950	<0.0950	<4.80	14.0	<51.0	14.0	<51.0	<30.0*
SS06	0 - 0.33	02/15/2018	<0.0250	<0.0500	<0.0500	<0.100	<0.100	<5.00	<9.80	<49.0	<9.80	<49.0	46.0*
SS07	0 - 0.33	02/15/2018	<0.0240	<0.0480	<0.0480	<0.0960	<0.0960	<4.80	<9.50	<47.0	<9.50	<47.0	17,000*
SS07A	4.5	08/17/2018	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<15.0	<15.0	<15.0	<15.0	<15.0	66.1
SS08	0 - 0.33	02/15/2018	<0.0230	<0.0460	<0.0460	<0.0920	<0.0920	<4.60	9.60	<47.0	9.6	<47.0	13,000
SS09	0 - 0.33	02/15/2018	<0.0250	<0.0490	<0.0490	<0.0980	<0.0980	<4.90	<9.70	<49.0	<9.70	<49.0	38,000
SS09A	4	08/17/2018	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<15.0	<15.0	<15.0	<15.0	<15.0	105
SS10	0 - 0.33	02/15/2018	<0.0240	<0.0470	<0.0470	<0.0950	<0.0950	<4.70	<9.80	<49.0	<9.80	<49.0	12,000
SS10A	5	08/17/2018	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<15.0	<15.0	<15.0	<15.0	<15.0	161
SS11	0 - 0.33	02/15/2018	<0.0240	<0.0470	<0.0470	<0.0940	<0.0940	<4.70	1,600	9,100	1,600	11,000	24,000
SS11A	5.5	08/17/2018	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<15.0	<15.0	<15.0	<15.0	<15.0	14.4
SS12	0 - 0.33	02/15/2018	<0.0250	<0.0490	<0.0490	<0.0990	<0.0990	<4.90	47.0	160	47.0	210	32,000
SS13	0 - 0.33	02/15/2018	<0.0240	<0.0490	<0.0490	<0.0970	<0.0970	<4.90	25.0	<48.0	25.0	<48.0	14,000
SS13A	10	08/17/2018	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<15.0	<15.0	<15.0	<15.0	<15.0	176

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

Greyed data represents samples that were excavated

* - indicates sample was collected in the top 4 feet of an area to be reclaimed after remediation is complete; closure criteria for chloride concentration in the top 4 feet of soil is 600 mg/kg

TABLE 2
SOIL ANALYTICAL RESULTS
POKER LAKE UNIT #423H TANK BATTERY
REMEDATION PERMIT NUMBER 2RP-4466
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	20,000
PH01	4	08/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	5,210
PH01A	12	08/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	93.2
PH02	4	08/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	2,110
PH02A	8	08/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	21.4
PH03	1	08/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	28.5	<25.0	28.5	28.5	169
PH03A	4	08/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	260
PH04	1	08/15/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<25.0	<25.0	<25.0	<25.0	<25.0	7,230
PH04A	6	08/15/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	103
PH05	1	08/15/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	4,720
PH05A	6	08/15/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	157
PH06	2	08/16/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	28.3*
PH06A	4	08/16/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	253
PH07	1	08/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	17.7*
PH07A	4	08/16/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<25.0	<25.0	<25.0	<25.0	<25.0	210
PH08B	2	02/12/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	15.3*
PH08C	3	02/12/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	64.6*
PH08	4	08/16/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<24.9	<24.9	<24.9	<24.9	<24.9	6,920
PH08A	14	08/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	125
PH09	3	08/20/2019	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<24.9	<24.9	<24.9	<24.9	<24.9	181
PH09A	4	08/20/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.0	<25.0	<25.0	<25.0	<25.0	390
PH10	4	08/20/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<24.9	<24.9	<24.9	<24.9	<24.9	325
PH10A	14.5	08/20/2019	<0.000992	<0.000992	<0.000992	<0.000992	<0.000992	<24.9	<24.9	<24.9	<24.9	<24.9	439
PH11	1	08/20/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<24.9	<24.9	<24.9	<24.9	<24.9	20.2*
PH11A	4	08/20/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<24.9	<24.9	<24.9	<24.9	<24.9	34.1
PH12	1	08/20/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<25.0	32.5	<25.0	32.5	32.5	20.4*
PH12A	4	08/20/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<25.0	<25.0	<25.0	<25.0	<25.0	20.3

TABLE 2
SOIL ANALYTICAL RESULTS
POKER LAKE UNIT #423H TANK BATTERY
REMEDATION PERMIT NUMBER 2RP-4466
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	20,000
PH13	1	08/20/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<25.0	<25.0	<25.0	<25.0	<25.0	7,330*
PH13A	4	08/20/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.1	<25.1	<25.1	<25.1	<25.1	12,700
PH13B	10	08/20/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<25.0	29.8	<25.0	29.8	29.8	2,180
PH13C	18	08/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	306
PH14	1	08/21/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.1	<25.1	<25.1	<25.1	<25.1	2,560*
PH14A	4	08/21/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.1	<25.1	<25.1	<25.1	<25.1	11,700
PH14B	10	08/21/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<25.1	<25.1	<25.1	<25.1	<25.1	2,130
PH14C	16	08/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	173
PH15	1	09/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	26.3*
PH15A	4	09/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	14.9
PH15B	18	09/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	128
PH16	3	09/04/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<25.0	<25.0	<25.0	<25.0	<25.0	10,300*
PH16A	9	09/04/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<24.9	<24.9	<24.9	<24.9	<24.9	282
PH16B	12	09/04/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<25.0	<25.0	<25.0	<25.0	<25.0	389
PH17	1	09/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	72.5*
PH17A	4	09/04/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<24.9	<24.9	<24.9	<24.9	<24.9	188
PH17B	16	09/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	145
PH18	1	09/05/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	8,860*
PH18A	8	09/05/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	682
PH18B	16	09/05/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	285
PH19	3	09/05/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	80.1*
PH19A	16	09/05/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	200
PH20	1	09/05/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	<4.96*
PH20A	4	09/05/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<25.0	<25.0	<25.0	<25.0	<25.0	11.4
PH20B	16	09/05/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	138

TABLE 2
SOIL ANALYTICAL RESULTS
POKER LAKE UNIT #423H TANK BATTERY
REMEDICATION PERMIT NUMBER 2RP-4466
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	20,000
PH21	1	09/05/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	6.37*
PH21A	12	09/05/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	123
PH22	6	09/18/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	12,500
PH22A	14	09/18/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	890

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

Greyed data represents samples that were excavated

* - indicates sample was collected in the top 4 feet of an area to be reclaimed after remediation is complete; closure criteria for chloride concentration in the top 4 feet of soil is 600 mg/kg

**TABLE 3
SOIL ANALYTICAL RESULTS**

**POKER LAKE UNIT #423H TANK BATTERY
REMEDATION PERMIT NUMBER 2RP-4466
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)
NMOC Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000
SW01	0.5 - 4	08/15/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<25.0	<25.0	<25.0	<25.0	<25.0	3,780
SW02	0.5 - 4	08/15/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<24.9	<24.9	<24.9	<24.9	<24.9	1,280
SW03	0.5 - 4	08/15/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<24.9	<24.9	<24.9	<24.9	<24.9	5,110
SW04	0.5 - 4	08/15/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<25.0	<25.0	<25.0	<25.0	<25.0	5,160
SW05	0.5-8	08/30/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<25.1	<25.1	<25.1	<25.1	<25.1	706
SW06	0.5-8	08/30/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.1	<25.1	<25.1	<25.1	<25.1	769
SW07	0.5-8	08/30/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	1,470
SW08	0.5-8	08/30/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.1	<25.1	<25.1	<25.1	<25.1	1,080
SW09	10	08/30/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.1	<25.1	<25.1	<25.1	<25.1	1,280
SW10	0.5-8	09/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	66.9
SW11	0.5-8	09/04/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<25.1	<25.1	<25.1	<25.1	<25.1	306
SW12	0.5-8	09/04/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<25.1	<25.1	<25.1	<25.1	<25.1	809
SW13	0.5-8	09/11/2019	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<25.1	97.6	<25.1	97.6	97.6	401
SW14	0.5-9	09/12/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<25.1	<25.1	<25.1	<25.1	<25.1	349
SW15	0.5-9	09/16/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<25.0	<25.0	<25.0	<25.0	<25.0	120*
SW16	0.5-10	09/19/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	1,220*
SW17	0.5-10	09/19/2019	<0.00200	0.00286	<0.00200	<0.00200	0.00286	<49.9	<49.9	<49.9	<49.9	<49.9	554*
SW18	0.5-8	09/19/2019	<0.00198	0.00405	<0.00198	<0.00198	0.00405	<50.0	<50.0	<50.0	<50.0	<50.0	3,020*
SW19	0.5-8	09/19/2019	<0.00200	0.00580	<0.00200	<0.00200	0.00580	<49.9	<49.9	<49.9	<49.9	<49.9	1,180*
SW20	0.5-8	09/19/2019	<0.00199	0.00362	<0.00199	<0.00199	0.00362	<49.8	<49.8	<49.8	<49.8	<49.8	155*
SW21	0.5-8	09/19/2019	<0.00200	0.00587	<0.00200	<0.00200	0.00587	<50.0	<50.0	<50.0	<50.0	<50.0	2,550
SW22	0.5-8	09/19/2019	<0.00199	0.00439	<0.00199	<0.00199	0.00439	<50.0	<50.0	<50.0	<50.0	<50.0	992
SW23	0.5-6	09/19/2019	<0.00202	0.00304	<0.00202	<0.00202	0.00304	<49.9	<49.9	<49.9	<49.9	<49.9	67.7*
SW24	0.5-8	09/19/2019	<0.00202	0.00453	<0.00202	<0.00202	0.00453	<50.0	<50.0	<50.0	<50.0	<50.0	35.0
SW25	0.5-10	09/19/2019	<0.00199	0.00480	<0.00199	<0.00199	0.00480	<50.0	<50.0	<50.0	<50.0	<50.0	27.3
SW26	0.5-10	09/19/2019	<0.00199	0.00509	<0.00199	<0.00199	0.00509	<49.8	<49.8	<49.8	<49.8	<49.8	6,290
SW27	0.5-10	09/19/2019	<0.00200	0.00339	<0.00200	<0.00200	0.00339	<49.9	<49.9	<49.9	<49.9	<49.9	2,450
SW28	0 - 4.5	02/11/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	76.9*
SW29	0 - 4.5	01/29/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	24.4*

TABLE 3
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT #423H TANK BATTERY
REMEDIATION PERMIT NUMBER 2RP-4466
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)
NMOC Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000
SW30	0 - 4.5	02/13/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	182
SW31	0 - 4.5	01/30/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	70.2*
SW32	0 - 4.5	01/31/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	263*
SW33	0 - 4.5	02/06/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	720*
SW34	0 - 4.5	02/13/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	466*
SW35	0 - 4.5	02/07/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	439*
SW36	0 - 4.5	01/31/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	247*
SW37	0 - 4.5	02/04/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	282*
SW38	0 - 4.5	02/03/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	17.8*
SW39	0 - 4.5	02/07/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	2,410*
SW40	0 - 4.5	02/07/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	2,240*
SW41	0 - 4.5	02/07/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	436*
SW42	0 - 4.5	02/10/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,940*
SW43	0 - 4.5	02/10/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	5,980*
SW44	0 - 4.5	02/10/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	483*
SW45	0 - 4.5	02/10/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	725
SW46	0 - 4.5	02/10/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	621
SW47	0 - 4.5	02/10/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	425*
SW48	0 - 4.5	02/10/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	218*
SW49	0 - 4.5	02/10/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	41.8*
SW50	0 - 4.5	02/10/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	429*
SW51	0 - 4.5	02/11/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	20.2*
SW52	0 - 4.5	02/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	23.6*
SW53	0 - 4.5	02/12/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	28.8*
SW54	0 - 4.5	02/13/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	20.7*
SW55	0 - 4.5	02/13/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	385*
SW56	0 - 4.5	02/13/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.3	<50.3	<50.3	<50.3	<50.3	14.7*
SW57	0 - 4.5	02/13/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	194*

TABLE 3
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT #423H TANK BATTERY
REMEDIATION PERMIT NUMBER 2RP-4466
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)
NMOC Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000
FS01	4	08/15/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	1,590
FS02	4	08/15/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	4,370
FS03	4	08/15/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	1,800
FS04	4	08/15/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<24.9	<24.9	<24.9	<24.9	<24.9	1,210
FS05	4	08/15/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	244
FS06	4	08/15/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	3,410
FS07	8	08/27/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<24.9	35.0	<24.9	35.0	35.0	221
FS08	8	08/27/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<25.0	26.2	<25.0	26.2	26.2	584
FS09	8	08/27/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<25.0	<25.0	<25.0	<25.0	<25.0	1,010
FS10	8	08/27/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<25.0	30.4	<25.0	30.4	30.4	919
FS11	8	08/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	403
FS12	8	08/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<24.9	<24.9	<24.9	<24.9	<24.9	563
FS13	8	08/27/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	361
FS14	8	08/27/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<25.0	<25.0	<25.0	<25.0	<25.0	317
FS15	8	08/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<24.9	<24.9	<24.9	<24.9	<24.9	1,190
FS15A	14.5	09/12/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.1	<25.1	<25.1	<25.1	<25.1	386
FS16	10	08/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	784
FS16A	14	09/12/2019	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<25.1	<25.1	<25.1	<25.1	<25.1	407
FS17	10	08/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	303
FS18	10	08/27/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<24.9	<24.9	<24.9	<24.9	<24.9	482
FS19	10	08/27/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<25.0	<25.0	<25.0	<25.0	<25.0	371
FS20	10	08/27/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<24.9	<24.9	<24.9	<24.9	<24.9	338
FS21	10	08/27/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	185
FS22	10	08/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	215
FS23	10	08/27/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	208
FS24	8	08/30/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<25.1	<25.1	<25.1	<25.1	<25.1	523
FS25	8	08/30/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<24.9	<24.9	<24.9	<24.9	<24.9	741
FS26	8	08/30/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.1	<25.1	<25.1	<25.1	<25.1	424
FS27	8	08/30/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	694
FS28	8	09/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	165
FS29	8	09/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.1	<25.1	<25.1	<25.1	<25.1	404

**TABLE 3
SOIL ANALYTICAL RESULTS**

**POKER LAKE UNIT #423H TANK BATTERY
REMEDATION PERMIT NUMBER 2RP-4466
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)
NMOC Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000
FS30	8	09/04/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<25.1	<25.1	<25.1	<25.1	<25.1	71.3
FS31	8	09/04/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.1	<25.1	<25.1	<25.1	<25.1	380
FS32	6	09/10/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.1	<25.1	<25.1	<25.1	<25.1	185
FS33	10	09/11/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.1	<25.1	<25.1	<25.1	<25.1	199
FS34	10	09/11/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<25.1	<25.1	<25.1	<25.1	<25.1	170
FS35	10	09/11/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.1	<25.1	<25.1	<25.1	<25.1	376
FS36	10.5	09/12/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.1	<25.1	<25.1	<25.1	<25.1	210
FS37	10	09/12/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.1	<25.1	<25.1	<25.1	<25.1	213
FS38	10	09/16/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.1	<25.1	<25.1	<25.1	<25.1	174
FS39	10	09/16/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<24.9	<24.9	<24.9	<24.9	<24.9	264
FS40	6-7	09/19/2019	<0.00201	0.00315	<0.00201	<0.00201	0.00315	<50.0	<50.0	<50.0	<50.0	<50.0	262
FS41	8	09/19/2019	<0.00202	0.00483	<0.00202	<0.00202	0.00483	<49.9	<49.9	<49.9	<49.9	<49.9	468
FS42	6-7	09/19/2019	<0.00198	0.00394	<0.00198	<0.00198	0.00394	<50.0	<50.0	<50.0	<50.0	<50.0	180
FS43	8	09/19/2019	<0.00200	0.00371	<0.00200	<0.00200	0.00371	<49.9	<49.9	<49.9	<49.9	<49.9	1,240
FS44	8	09/19/2019	<0.00199	0.00502	<0.00199	<0.00199	0.00502	<50.0	<50.0	<50.0	<50.0	<50.0	357
FS45	6-8	09/19/2019	<0.00199	0.00482	<0.00199	<0.00199	0.00482	<50.0	<50.0	<50.0	<50.0	<50.0	183
FS46	6-7	09/19/2019	<0.00199	0.00480	<0.00199	<0.00199	0.00480	<49.8	<49.8	<49.8	<49.8	<49.8	384
FS47	4.5	01/29/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	8,630
FS48	4.5	01/29/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	8,790
FS49	4.5	01/29/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.7	<49.7	<49.7	<49.7	<49.7	210
FS50	4.5	01/29/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	6,450
FS51	4.5	01/29/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	134
FS52	4.5	01/30/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	635
FS53	4.5	01/30/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	25.4
FS54	4.5	01/30/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	806
FS55	4.5	01/31/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	227
FS56	4.5	02/03/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	646
FS57	4.5	02/03/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	103
FS58	4.5	02/04/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	370

TABLE 3
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT #423H TANK BATTERY
REMEDIATION PERMIT NUMBER 2RP-4466
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)
NMOCDC Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000
FS59	4.5	02/06/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.3	<50.3	<50.3	<50.3	<50.3	4,310
FS60	4.5	02/06/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	6,530
FS61	4.5	02/06/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	4,610
FS62	4.5	02/07/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	5,410
FS63	4.5	02/07/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	6,150
FS64	4.5	02/07/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	7,450
FS65	4.5	02/10/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	551
FS66	4.5	02/10/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	147
FS67	4.5	02/11/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	9,040
FS68	4.5	02/11/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	10,600
FS69	4.5	02/11/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	735
FS70	4.5	02/12/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	305
FS71	4.5	02/13/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	409
FS72	4.5	02/13/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	4,990
FS73	4.5	02/13/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	2,670
FS74	4.5	02/13/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	1,840
FS75	4.5	02/13/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	1,640

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylene

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

ORO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCDC - 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

Greyed data represents samples that were excavated

* - indicates sample was collected in the top 4 feet of an area to be reclaimed after remediation is complete; closure criteria for chloride concentration in the top 4 feet of soil is 600 mg/kg

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-4466)

ARTESIA DISTRICT

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

NOV 01 2017

Form C-141
Revised August 8, 2011

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

RECEIVED
to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

NAB1730641092 *10/20/2017*

OPERATOR		☒ Initial Report	☐ Final Report
Name of Company: XTO Energy		Contact: Amy Ruth	
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220		Telephone No. 575-887-7329	
Facility Name: Poker Lake Unit #423H Tank Battery (API for PLU #423H)		Facility Type: Exploration and Production	
Surface Owner: Federal		Mineral Owner: Federal	
		API No. 30-015-40710	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	19	25S	30E	1700	South	1070	East	Eddy

Latitude 32.112896° Longitude -103.91548°

NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	1249 bbls	Volume Recovered	960 bbls
Source of Release	SWD line riser	Date and Hour of Occurrence	7/21/2017 time unknown	Date and Hour of Discovery	7/21/2017 7:30 am
Was Immediate Notice Given?	☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher and Crystal Weaver (NMOCD), Jim Amos and Shelly Tucker (BLM)			
By Whom?	Amy Ruth	Date and Hour	7/21/2017 9:04 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.* Salt water disposal line ruptured at a poly-to-steel weld of the riser section on the west side of the facility containment. The line was isolated and repaired.					
Describe Area Affected and Cleanup Action Taken.* The release affected approximately 40K square feet of pasture to the west and south of the caliche pad and about 50K square feet of the caliche pad. Free standing fluids were recovered by vacuum truck. The site is being evaluated for method of remediation.					
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD 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, NMOCD 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: <i>Amy C. Ruth</i>		OIL CONSERVATION DIVISION			
Printed Name: Amy C. Ruth		Approved by Environmental Specialist: <i>[Signature]</i>			
Title: Environmental Coordinator		Approval Date: 11/2/17		Expiration Date: N/A	
E-mail Address: Amy_Ruth@xtoenergy.com		Conditions of Approval: See attached		Attached: <i>ARP-4466</i>	
Date: 11/1/2017 Phone: 432-661-0571					

* Attach Additional Sheets If Necessary

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-4466
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-4466
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.112896 Longitude W -103.91548
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Poker Lake Unit #423H Tank Battery	Site Type: Exploration and Production
Date Release Discovered: 7/21/2017	API# (if applicable): 30-015-40710

Unit Letter	Section	Township	Range	County
I	19	25S	30E	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):	Volume Recovered (bbls):
☒ Produced Water	Volume Released (bbls): 1249	Volume Recovered (bbls): 960
	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 saltwater disposal line ruptured at a poly-to-steel weld of the riser section on the west side of the facility containment. The line was isolated and repaired.

Incident ID	
District RP	2RP-4466
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 Amy Ruth to Mike Bratcher/Crystal Weaver (NMOCD), and Jim Amos/Shelly Tucker (BLM) on 7-21-2017 at 9:04 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>4-1-2020</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-4466
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>>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-4466
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: 4-1-2020

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

OCD Only

Received by: _____ Date: _____

Incident ID	nAB1730641092
District RP	2RP-4466
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: 4-1-2020

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: 09/15/2021

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

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLE LOGS

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: MW01		Date: 2/4/2020		
				Project Name: ADU 816 PLU 423		RP Number: ZRP-3790		
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: FS		Method: SONIC		
Lat/Long:		Field Screening: CHLORIDES, PID		Hole Diameter: 4" / 6"		Total Depth: 110'		
Comments: No sampling. Lithology remarks only								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					1			hydrovac excavated (refusal @ 1')
					2			2.5' SAND, dry, well graded,
					3		SW-S	coarse-fine graind,
					4			light brwn - tan, no stain,
					5			no odor
					6			5' few silty sand pockets,
					7		SP	reddish brwn, no plas,
					8			non cohesive
					9			6' SAND, dry, poorly
					10		SW-S	graded, light brwn -
					11			brwn, fine - very fine
					12			7.5' some mod consol ss
					13		SW-S	light brwn - brwn, sub
					14			rounded
					15			10' abundant ss 10-11' color change
					16		SP	12' ss gravel? absent tan-off white
					17			16' abundant ss gravel 13' back t/
					18			(mod consol) light brwn -
					19			19' abundant - some brwn
					20			21.5' sandstone, light, abundant
					21		SW-S	brwn - tan, dry, mod well
					22			consolidated
					23			23' sandstone chunks
					24			absent
					25			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: MW01	Date: 2/4/2020					
Project Name: ADU-816 PLU 423		RP Number: 2RP-2674 2RP-3790						
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: FS	Method: SONIC					
Lat/Long:		Field Screening: CHLORIDES, PID	Hole Diameter: 4 1/8"					
Total Depth: 110'								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					26			27.5' SAND, dry, light brown-tan, poorly graded, fine-very fine
					27			grey - grey
					28		SP	30' trace light brown-tan caliche pebbles (gravel), rounded
					29			
					30			
					31			31' caliche pebbles absent
					32			
					33			31.5' color change light brown-reddish brown
					34			
					35			33-34' abundant ss chunks, mod consol
					36			35' ss chunks absent
					37		SW-S	36' some clay pockets, reddish brown, few pebbles, rounded - subrounded, grey - light grey, few laminations w/ clay, caliche, dolomite
					38			
					39			
					40			
					41			
					42			42.5' clay laminations, trace, reddish brown
					43			
					44			44' color change, light brown-tan, SILTY sand
					45		SP-SM	44.5' some SILTY sand, light brown - tan, no plasticity, non cohesive, trace high plas clay nodules, reddish brown
					46			
					47			
					48			
					49			48.5' low plas clay band, orange (35-40 mm)
					50			49.5' faint yellow band, (15-20 mm)

rig adding water

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: MW01	Date: 2/4/2020					
		Project Name: PLU 423	RP Number: ZRP-3790					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: FS	Method: sonic					
Lat/Long:	Field Screening: CHLORIDES, PH	Hole Diameter: 4" / 6"	Total Depth: 110'					
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
U			Z		51		SP	51.5' trace, high plas clay nodules
U			Z		52			
U			Z		53			53-54' some silty ss, poorly consolidated
M			Z		54			
M			Z		55			55.5' color change tan-grey band (30mm)
M			Z		56			
M			Z		57			59.5' SILTY sand, light
M			Z		58			brwn-brwn, moist,
M			Z		59			no plas, non cohesive,
M			Z		60		SM	no stain
U			Z		61			62' more consolidated
M			Z		62			64' dark brwn color
U			Z		63		sm-s	change, silty clay nodules
M			Z		64			66' pockets of silty
M			Z		65			clay brwn-green
U			Z		66			68' low plas clay pockets
M			Z		67			some, few low plas
M			Z		68			clay laminations
U			Z		69			
U			Z		70			71' SILTY sand, dry,
			Z		71			no plas, non cohesive,
			Z		72			light brwn-tan
			Z		73			74' trace caliche pebbles,
			Z		74		SM	light grey-grey
			Z		75			

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: MWDI Project Name: PLU 423		Date: 2/4/2020 RP Number: 2RP-3790		
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: FS, BB		Method: sonic		
Lat/Long:		Field Screening: CHLORIDES, PID		Hole Diameter: 6 1/4"		Total Depth: 110'		
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D			N		76		SM	76.5' trace low plas clay nodules, reddish brown
D			N		77			
D			N		78			82' CLAYSTONE, moist, brown-greenish grey, low plasticity, cohesive, no stain, no odor, mod consolidated
D			N		79			
D			N		80			
D			N		81			85' SILTY sand, dry, light brown - brown, no plas, non cohesive, no stain, no odor
D			N		82		CL-S	
D			N		83			
D			N		84			
D			N		85		SM	87' color change tan - off white
D			N		86			88' light brown - brown
D			N		87		SM-S	
D			N		88			87' SILTSTONE, dry, w/ clay pockets, low plas
D			N		89			
D			N		90			
D			N		91			91' abundant clay pockets
D			N		92			94.5' band yellow low plas clay
D			N		93			
D			N		94		SM	
D			N		95		CH	end @ 95' 2/4/2020
M			N		96			2/5/20
M			N		97			95'-101' CLAY, moist, brown - dark brown, high plasticity, cohesive, some tan clay laminations, no stain, no odor.
D			N		98			
M			N		99			98'-99' tan fine grain sandstone stringers.
M			N		100			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: MWO1	Date: 2/5/2020
		Project Name: PLU 423	RP Number: 2RP-3790
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BP	Method: Sonic
Lat/Long:		Field Screening: CHLORIDES, PID.	Hole Diameter: 6" / 4"
Comments:		Total Depth: 110'	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D			N		101		CH SP-S	101' - 105' SANDSTONE, tan-light brown, dry, moderately consolidated, calcareous cemented, poorly graded, no stain, no odor.
D			N		102			
D			N		103			
D			N		104			
M			N		105		CH	105' - 110' CLAY, moist, dark brown - brown, high plasticity, cohesive, thin tan sand laminations, no stain, no odor.
D			N		106			
D			N		107			107' - 109' tan - light brown well consolidated fine green sandstone stringers.
D			N		108			
M			N		109			
					110			
					111		TD @ 110'	TD @ 110'
					112			
					113			
					114			
					115			
					116			
					117			
					118			
					119			
					120			
					121			
					122			
					123			
					124			
					125			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP					BH or PH Name: PH01		Date: 8/14/2019	
Compliance · Engineering · Remediation					Site Name: PLU 423H			
					RP or Incident Number: 2RP-4466			
					LTE Job Number: 12917043			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: AB		Method:	
Lat/Long:			Field Screening: Chloride, PID		Hole Diameter:		Total Depth:	
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
	352			PH01	1'	1		well graded silt/sand
	3,252			PH01A	2'	2		Caliche
	3.02			PH01B	3'	3		Caliche
	5,868			PH01C	4'	4		Caliche, soft
						5		
	2,492			PH01D	6'	6		Caliche, soft
						7		
	708			PH01E	8'	8		Caliche, soft
						9		
	648			PH01F	10'	10		Caliche, hard
						11		increased compactness with depth
	180			PH01G	12'	12		Caliche, harder
						13		
	<128			PH01H	14'	14		Caliche, harder

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH02		8/14/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	352	1.3		PH02	1'	1		Caliche
	908	0.0		PH02A	2'	2		Caliche
	1,752	2.9		PH02B	3'	3		Caliche
	2,492	3.7		PH02C	4'	4		Caliche
						5		
	648	2.2		PH02D	6'	6		Caliche, hard
						7		
	<128	0.1		PH02E	8'	8		Caliche, hard
						9		
	212	0.0		PH02F	10'	10		Caliche, hard
						11		
						12		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH03		8/14/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	212	2.2		PH03	1'	1		Caliche
	180	4.0		PH03A	2'	2		Caliche
	156	5.7		PH03B	3'	3		Caliche
	212	2.4		PH03C	4'	4		Caliche
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH04		8/15/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	7,440			PH04	1'	1		Caliche
	5,004			PH04A	2'	2		Caliche
	4,620			PH04B	3'	3		Caliche
	1,090			PH04C	4'	4		Caliche
						5		
	180			PH04D	6'	6		Caliche
						7		
	<128			PH04E	8'	8		Caliche
						9		
						10		
						11		
						12		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH05		8/15/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	5,868			PH05	1'	1		Caliche
	2,512			PH05A	2'	2		Caliche
	1,060			PH05B	3'	3		Caliche
	440			PH05C	4'	4		Caliche
						5		
	212			PH05D	6'	6		Caliche
						7		
					8'	8		
						9		
						10		
						11		
						12		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH06		8/16/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466		LTE Job Number: 12917043				
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	<128			PH06	1'	1		Caliche
	128			PH06A	2'	2		Caliche
	<128			PH06B	3'	3		Caliche
	244			PH06C	4'	4		Caliche
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH07		8/16/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	<128			PH07	1'	1		Dry sitl/sand, fine
	<128			PH07A	2'	2		Caliche
	<128			PH07B	3'	3		Caliche
	212			PH07C	4'	4		Caliche
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation					BH or PH Name: PH08		Date: 8/16/2019	
					Site Name: PLU 423H			
					RP or Incident Number: 2RP-4466			
					LTE Job Number: 12917043			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: AB		Method:	
Lat/Long:			Field Screening: Chloride, PID		Hole Diameter:		Total Depth:	
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	3,024			PH08	1'	1		dry silt-sand (f.)
	8,740			PH08A	2'	2		Caliche
	8740			PH08B	3'	3		Caliche
	9,484			PH08C	4'	4		Caliche
	7440			PH08D	6'	6		Caliche
	4256			PH08E	8'	8		Caliche
	648			PH08F	10'	10		Caliche
	352			PH08G	12'	12		Caliche
	212			PH08H	14'	14		Caliche
						16		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH09		8/20/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	<128			PH09	1'	1		Caliche
	<128			PH09A	2'	2		Caliche
	128			PJ09B	3'	3		Caliche
	276			PH09C	4'	4		Caliche
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH10		8/20/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	<128			PH10	1'	1		Caliche
	156			PH10A	2'	2		Caliche
	312			PH10B	3'	3		Caliche
	352			PH10C	4'	4		Caliche
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH11		8/20/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	<128	0.0		PH11	1'	1		Dry silt-sand (f.)
	<128	0.0		PH11A	2'	2		Caliche
	<128	0.0		PH11B	3'	3		Caliche
	<128	0.0		PH11C	4'	4		Caliche
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH12		8/20/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	<128	0.0		PH12	1'	1		Dry silt-sand (f.)
	<128	0.0		PH12A	2'	2		Caliche
	<128	0.0		PH12B	3'	3		Caliche
	<128	0.0		PH12C	4'	4		Caliche
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH13		8/20/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
				LTE Job Number: 12917043				
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	4,256			PH13	1'	1		
	4,256			PH13A	2'	2		
	7440			PH13B	3'	3		
	8,060			PH13C	4'	4		
	4,670			PH13D	6'	6		
	3,600			PH13E	8'	8		
	836			PH13F	10'	10		
	3,600			PH13G	12'	12		
						14		
	1,400			PH13H	15'			
						16		
	276			PH13I	18'	18		
	1,060			PH13J	20'	20		
						22		
						24		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH14		8/21/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
				LTE Job Number: 12917043				
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	1,848			PH14	1'	1		
	5,004			PH14A	2'	2		
	6,872			PH14B	3'	3		
	9,484			PH14C	4'	4		
	2,760			PH14D	6'	6		
	6,872			PH14E	8'	8		
	1,460			PH14F	10'	10		
	4,620			PH14G	12'	12		
	2,276			PH14H	14'	14		
	212			PH14I	16'	16		
	180			PH14J	18'	18		
						20		
						22		
						24		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP					BH or PH Name: PH15		Date: 09/04/2019	
Compliance · Engineering · Remediation					Site Name: PLU 423H			
					RP or Incident Number: 2RP-4466			
					LTE Job Number: 12917043			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: AB		Method:	
Lat/Long:			Field Screening: Chloride, PID		Hole Diameter:		Total Depth:	
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	<128	0.0		PH15	1'	1		Caliche
	<128	0.0		PH15A	2'	2		Caliche
	<128	0.0		PH15B	3'	3		Caliche
	<128	0.0		PH15C	4'	4		Caliche
	<128	0.0		PH15D	6'	6		Caliche
	128	0.0		PH15E	8'	8		Caliche
						10		
	156	0.0		PH15F	12'	12		Caliche
						14		
	156	0.0		PH15G	16'	16		Dry. Well graded silt-sand (m.)
	156	0.0		PH15H	18'	18		Dry. Well graded silt-sand (m.)
						20		
						22		
						24		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH16		09/04/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	3,920	0.0		PH16	1'	1		Caliche
	6,352	0.0		PH16A	2'	2		Caliche
	9,484	0.0		PH16B	3'	3		Caliche
	7,440	0.0		PH16C	4'	4		Caliche
	5,420	0.0		PH16D	6'	6		Caliche
						8		
	244			PH16E	9'	9		Hard Caliche
						10		
	302	0.0		PH16F	12'	12		Hard Caliche
						14		
						16		
						18		
						20		
						22		
						24		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH17		9/4/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	<128	0		PH17	1'	1		Caliche
	<128	0.0		PH17A	2'	2		Caliche
	156	0		PH17B	3'	3		Caliche
	180	0.0		PH17C	4'	4		Caliche
						5		
	180	0		PH17D	6'	6		Caliche
						7		
	128	0		PH17E	8'	8		Caliche
						9		
						10		
						11		
	128	0		PH17F	12'	12		Caliche

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH18		9/5/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	8,060	0.0		PH18	1'	1		Caliche
	3,600	0.0		PH18A	2'	2		Caliche, increasing sand, decreasing compaction
	2,700	0.0		PH18B	3'	3		Caliche
	212	0.0		PH18C	4'	4		Caliche
	352			PH18D	6'	6		
	536	0.0		PH18E		8		Caliche
						10		
	212	0.0		PH18F		12		Caliche
						14		
	212	0.0		PH18G		16		Caliche
						18		
						20		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH19		9/5/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466		LTE Job Number: 12917043				
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	<128	0.0		PH19	1'	1		Caliche
	<128	0.0		PH19A	2'	2		Caliche, increasing sand, decreasing compaction
	128	0.0		PH19B	3'	3		Caliche
						4		Caliche
	<128	0.0		PH19C	5'			
						6		
	128	0.0		PH19D	8'	8		Caliche
						10		
	128	0.0		PH19E	12'	12		Caliche
						14		
	180	0.0		PH19F	16'	16		Caliche
						18		
						20		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH20		9/5/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466		LTE Job Number: 12917043				
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	<128	0.0		PH20	1'	1		Caliche
	<128	0.0		PH20A	2'	2		Caliche, increasing sand, decreasing compaction
	<128	0.0		PH20B	3'	3		Caliche
	<128	0.0		PH20C	4'	4		Caliche
	<128			PH20D	6'	6		
	<128	0.0		PH20E	8'	8		Caliche
						10		
	128	0.0		PH20F	12'	12		Caliche
						14		
	128	0.0		PH20G	16'	16		Caliche
						18		
						20		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH21		9/5/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	<128			PH21	1'	1		
	<128			PH21A	2'	2		
						3		
	<128			PH21B	4'	4		
	<128			PH21C	6'	6		
	<128			PH21D	8'	8		
						10		
	<128			PH21E	12'	12		
						14		
						16		
						18		
						20		

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH22		9/18/2019				
		Site Name: PLU 423H						
		RP or Incident Number: 2RP-4466						
LTE Job Number: 12917043								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: AB				
		Chloride, PID		Method:				
Hole Diameter:								
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	5,420			PH22	1'	1		Caliche
	1,460			PH22A	2'	2		Caliche
						3		
	4,256			PH22B	4'	4		Caliche
	<128			PH22C	6'	6		Caliche
						8		
	244			PH22D	9'	9		Caliche
						10		
						12		
						14		
						16		
						18		
						20		

ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG



Photograph 1: View of well pad release area.



Photograph 2: View of well pad release area.



Photograph 3: View of pasture release area.



Photograph 4: View of pasture release area.

Poker Lake Unit 423H Tank Battery
Eddy County, New Mexico
Photographs Taken: February 2018 – February 2020



PHOTOGRAPHIC LOG



Photograph 5: View of open excavation on pad.



Photograph 6: View of open excavation on pad.



Photograph 7: View of open excavation on pad.



Photograph 8: View of open excavation on pad.

PHOTOGRAPHIC LOG



Photograph 9: View of open excavation on pad.



Photograph 10: View of open excavation on pad.



Photograph 11: View of open excavation on pad.



Photograph 12: View of open excavation in pasture.

PHOTOGRAPHIC LOG



Photograph 13: View of open excavation in pasture.



Photograph 14: View of open excavation.



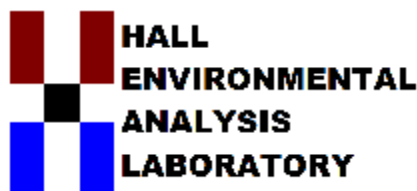
Photograph 15: View of open excavation in pasture.



Photograph 16: View of open excavation in pasture.

ATTACHMENT 4: 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 27, 2018

Kyle Littrell

LTE

3300 N A St Bldg 1 #103

Midland, TX 79705

TEL: (432) 704-5178

FAX

RE: PLU 423

OrderNo.: 1802A32

Dear Kyle Littrell:

Hall Environmental Analysis Laboratory received 13 sample(s) on 2/18/2018 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 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS01

Project: PLU 423

Collection Date: 2/15/2018 10:40:00 AM

Lab ID: 1802A32-001

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	3500	100		mg/Kg	10	2/21/2018 9:25:56 AM
Motor Oil Range Organics (MRO)	2800	500		mg/Kg	10	2/21/2018 9:25:56 AM
Surr: DNOP	0	70-130	S	%Rec	10	2/21/2018 9:25:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/21/2018 8:45:50 PM
Surr: BFB	83.9	15-316		%Rec	1	2/21/2018 8:45:50 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	2/21/2018 8:45:50 PM
Toluene	ND	0.050		mg/Kg	1	2/21/2018 8:45:50 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/21/2018 8:45:50 PM
Xylenes, Total	ND	0.10		mg/Kg	1	2/21/2018 8:45:50 PM
Surr: 4-Bromofluorobenzene	83.9	80-120		%Rec	1	2/21/2018 8:45:50 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	460	30		mg/Kg	20	2/23/2018 6:09:18 PM

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

Page 1 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS02

Project: PLU 423

Collection Date: 2/15/2018 10:50:00 AM

Lab ID: 1802A32-002

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	18	9.7		mg/Kg	1	2/21/2018 6:56:09 PM
Motor Oil Range Organics (MRO)	49	48		mg/Kg	1	2/21/2018 6:56:09 PM
Surr: DNOP	102	70-130		%Rec	1	2/21/2018 6:56:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/21/2018 9:09:13 PM
Surr: BFB	91.1	15-316		%Rec	1	2/21/2018 9:09:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	2/21/2018 9:09:13 PM
Toluene	ND	0.048		mg/Kg	1	2/21/2018 9:09:13 PM
Ethylbenzene	ND	0.048		mg/Kg	1	2/21/2018 9:09:13 PM
Xylenes, Total	ND	0.095		mg/Kg	1	2/21/2018 9:09:13 PM
Surr: 4-Bromofluorobenzene	90.1	80-120		%Rec	1	2/21/2018 9:09:13 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	13000	750		mg/Kg	500	2/26/2018 7:01:15 PM

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

Page 2 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS03

Project: PLU 423

Collection Date: 2/15/2018 11:00:00 AM

Lab ID: 1802A32-003

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	2/21/2018 10:46:27 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/21/2018 10:46:27 AM
Surr: DNOP	82.3	70-130		%Rec	1	2/21/2018 10:46:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/21/2018 9:32:32 PM
Surr: BFB	87.8	15-316		%Rec	1	2/21/2018 9:32:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	2/21/2018 9:32:32 PM
Toluene	ND	0.050		mg/Kg	1	2/21/2018 9:32:32 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/21/2018 9:32:32 PM
Xylenes, Total	ND	0.10		mg/Kg	1	2/21/2018 9:32:32 PM
Surr: 4-Bromofluorobenzene	87.8	80-120		%Rec	1	2/21/2018 9:32:32 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	4900	300		mg/Kg	200	2/26/2018 7:13:39 PM

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

Page 3 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS04

Project: PLU 423

Collection Date: 2/15/2018 11:10:00 AM

Lab ID: 1802A32-004

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	12	9.9		mg/Kg	1	2/21/2018 11:10:53 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/21/2018 11:10:53 AM
Surr: DNOP	99.2	70-130		%Rec	1	2/21/2018 11:10:53 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/21/2018 9:55:53 PM
Surr: BFB	86.1	15-316		%Rec	1	2/21/2018 9:55:53 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	2/21/2018 9:55:53 PM
Toluene	ND	0.047		mg/Kg	1	2/21/2018 9:55:53 PM
Ethylbenzene	ND	0.047		mg/Kg	1	2/21/2018 9:55:53 PM
Xylenes, Total	ND	0.094		mg/Kg	1	2/21/2018 9:55:53 PM
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	2/21/2018 9:55:53 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	22000	1500		mg/Kg	1000	2/26/2018 7:26:04 PM

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

Page 4 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS05

Project: PLU 423

Collection Date: 2/15/2018 11:20:00 AM

Lab ID: 1802A32-005

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	14	10		mg/Kg	1	2/21/2018 11:35:19 AM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	2/21/2018 11:35:19 AM
Surr: DNOP	107	70-130		%Rec	1	2/21/2018 11:35:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/21/2018 10:19:14 PM
Surr: BFB	87.3	15-316		%Rec	1	2/21/2018 10:19:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	2/21/2018 10:19:14 PM
Toluene	ND	0.048		mg/Kg	1	2/21/2018 10:19:14 PM
Ethylbenzene	ND	0.048		mg/Kg	1	2/21/2018 10:19:14 PM
Xylenes, Total	ND	0.095		mg/Kg	1	2/21/2018 10:19:14 PM
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	1	2/21/2018 10:19:14 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/23/2018 7:48:34 PM

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

Page 5 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS06

Project: PLU 423

Collection Date: 2/15/2018 11:30:00 AM

Lab ID: 1802A32-006

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/21/2018 11:59:39 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/21/2018 11:59:39 AM
Surr: DNOP	89.3	70-130		%Rec	1	2/21/2018 11:59:39 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/21/2018 10:42:32 PM
Surr: BFB	85.4	15-316		%Rec	1	2/21/2018 10:42:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	2/21/2018 10:42:32 PM
Toluene	ND	0.050		mg/Kg	1	2/21/2018 10:42:32 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/21/2018 10:42:32 PM
Xylenes, Total	ND	0.10		mg/Kg	1	2/21/2018 10:42:32 PM
Surr: 4-Bromofluorobenzene	85.6	80-120		%Rec	1	2/21/2018 10:42:32 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	46	30		mg/Kg	20	2/23/2018 8:00:58 PM

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

Page 6 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS07

Project: PLU 423

Collection Date: 2/15/2018 11:40:00 AM

Lab ID: 1802A32-007

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	2/21/2018 12:24:26 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/21/2018 12:24:26 PM
Surr: DNOP	79.2	70-130		%Rec	1	2/21/2018 12:24:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/22/2018 12:38:41 AM
Surr: BFB	85.7	15-316		%Rec	1	2/22/2018 12:38:41 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	2/22/2018 12:38:41 AM
Toluene	ND	0.048		mg/Kg	1	2/22/2018 12:38:41 AM
Ethylbenzene	ND	0.048		mg/Kg	1	2/22/2018 12:38:41 AM
Xylenes, Total	ND	0.096		mg/Kg	1	2/22/2018 12:38:41 AM
Surr: 4-Bromofluorobenzene	86.6	80-120		%Rec	1	2/22/2018 12:38:41 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	17000	750		mg/Kg	500	2/26/2018 7:38:28 PM

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

Page 7 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS08

Project: PLU 423

Collection Date: 2/15/2018 11:50:00 AM

Lab ID: 1802A32-008

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	9.6	9.4		mg/Kg	1	2/21/2018 12:48:53 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/21/2018 12:48:53 PM
Surr: DNOP	92.3	70-130		%Rec	1	2/21/2018 12:48:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/22/2018 1:01:53 AM
Surr: BFB	89.5	15-316		%Rec	1	2/22/2018 1:01:53 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	2/22/2018 1:01:53 AM
Toluene	ND	0.046		mg/Kg	1	2/22/2018 1:01:53 AM
Ethylbenzene	ND	0.046		mg/Kg	1	2/22/2018 1:01:53 AM
Xylenes, Total	ND	0.092		mg/Kg	1	2/22/2018 1:01:53 AM
Surr: 4-Bromofluorobenzene	88.7	80-120		%Rec	1	2/22/2018 1:01:53 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	13000	750		mg/Kg	500	2/26/2018 7:50:52 PM

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

Page 8 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS09

Project: PLU 423

Collection Date: 2/15/2018 12:00:00 PM

Lab ID: 1802A32-009

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	2/21/2018 1:13:26 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/21/2018 1:13:26 PM
Surr: DNOP	98.4	70-130		%Rec	1	2/21/2018 1:13:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/22/2018 1:25:04 AM
Surr: BFB	87.7	15-316		%Rec	1	2/22/2018 1:25:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	2/22/2018 1:25:04 AM
Toluene	ND	0.049		mg/Kg	1	2/22/2018 1:25:04 AM
Ethylbenzene	ND	0.049		mg/Kg	1	2/22/2018 1:25:04 AM
Xylenes, Total	ND	0.098		mg/Kg	1	2/22/2018 1:25:04 AM
Surr: 4-Bromofluorobenzene	86.8	80-120		%Rec	1	2/22/2018 1:25:04 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	38000	3000		mg/Kg	2000	2/26/2018 8:03:16 PM

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

Page 9 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS10

Project: PLU 423

Collection Date: 2/15/2018 12:10:00 PM

Lab ID: 1802A32-010

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/21/2018 1:37:56 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/21/2018 1:37:56 PM
Surr: DNOP	102	70-130		%Rec	1	2/21/2018 1:37:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/22/2018 1:48:16 AM
Surr: BFB	85.2	15-316		%Rec	1	2/22/2018 1:48:16 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	2/22/2018 1:48:16 AM
Toluene	ND	0.047		mg/Kg	1	2/22/2018 1:48:16 AM
Ethylbenzene	ND	0.047		mg/Kg	1	2/22/2018 1:48:16 AM
Xylenes, Total	ND	0.095		mg/Kg	1	2/22/2018 1:48:16 AM
Surr: 4-Bromofluorobenzene	85.4	80-120		%Rec	1	2/22/2018 1:48:16 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	12000	750		mg/Kg	500	2/26/2018 8:40:31 PM

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

Page 10 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS11

Project: PLU 423

Collection Date: 2/15/2018 12:20:00 PM

Lab ID: 1802A32-011

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	1600	100		mg/Kg	10	2/21/2018 2:02:25 PM
Motor Oil Range Organics (MRO)	9100	500		mg/Kg	10	2/21/2018 2:02:25 PM
Surr: DNOP	0	70-130	S	%Rec	10	2/21/2018 2:02:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/22/2018 2:11:25 AM
Surr: BFB	100	15-316		%Rec	1	2/22/2018 2:11:25 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	2/22/2018 2:11:25 AM
Toluene	ND	0.047		mg/Kg	1	2/22/2018 2:11:25 AM
Ethylbenzene	ND	0.047		mg/Kg	1	2/22/2018 2:11:25 AM
Xylenes, Total	ND	0.094		mg/Kg	1	2/22/2018 2:11:25 AM
Surr: 4-Bromofluorobenzene	87.8	80-120		%Rec	1	2/22/2018 2:11:25 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	24000	1500		mg/Kg	1000	2/26/2018 8:52:55 PM

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

Page 11 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS12

Project: PLU 423

Collection Date: 2/15/2018 12:30:00 PM

Lab ID: 1802A32-012

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	47	9.9		mg/Kg	1	2/21/2018 3:15:53 PM
Motor Oil Range Organics (MRO)	160	49		mg/Kg	1	2/21/2018 3:15:53 PM
Surr: DNOP	106	70-130		%Rec	1	2/21/2018 3:15:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/22/2018 2:34:35 AM
Surr: BFB	80.9	15-316		%Rec	1	2/22/2018 2:34:35 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	2/22/2018 2:34:35 AM
Toluene	ND	0.049		mg/Kg	1	2/22/2018 2:34:35 AM
Ethylbenzene	ND	0.049		mg/Kg	1	2/22/2018 2:34:35 AM
Xylenes, Total	ND	0.099		mg/Kg	1	2/22/2018 2:34:35 AM
Surr: 4-Bromofluorobenzene	82.6	80-120		%Rec	1	2/22/2018 2:34:35 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	32000	3000		mg/Kg	2000	2/26/2018 9:05:20 PM

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

Page 12 of 19

Analytical Report

Lab Order 1802A32

Date Reported: 2/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS13

Project: PLU 423

Collection Date: 2/15/2018 12:40:00 PM

Lab ID: 1802A32-013

Matrix: SOIL

Received Date: 2/18/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	25	9.6		mg/Kg	1	2/21/2018 3:40:30 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/21/2018 3:40:30 PM
Surr: DNOP	101	70-130		%Rec	1	2/21/2018 3:40:30 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/22/2018 2:57:45 AM
Surr: BFB	88.4	15-316		%Rec	1	2/22/2018 2:57:45 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	2/22/2018 2:57:45 AM
Toluene	ND	0.049		mg/Kg	1	2/22/2018 2:57:45 AM
Ethylbenzene	ND	0.049		mg/Kg	1	2/22/2018 2:57:45 AM
Xylenes, Total	ND	0.097		mg/Kg	1	2/22/2018 2:57:45 AM
Surr: 4-Bromofluorobenzene	85.7	80-120		%Rec	1	2/22/2018 2:57:45 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	14000	750		mg/Kg	500	2/26/2018 9:17:45 PM

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

Page 13 of 19

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

WO#: 1802A32

27-Feb-18

Client: LTE
Project: PLU 423

Sample ID	MB-36699		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 36699		RunNo: 49346					
Prep Date:	2/23/2018		Analysis Date: 2/23/2018		SeqNo: 1594228		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-36699		SampType: Ics		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 36699		RunNo: 49346					
Prep Date:	2/23/2018		Analysis Date: 2/23/2018		SeqNo: 1594229		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.7	90	110			

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

Page 14 of 19

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

WO#: 1802A32

27-Feb-18

Client: LTE
Project: PLU 423

Sample ID	LCS-36624		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 36624		RunNo: 49269					
Prep Date:	2/20/2018		Analysis Date: 2/21/2018		SeqNo: 1589819		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	91.0	70	130			
Surr: DNOP	4.1		5.000		81.2	70	130			

Sample ID	MB-36624	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 36624			RunNo: 49269					
Prep Date:	2/20/2018	Analysis Date: 2/21/2018			SeqNo: 1589820		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	8.8		10.00		88.3	70	130			

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

Page 15 of 19

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

WO#: 1802A32

27-Feb-18

Client: LTE
Project: PLU 423

Sample ID MB-36613	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 36613			RunNo: 49302						
Prep Date: 2/20/2018	Analysis Date: 2/21/2018			SeqNo: 1590906		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	930		1000		93.2	15	316			

Sample ID LCS-36613	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 36613			RunNo: 49302						
Prep Date: 2/20/2018	Analysis Date: 2/21/2018			SeqNo: 1590907		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	114	75.9	131			
Surr: BFB	1000		1000		102	15	316			

Sample ID MB-36626	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 36626			RunNo: 49302						
Prep Date: 2/20/2018	Analysis Date: 2/21/2018			SeqNo: 1590939		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-36626	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 36626			RunNo: 49302						
Prep Date: 2/20/2018	Analysis Date: 2/21/2018			SeqNo: 1590940		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	116	75.9	131			
Surr: BFB	1000		1000		103	15	316			

Sample ID 1802A32-008AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SS08	Batch ID: 36626			RunNo: 49302						
Prep Date: 2/20/2018	Analysis Date: 2/21/2018			SeqNo: 1590944		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.7	23.41	0	122	77.8	128			
Surr: BFB	970		936.3		104	15	316			

Sample ID 1802A32-008AMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SS08	Batch ID: 36626			RunNo: 49302						
Prep Date: 2/20/2018	Analysis Date: 2/21/2018			SeqNo: 1590945		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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

Page 16 of 19

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1802A32
27-Feb-18

Client: LTE
Project: PLU 423

Sample ID	1802A32-008AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SS08	Batch ID:	36626	RunNo:	49302					
Prep Date:	2/20/2018	Analysis Date:	2/21/2018	SeqNo:	1590945	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	4.8	23.79	0	128	77.8	128	6.19	20	
Surr: BFB	990		951.5		104	15	316	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 17 of 19
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#: 1802A32

27-Feb-18

Client: LTE
Project: PLU 423

Sample ID	MB-36613		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	36613		RunNo:	49302			
Prep Date:	2/20/2018		Analysis Date:	2/21/2018		SeqNo:	1590958	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		90.0	80	120			

Sample ID	LCS-36613		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	36613		RunNo:	49302			
Prep Date:	2/20/2018		Analysis Date:	2/21/2018		SeqNo:	1590959	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	110	77.3	128			
Toluene	1.1	0.050	1.000	0	108	79.2	125			
Ethylbenzene	1.1	0.050	1.000	0	107	80.7	127			
Xylenes, Total	3.3	0.10	3.000	0	110	81.6	129			
Surr: 4-Bromofluorobenzene	0.94		1.000		93.6	80	120			

Sample ID	MB-36626		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	36626		RunNo:	49302			
Prep Date:	2/20/2018		Analysis Date:	2/21/2018		SeqNo:	1590982	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	0.87		1.000		87.0	80	120			

Sample ID	LCS-36626		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	36626		RunNo:	49302			
Prep Date:	2/20/2018		Analysis Date:	2/21/2018		SeqNo:	1590983	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	103	80.7	127			
Xylenes, Total	3.2	0.10	3.000	0	106	81.6	129			
Surr: 4-Bromofluorobenzene	0.93		1.000		92.7	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

Page 18 of 19

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

WO#: 1802A32

27-Feb-18

Client: LTE
Project: PLU 423

Sample ID	1802A32-007AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	SS07		Batch ID: 36626		RunNo: 49302					
Prep Date:	2/20/2018		Analysis Date: 2/21/2018		SeqNo: 1590986		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.023	0.9276	0	114	80.9	132			
Toluene	1.1	0.046	0.9276	0	116	79.8	136			
Ethylbenzene	1.1	0.046	0.9276	0	116	79.4	140			
Xylenes, Total	3.3	0.093	2.783	0	118	78.5	142			
Surr: 4-Bromofluorobenzene	0.85		0.9276		91.3	80	120			

Sample ID	1802A32-007AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles					
Client ID:	SS07		Batch ID: 36626		RunNo: 49302					
Prep Date:	2/20/2018		Analysis Date: 2/21/2018		SeqNo: 1590987		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9653	0	111	80.9	132	0.986	20	
Toluene	1.1	0.048	0.9653	0	111	79.8	136	0.0505	20	
Ethylbenzene	1.1	0.048	0.9653	0	111	79.4	140	1.03	20	
Xylenes, Total	3.3	0.097	2.896	0	113	78.5	142	0.365	20	
Surr: 4-Bromofluorobenzene	0.86		0.9653		89.5	80	120	0	0	

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: LTE MIDLAND

Work Order Number: 1802A32

RcptNo: 1

Received By: Ashley Gallegos 2/18/2018 10:00:00 AM

Completed By: Ashley Gallegos 2/19/2018 3:19:58 PM

Reviewed By: *[Signature]* 02/19/18 *labeled by: see 02/19/18*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° 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? Yes ☒ No ☐
(Note discrepancies on chain of custody)
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? Yes ☒ No ☐
(If no, notify customer for authorization.)

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:

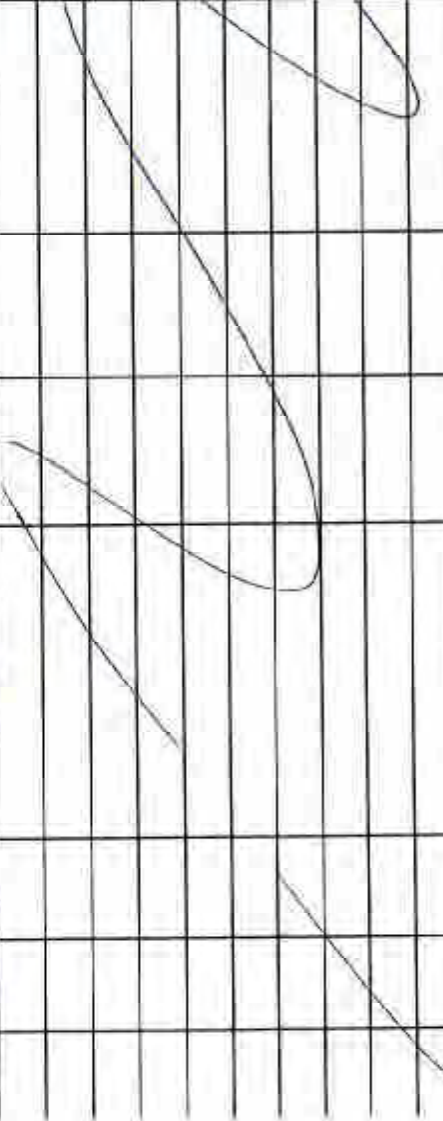
17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes			

Chain-of-Custody Record

Client	LTE Permian	Turn-Around Time:	☒ Standard ☐ Rush
Mailing Address:		Project Name:	PLU 423
Phone #:		Project #:	30-015-40710
Email or Fax#:	A.Baker@itemu.com	Project Manager:	KTO - Kyle Littlell
QA/QC Package:		Sampler:	D. Burns
☒ Standard ☐ Level 4 (Full Validation)		On Ice:	☒ Yes ☐ No
Accreditation:		Sample Temperature:	1040.1 = 2-0
☐ NELAP ☐ Other		Container Type and #	1-412 cool
☒ EDD (Type) ☐ PDI		Preservative Type	
Date	Time	Matrix	Sample Request ID

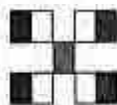
2-15	1240	S	5513	HEAL No. 1802A32	-013
------	------	---	------	------------------	------

Date:	Time:	Refiniquished by:	Date:	Time:	Remarks:
2-16/18	1330	DB	2-16/18	1530	
Date:	Time:	Refiniquished by:	Date:	Time:	
2-16/18	1901	DB	02/17/18	10:00	

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This service as well as of this possibility. Any sub-contracted data will be clearly indicated on the analytical report.

Page 2 of 2



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel 505-345-3975 Fax 505-345-4107

Analysis Request

☒ BTEX + MTBE + TMBs (8021)	☒ TPH Method 8015B (Gas/Diesel)	☒ TPH (Method 418.1) + MP2	☐ EDB (Method 504.1)	☐ 8310 (PNA or PAH)	☐ RCRA 8 Metals	☐ Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	☐ 8081 Pesticides / 8082 PCB's	☐ 8260B (VOA)	☐ 8270 (Semi-VOA)	☒ Chloride 300.1	☐ Air Bubbles (Y or N)
---	---	--	---	--	--	---	---	--------------------------------------	--	--	---

Analytical Report 596505

for
LT Environmental, Inc.

Project Manager: Adrian Baker

PLU 423 H

10-SEP-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 (T104704400-18-16)

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)



10-SEP-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **596505**

PLU 423 H

Project Address: Carlsbad, 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) 596505. 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. 596505 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 596505****LT Environmental, Inc., Arvada, CO**

PLU 423 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS11A	S	08-17-18 11:06	5.5 ft	596505-001
SS10A	S	08-17-18 11:25	5 ft	596505-002
SS09A	S	08-17-18 12:00	4 ft	596505-003
SS13A	S	08-17-18 14:00	10 ft	596505-004
SS03A	S	08-17-18 15:30	10 ft	596505-005
SS07A	S	08-17-18 15:50	4.5 ft	596505-006



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423 H

Project ID:
Work Order Number(s): 596505

Report Date: 10-SEP-18
Date Received: 08/21/2018

Sample receipt non conformance and comments:

PER CLIENTS EMAIL, CORRECTED SAMPLE NAMES 001-006 JKR 09/10/18 NEW VERSION
GENERATED V_001

Sample receipt non conformance and comments per sample:

None

Analytical non conformance and comments:

Batch: LBA-3061330 BTEX by EPA 8021B

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



Certificate of Analysis Summary 596505

LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H



Project Id:

Contact: Adrian Baker

Project Location: Carlsbad, NM

Date Received in Lab: Tue Aug-21-18 12:58 pm

Report Date: 10-SEP-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	596505-001	596505-002	596505-003	596505-004	596505-005	596505-006
	Field Id:	SS11A	SS10A	SS09A	SS13A	SS03A	SS07A
	Depth:	5.5- ft	5- ft	4- ft	10- ft	10- ft	4.5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-17-18 11:06	Aug-17-18 11:25	Aug-17-18 12:00	Aug-17-18 14:00	Aug-17-18 15:30	Aug-17-18 15:50
BTEX by EPA 8021B	Extracted:	Aug-26-18 09:00	Aug-26-18 09:00	Aug-26-18 09:00	Aug-26-18 09:00	Aug-26-18 09:00	Aug-26-18 09:00
	Analyzed:	Aug-26-18 16:02	Aug-26-18 16:24	Aug-26-18 16:46	Aug-26-18 17:07	Aug-26-18 17:27	Aug-26-18 17:49
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100
Toluene		<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100
Ethylbenzene		<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100
m,p-Xylenes		<0.0200 0.0200	<0.0200 0.0200	<0.0200 0.0200	<0.0200 0.0200	<0.0200 0.0200	<0.0200 0.0200
o-Xylene		<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100
Total Xylenes		<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100
Total BTEX		<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100	<0.0100 0.0100
Inorganic Anions by EPA 300	Extracted:	Aug-24-18 13:00	Aug-24-18 13:00	Aug-24-18 13:00	Aug-24-18 13:00	Aug-24-18 13:00	Aug-24-18 13:00
	Analyzed:	Aug-24-18 17:00	Aug-24-18 17:05	Aug-24-18 17:11	Aug-24-18 17:16	Aug-24-18 17:22	Aug-24-18 17:27
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		14.4 4.98	161 4.97	105 50.0	176 4.97	233 4.98	66.1 49.8
TPH by SW8015 Mod	Extracted:	Aug-21-18 16:00	Aug-21-18 16:00	Aug-21-18 16:00	Aug-21-18 16:00	Aug-21-18 16:00	Aug-21-18 16:00
	Analyzed:	Aug-22-18 02:10	Aug-22-18 02:30	Aug-22-18 02:49	Aug-22-18 03:09	Aug-22-18 03:29	Aug-22-18 03:49
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS11A**
Lab Sample Id: 596505-001

Matrix: Soil
Date Collected: 08.17.18 11.06

Date Received: 08.21.18 12.58
Sample Depth: 5.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3061240

Date Prep: 08.24.18 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.4	4.98	mg/kg	08.24.18 17.00		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3060852

Date Prep: 08.21.18 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	08.22.18 02.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.22.18 02.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.22.18 02.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.22.18 02.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.22.18 02.10	
o-Terphenyl	84-15-1	93	%	70-135	08.22.18 02.10	



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS11A**
Lab Sample Id: 596505-001

Matrix: Soil
Date Collected: 08.17.18 11.06

Date Received: 08.21.18 12.58
Sample Depth: 5.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.26.18 09.00

Basis: Wet Weight

Seq Number: 3061330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	08.26.18 16.02	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	08.26.18 16.02	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	08.26.18 16.02	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	08.26.18 16.02	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	08.26.18 16.02	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	08.26.18 16.02	U	1
Total BTEX		<0.0100	0.0100	mg/kg	08.26.18 16.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	08.26.18 16.02		
1,4-Difluorobenzene	540-36-3	92	%	70-130	08.26.18 16.02		



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS10A**
Lab Sample Id: 596505-002

Matrix: Soil
Date Collected: 08.17.18 11.25

Date Received: 08.21.18 12.58
Sample Depth: 5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3061240

Date Prep: 08.24.18 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	161	4.97	mg/kg	08.24.18 17.05		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3060852

Date Prep: 08.21.18 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	08.22.18 02.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.22.18 02.30	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.22.18 02.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.22.18 02.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.22.18 02.30	
o-Terphenyl	84-15-1	91	%	70-135	08.22.18 02.30	



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS10A**
Lab Sample Id: 596505-002

Matrix: Soil
Date Collected: 08.17.18 11.25

Date Received: 08.21.18 12.58
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.26.18 09.00

Basis: Wet Weight

Seq Number: 3061330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	08.26.18 16.24	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	08.26.18 16.24	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	08.26.18 16.24	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	08.26.18 16.24	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	08.26.18 16.24	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	08.26.18 16.24	U	1
Total BTEX		<0.0100	0.0100	mg/kg	08.26.18 16.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	85	%	70-130	08.26.18 16.24		
1,4-Difluorobenzene	540-36-3	97	%	70-130	08.26.18 16.24		



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS09A**
Lab Sample Id: 596505-003

Matrix: Soil
Date Collected: 08.17.18 12.00

Date Received: 08.21.18 12.58
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3061240

Date Prep: 08.24.18 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	105	50.0	mg/kg	08.24.18 17.11		10

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3060852

Date Prep: 08.21.18 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	08.22.18 02.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.22.18 02.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.22.18 02.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.22.18 02.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	08.22.18 02.49	
o-Terphenyl	84-15-1	92	%	70-135	08.22.18 02.49	



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS09A**
Lab Sample Id: 596505-003

Matrix: Soil
Date Collected: 08.17.18 12.00

Date Received: 08.21.18 12.58
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.26.18 09.00

Basis: Wet Weight

Seq Number: 3061330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	08.26.18 16.46	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	08.26.18 16.46	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	08.26.18 16.46	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	08.26.18 16.46	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	08.26.18 16.46	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	08.26.18 16.46	U	1
Total BTEX		<0.0100	0.0100	mg/kg	08.26.18 16.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	08.26.18 16.46		
1,4-Difluorobenzene	540-36-3	87	%	70-130	08.26.18 16.46		



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS13A**
Lab Sample Id: 596505-004

Matrix: Soil
Date Collected: 08.17.18 14.00

Date Received: 08.21.18 12.58
Sample Depth: 10 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3061240

Date Prep: 08.24.18 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	176	4.97	mg/kg	08.24.18 17.16		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3060852

Date Prep: 08.21.18 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	08.22.18 03.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.22.18 03.09	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.22.18 03.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.22.18 03.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.22.18 03.09	
o-Terphenyl	84-15-1	92	%	70-135	08.22.18 03.09	



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS13A**
Lab Sample Id: 596505-004

Matrix: Soil
Date Collected: 08.17.18 14.00

Date Received: 08.21.18 12.58
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.26.18 09.00

Basis: Wet Weight

Seq Number: 3061330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	08.26.18 17.07	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	08.26.18 17.07	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	08.26.18 17.07	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	08.26.18 17.07	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	08.26.18 17.07	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	08.26.18 17.07	U	1
Total BTEX		<0.0100	0.0100	mg/kg	08.26.18 17.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	08.26.18 17.07		
4-Bromofluorobenzene	460-00-4	95	%	70-130	08.26.18 17.07		



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS03A** Matrix: Soil Date Received: 08.21.18 12.58
 Lab Sample Id: 596505-005 Date Collected: 08.17.18 15.30 Sample Depth: 10 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: SCM % Moisture:
 Analyst: SCM Date Prep: 08.24.18 13.00 Basis: Wet Weight
 Seq Number: 3061240

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	233	4.98	mg/kg	08.24.18 17.22		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.21.18 16.00 Basis: Wet Weight
 Seq Number: 3060852

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.22.18 03.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.22.18 03.29	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.22.18 03.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.22.18 03.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	08.22.18 03.29	
o-Terphenyl	84-15-1	89	%	70-135	08.22.18 03.29	



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS03A**
Lab Sample Id: 596505-005

Matrix: Soil
Date Collected: 08.17.18 15.30

Date Received: 08.21.18 12.58
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3061330

Date Prep: 08.26.18 09.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	08.26.18 17.27	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	08.26.18 17.27	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	08.26.18 17.27	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	08.26.18 17.27	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	08.26.18 17.27	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	08.26.18 17.27	U	1
Total BTEX		<0.0100	0.0100	mg/kg	08.26.18 17.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	08.26.18 17.27		
1,4-Difluorobenzene	540-36-3	94	%	70-130	08.26.18 17.27		



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS07A** Matrix: Soil Date Received: 08.21.18 12.58
 Lab Sample Id: 596505-006 Date Collected: 08.17.18 15.50 Sample Depth: 4.5 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: SCM % Moisture:
 Analyst: SCM Date Prep: 08.24.18 13.00 Basis: Wet Weight
 Seq Number: 3061240

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	66.1	49.8	mg/kg	08.24.18 17.27		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.21.18 16.00 Basis: Wet Weight
 Seq Number: 3060852

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.22.18 03.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.22.18 03.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.22.18 03.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.22.18 03.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.22.18 03.49	
o-Terphenyl	84-15-1	89	%	70-135	08.22.18 03.49	



Certificate of Analytical Results 596505



LT Environmental, Inc., Arvada, CO

PLU 423 H

Sample Id: **SS07A**
Lab Sample Id: 596505-006

Matrix: Soil
Date Collected: 08.17.18 15.50

Date Received: 08.21.18 12.58
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3061330

Date Prep: 08.26.18 09.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	08.26.18 17.49	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	08.26.18 17.49	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	08.26.18 17.49	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	08.26.18 17.49	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	08.26.18 17.49	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	08.26.18 17.49	U	1
Total BTEX		<0.0100	0.0100	mg/kg	08.26.18 17.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	08.26.18 17.49		
1,4-Difluorobenzene	540-36-3	91	%	70-130	08.26.18 17.49		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 423 H

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061240

MB Sample Id: 7661143-1-BLK

Matrix: Solid

LCS Sample Id: 7661143-1-BKS

Prep Method: E300P

Date Prep: 08.24.18

LCSD Sample Id: 7661143-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.99	250	242	97	245	98	90-110	1	20	mg/kg	08.24.18 14:27	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061240

Parent Sample Id: 596790-001

Matrix: Soil

MS Sample Id: 596790-001 S

Prep Method: E300P

Date Prep: 08.24.18

MSD Sample Id: 596790-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.32	250	250	97	250	97	90-110	0	20	mg/kg	08.24.18 14:44	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061240

Parent Sample Id: 596977-003

Matrix: Soil

MS Sample Id: 596977-003 S

Prep Method: E300P

Date Prep: 08.24.18

MSD Sample Id: 596977-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	623	251	835	84	833	84	90-110	0	20	mg/kg	08.24.18 16:27	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3060852

MB Sample Id: 7660865-1-BLK

Matrix: Solid

LCS Sample Id: 7660865-1-BKS

Prep Method: TX1005P

Date Prep: 08.21.18

LCSD Sample Id: 7660865-1-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	984	98	1000	100	70-135	2	20	mg/kg	08.21.18 19:38	
Diesel Range Organics (DRO)	<15.0	1000	989	99	1000	100	70-135	1	20	mg/kg	08.21.18 19:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		119		121		70-135	%	08.21.18 19:38
o-Terphenyl	95		102		102		70-135	%	08.21.18 19:38

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.

PLU 423 H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3060852

Parent Sample Id: 596317-009

Matrix: Soil

MS Sample Id: 596317-009 S

Prep Method: TX1005P

Date Prep: 08.21.18

MSD Sample Id: 596317-009 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	1000	1000	100	995	100	70-135	1	20	mg/kg	08.22.18 06:58	
Diesel Range Organics (DRO)	<15.0	1000	1030	103	1010	101	70-135	2	20	mg/kg	08.22.18 06:58	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		125		70-135	%	08.22.18 06:58
o-Terphenyl	102		102		70-135	%	08.22.18 06:58

Analytical Method: BTEX by EPA 8021B

Seq Number: 3061330

MB Sample Id: 7661188-1-BLK

Matrix: Solid

LCS Sample Id: 7661188-1-BKS

Prep Method: SW5030B

Date Prep: 08.26.18

LCSD Sample Id: 7661188-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0100	0.500	0.506	101	0.479	96	70-130	5	35	mg/kg	08.26.18 08:50	
Toluene	<0.0100	0.500	0.496	99	0.481	96	70-130	3	35	mg/kg	08.26.18 08:50	
Ethylbenzene	<0.0100	0.500	0.505	101	0.498	100	70-130	1	35	mg/kg	08.26.18 08:50	
m,p-Xylenes	<0.0200	1.00	0.968	97	1.01	101	70-130	4	35	mg/kg	08.26.18 08:50	
o-Xylene	<0.0100	0.500	0.461	92	0.472	94	70-130	2	35	mg/kg	08.26.18 08:50	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		96		97		70-130	%	08.26.18 08:50
4-Bromofluorobenzene	99		98		108		70-130	%	08.26.18 08:50

Analytical Method: BTEX by EPA 8021B

Seq Number: 3061330

Parent Sample Id: 596317-007

Matrix: Soil

MS Sample Id: 596317-007 S

Prep Method: SW5030B

Date Prep: 08.26.18

MSD Sample Id: 596317-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0100	0.500	0.444	89	0.383	77	70-130	15	35	mg/kg	08.26.18 09:31	
Toluene	<0.0100	0.500	0.356	71	0.269	54	70-130	28	35	mg/kg	08.26.18 09:31	X
Ethylbenzene	<0.0100	0.500	0.354	71	0.268	54	70-130	28	35	mg/kg	08.26.18 09:31	X
m,p-Xylenes	<0.0200	1.00	0.675	68	0.513	51	70-130	27	35	mg/kg	08.26.18 09:31	X
o-Xylene	<0.0100	0.500	0.316	63	0.241	48	70-130	27	35	mg/kg	08.26.18 09:31	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		95		70-130	%	08.26.18 09:31
4-Bromofluorobenzene	97		97		70-130	%	08.26.18 09:31

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

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

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



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

CHAIN OF CUSTODY

Page ____ Of ____

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

www.xenco.com

Phoenix, Arizona (480-355-0900)

[illegible]



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/21/2018 12:58:00 PM

Work Order #: 596505

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)?	9.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	N/A
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 08/21/2018

Checklist reviewed by:

Jessica Kramer

Date: 08/22/2018

Analytical Report 634401

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H

21-AUG-19

Collected By: Client



1211 W. Florida Ave
Midland TX 79701

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

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)



21-AUG-19

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

Reference: XENCO Report No(s): **634401**
PLU 423H
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) 634401. 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. 634401 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 634401

LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH08	S	08-16-19 09:50	4 ft	634401-001
PH08A	S	08-16-19 10:40	14 ft	634401-002
PH06	S	08-16-19 08:05	2 ft	634401-003
PH06A	S	08-16-19 08:15	4 ft	634401-004
PH07	S	08-16-19 09:10	1 ft	634401-005
PH07A	S	08-16-19 09:25	4 ft	634401-006
PH04	S	08-15-19 10:00	1 ft	634401-007
PH04A	S	08-15-19 10:20	6 ft	634401-008
PH05	S	08-15-19 10:45	1 ft	634401-009
PH05A	S	08-15-19 11:15	6 ft	634401-010
PH01	S	08-14-19 12:45	4 ft	634401-011
PH01A	S	08-14-19 13:25	12 ft	634401-012
PH02	S	08-14-19 14:05	4 ft	634401-013
PH02A	S	08-14-19 14:25	8 ft	634401-014
PH03	S	08-14-19 14:42	1 ft	634401-015
PH03A	S	08-14-19 14:50	4 ft	634401-016



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H

Project ID:

Work Order Number(s): 634401

Report Date: 21-AUG-19

Date Received: 08/19/2019

Sample receipt non conformance and comments:

None

Sample receipt non conformance and comments per sample:

None

Analytical non conformance and comments:

Batch: LBA-3099163 BTEX by EPA 8021B

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

Lab Sample ID 634401-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene 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: 634401-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analysis Summary 634401

LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H



Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Aug-19-19 08:00 am

Report Date: 21-AUG-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	634401-001	634401-002	634401-003	634401-004	634401-005	634401-006
	<i>Field Id:</i>	PH08	PH08A	PH06	PH06A	PH07	PH07A
	<i>Depth:</i>	4- ft	14- ft	2- ft	4- ft	1- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-16-19 09:50	Aug-16-19 10:40	Aug-16-19 08:05	Aug-16-19 08:15	Aug-16-19 09:10	Aug-16-19 09:25
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-19-19 17:00	Aug-19-19 17:00	Aug-19-19 17:00	Aug-19-19 17:00	Aug-19-19 17:00	Aug-19-19 17:00
	<i>Analyzed:</i>	Aug-20-19 15:32	Aug-20-19 15:52	Aug-20-19 16:12	Aug-20-19 16:32	Aug-20-19 16:52	Aug-20-19 17:12
	<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	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00402 0.00402	<0.00400 0.00400	<0.00398 0.00398	<0.00398 0.00398	<0.00399 0.00399	<0.00397 0.00397
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Chloride by EPA 300	<i>Extracted:</i>	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00
	<i>Analyzed:</i>	Aug-19-19 13:35	Aug-19-19 11:32	Aug-19-19 13:10	Aug-19-19 13:54	Aug-19-19 14:01	Aug-19-19 14:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		6920 50.0	125 5.05	28.3 5.00	253 25.1	17.7 4.98	210 49.5
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-19-19 09:00	Aug-19-19 09:00	Aug-19-19 09:00	Aug-19-19 09:00	Aug-19-19 09:00	Aug-19-19 09:00
	<i>Analyzed:</i>	Aug-19-19 20:31	Aug-19-19 21:29	Aug-19-19 21:48	Aug-19-19 22:07	Aug-19-19 22:27	Aug-19-19 22:46
	<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)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
Diesel Range Organics (DRO)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
Total TPH		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
Total GRO-DRO		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 634401

LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H



Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Aug-19-19 08:00 am

Report Date: 21-AUG-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	634401-007	634401-008	634401-009	634401-010	634401-011	634401-012
	<i>Field Id:</i>	PH04	PH04A	PH05	PH05A	PH01	PH01A
	<i>Depth:</i>	1- ft	6- ft	1- ft	6- ft	4- ft	12- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-15-19 10:00	Aug-15-19 10:20	Aug-15-19 10:45	Aug-15-19 11:15	Aug-14-19 12:45	Aug-14-19 13:25
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-19-19 17:00	Aug-19-19 17:00	Aug-19-19 17:00	Aug-19-19 17:00	Aug-19-19 17:00	Aug-19-19 17:00
	<i>Analyzed:</i>	Aug-20-19 17:32	Aug-20-19 17:53	Aug-20-19 18:13	Aug-20-19 18:33	Aug-20-19 19:51	Aug-20-19 20:11
	<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	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00397 0.00397	<0.00399 0.00399	<0.00401 0.00401	<0.00401 0.00401	<0.00398 0.00398	<0.00398 0.00398
o-Xylene		<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Total Xylenes		<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Total BTEX		<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:50	Aug-19-19 11:50
	<i>Analyzed:</i>	Aug-19-19 14:13	Aug-19-19 14:20	Aug-19-19 14:26	Aug-19-19 14:32	Aug-19-19 15:35	Aug-19-19 15:16
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		7230 49.7	103 25.0	4720 24.9	157 24.9	5210 50.4	93.2 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-19-19 09:00	Aug-19-19 09:00	Aug-19-19 09:00	Aug-19-19 09:00	Aug-19-19 09:00	Aug-19-19 09:00
	<i>Analyzed:</i>	Aug-19-19 23:05	Aug-19-19 23:24	Aug-19-19 23:44	Aug-20-19 00:03	Aug-20-19 00:42	Aug-20-19 01:01
	<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)		<25.0 25.0	<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0
Diesel Range Organics (DRO)		<25.0 25.0	<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0
Total TPH		<25.0 25.0	<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0
Total GRO-DRO		<25.0 25.0	<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 634401

LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Aug-19-19 08:00 am

Report Date: 21-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	634401-013	634401-014	634401-015	634401-016		
	Field Id:	PH02	PH02A	PH03	PH03A		
	Depth:	4- ft	8- ft	1- ft	4- ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Aug-14-19 14:05	Aug-14-19 14:25	Aug-14-19 14:42	Aug-14-19 14:50		
BTEX by EPA 8021B	Extracted:	Aug-19-19 17:00	Aug-19-19 17:00	Aug-19-19 17:00	Aug-19-19 17:00		
	Analyzed:	Aug-20-19 20:31	Aug-20-19 20:51	Aug-20-19 21:12	Aug-20-19 21:32		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200		
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200		
m,p-Xylenes		<0.00401 0.00401	<0.00398 0.00398	<0.00398 0.00398	<0.00399 0.00399		
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200		
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200		
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200		
Chloride by EPA 300	Extracted:	Aug-19-19 11:50	Aug-19-19 11:50	Aug-19-19 11:50	Aug-19-19 11:50		
	Analyzed:	Aug-19-19 15:42	Aug-19-19 15:52	Aug-19-19 15:59	Aug-20-19 11:20		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		2110 25.0	21.4 4.95	169 5.02	260 49.7		
TPH by SW8015 Mod	Extracted:	Aug-19-19 09:00	Aug-19-19 09:00	Aug-19-19 09:00	Aug-19-19 09:00		
	Analyzed:	Aug-20-19 01:20	Aug-20-19 01:39	Aug-20-19 01:59	Aug-20-19 02:18		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0		
Diesel Range Organics (DRO)		<24.9 24.9	<25.0 25.0	28.5 25.0	<25.0 25.0		
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0		
Total TPH		<24.9 24.9	<25.0 25.0	28.5 25.0	<25.0 25.0		
Total GRO-DRO		<24.9 24.9	<25.0 25.0	28.5 25.0	<25.0 25.0		

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 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH08**
Lab Sample Id: 634401-001

Matrix: Soil
Date Collected: 08.16.19 09.50

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3098956

Date Prep: 08.19.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6920	50.0	mg/kg	08.19.19 13.35		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099045

Date Prep: 08.19.19 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.19.19 20.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.19.19 20.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.19.19 20.31	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.19.19 20.31	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.19.19 20.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.19.19 20.31	
o-Terphenyl	84-15-1	96	%	70-135	08.19.19 20.31	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH08**
Lab Sample Id: 634401-001

Matrix: Soil
Date Collected: 08.16.19 09.50

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: AMB

Date Prep: 08.19.19 17.00

Basis: Wet Weight

Seq Number: 3099163

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.20.19 15.32	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.20.19 15.32	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.20.19 15.32	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.20.19 15.32	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.20.19 15.32	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.20.19 15.32	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.20.19 15.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	08.20.19 15.32		
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.20.19 15.32		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH08A**
Lab Sample Id: 634401-002

Matrix: Soil
Date Collected: 08.16.19 10.40

Date Received: 08.19.19 08.00
Sample Depth: 14 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3098956

Date Prep: 08.19.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	125	5.05	mg/kg	08.19.19 11.32		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099045

Date Prep: 08.19.19 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.19.19 21.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.19.19 21.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.19.19 21.29	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.19.19 21.29	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.19.19 21.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.19.19 21.29	
o-Terphenyl	84-15-1	94	%	70-135	08.19.19 21.29	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH08A**
Lab Sample Id: 634401-002

Matrix: Soil
Date Collected: 08.16.19 10.40

Date Received: 08.19.19 08.00
Sample Depth: 14 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 15.52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.20.19 15.52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.20.19 15.52	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	08.20.19 15.52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.20.19 15.52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.20.19 15.52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.20.19 15.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	08.20.19 15.52		
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.20.19 15.52		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH06**
Lab Sample Id: 634401-003

Matrix: Soil
Date Collected: 08.16.19 08.05

Date Received: 08.19.19 08.00
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3098956

Date Prep: 08.19.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.3	5.00	mg/kg	08.19.19 13.10		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099045

Date Prep: 08.19.19 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.19.19 21.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.19.19 21.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.19.19 21.48	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.19.19 21.48	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.19.19 21.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	08.19.19 21.48	
o-Terphenyl	84-15-1	97	%	70-135	08.19.19 21.48	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH06**
Lab Sample Id: 634401-003

Matrix: Soil
Date Collected: 08.16.19 08.05

Date Received: 08.19.19 08.00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 16.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.20.19 16.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.20.19 16.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.20.19 16.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.20.19 16.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.20.19 16.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.20.19 16.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.20.19 16.12		
4-Bromofluorobenzene	460-00-4	110	%	70-130	08.20.19 16.12		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH06A**
Lab Sample Id: 634401-004

Matrix: Soil
Date Collected: 08.16.19 08.15

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3098956

Date Prep: 08.19.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	253	25.1	mg/kg	08.19.19 13.54		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099045

Date Prep: 08.19.19 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.19.19 22.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.19.19 22.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.19.19 22.07	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.19.19 22.07	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.19.19 22.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.19.19 22.07	
o-Terphenyl	84-15-1	98	%	70-135	08.19.19 22.07	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH06A**
Lab Sample Id: 634401-004

Matrix: Soil
Date Collected: 08.16.19 08.15

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 16.32	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.20.19 16.32	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.20.19 16.32	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.20.19 16.32	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.20.19 16.32	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.20.19 16.32	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.20.19 16.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	08.20.19 16.32		
1,4-Difluorobenzene	540-36-3	105	%	70-130	08.20.19 16.32		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH07** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634401-005 Date Collected: 08.16.19 09.10 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.00 Basis: Wet Weight
 Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.7	4.98	mg/kg	08.19.19 14.01		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 09.00 Basis: Wet Weight
 Seq Number: 3099045

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.19.19 22.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.19.19 22.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.19.19 22.27	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.19.19 22.27	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.19.19 22.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	08.19.19 22.27	
o-Terphenyl	84-15-1	97	%	70-135	08.19.19 22.27	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH07**
Lab Sample Id: 634401-005

Matrix: Soil
Date Collected: 08.16.19 09.10

Date Received: 08.19.19 08.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 16.52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.20.19 16.52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.20.19 16.52	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.20.19 16.52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.20.19 16.52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.20.19 16.52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.20.19 16.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.20.19 16.52		
4-Bromofluorobenzene	460-00-4	104	%	70-130	08.20.19 16.52		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH07A**
Lab Sample Id: 634401-006

Matrix: Soil
Date Collected: 08.16.19 09.25

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3098956

Date Prep: 08.19.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	210	49.5	mg/kg	08.19.19 14.07		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099045

Date Prep: 08.19.19 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.19.19 22.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.19.19 22.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.19.19 22.46	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.19.19 22.46	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.19.19 22.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	08.19.19 22.46	
o-Terphenyl	84-15-1	97	%	70-135	08.19.19 22.46	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH07A**
Lab Sample Id: 634401-006

Matrix: Soil
Date Collected: 08.16.19 09.25

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 17.12	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.20.19 17.12	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.20.19 17.12	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.20.19 17.12	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.20.19 17.12	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.20.19 17.12	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.20.19 17.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.20.19 17.12		
4-Bromofluorobenzene	460-00-4	106	%	70-130	08.20.19 17.12		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH04** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634401-007 Date Collected: 08.15.19 10.00 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.00 Basis: Wet Weight
 Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7230	49.7	mg/kg	08.19.19 14.13		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 09.00 Basis: Wet Weight
 Seq Number: 3099045

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.19.19 23.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.19.19 23.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.19.19 23.05	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.19.19 23.05	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.19.19 23.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	08.19.19 23.05	
o-Terphenyl	84-15-1	98	%	70-135	08.19.19 23.05	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH04**
Lab Sample Id: 634401-007

Matrix: Soil
Date Collected: 08.15.19 10.00

Date Received: 08.19.19 08.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 17.32	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.20.19 17.32	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.20.19 17.32	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.20.19 17.32	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.20.19 17.32	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.20.19 17.32	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.20.19 17.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.20.19 17.32		
4-Bromofluorobenzene	460-00-4	105	%	70-130	08.20.19 17.32		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH04A** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634401-008 Date Collected: 08.15.19 10.20 Sample Depth: 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.00 Basis: Wet Weight
 Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	103	25.0	mg/kg	08.19.19 14.20		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 09.00 Basis: Wet Weight
 Seq Number: 3099045

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.19.19 23.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.19.19 23.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.19.19 23.24	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.19.19 23.24	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.19.19 23.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.19.19 23.24	
o-Terphenyl	84-15-1	99	%	70-135	08.19.19 23.24	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH04A**
Lab Sample Id: 634401-008

Matrix: Soil
Date Collected: 08.15.19 10.20

Date Received: 08.19.19 08.00
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 17.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.20.19 17.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.20.19 17.53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.20.19 17.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.20.19 17.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.20.19 17.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.20.19 17.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.20.19 17.53		
4-Bromofluorobenzene	460-00-4	102	%	70-130	08.20.19 17.53		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH05** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634401-009 Date Collected: 08.15.19 10.45 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.00 Basis: Wet Weight
 Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4720	24.9	mg/kg	08.19.19 14.26		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 09.00 Basis: Wet Weight
 Seq Number: 3099045

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.19.19 23.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.19.19 23.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.19.19 23.44	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.19.19 23.44	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.19.19 23.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	08.19.19 23.44	
o-Terphenyl	84-15-1	91	%	70-135	08.19.19 23.44	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH05**
Lab Sample Id: 634401-009

Matrix: Soil
Date Collected: 08.15.19 10.45

Date Received: 08.19.19 08.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 18.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.20.19 18.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.20.19 18.13	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.20.19 18.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.20.19 18.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.20.19 18.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.20.19 18.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	08.20.19 18.13		
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.20.19 18.13		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH05A**
Lab Sample Id: 634401-010

Matrix: Soil
Date Collected: 08.15.19 11.15

Date Received: 08.19.19 08.00
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3098956

Date Prep: 08.19.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	157	24.9	mg/kg	08.19.19 14.32		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099045

Date Prep: 08.19.19 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.20.19 00.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.20.19 00.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.20.19 00.03	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.20.19 00.03	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.20.19 00.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.20.19 00.03	
o-Terphenyl	84-15-1	95	%	70-135	08.20.19 00.03	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH05A**
Lab Sample Id: 634401-010

Matrix: Soil
Date Collected: 08.15.19 11.15

Date Received: 08.19.19 08.00
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: AMB

Date Prep: 08.19.19 17.00

Basis: Wet Weight

Seq Number: 3099163

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.20.19 18.33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.20.19 18.33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.20.19 18.33	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.20.19 18.33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.20.19 18.33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.20.19 18.33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.20.19 18.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.20.19 18.33		
4-Bromofluorobenzene	460-00-4	108	%	70-130	08.20.19 18.33		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH01**
Lab Sample Id: 634401-011

Matrix: Soil
Date Collected: 08.14.19 12.45

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3099041

Date Prep: 08.19.19 11.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5210	50.4	mg/kg	08.19.19 15.35		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099045

Date Prep: 08.19.19 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.20.19 00.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.20.19 00.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.20.19 00.42	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.20.19 00.42	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.20.19 00.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	08.20.19 00.42	
o-Terphenyl	84-15-1	98	%	70-135	08.20.19 00.42	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH01**
Lab Sample Id: 634401-011

Matrix: Soil
Date Collected: 08.14.19 12.45

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 19.51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.20.19 19.51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.20.19 19.51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.20.19 19.51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.20.19 19.51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.20.19 19.51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.20.19 19.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	08.20.19 19.51		
1,4-Difluorobenzene	540-36-3	99	%	70-130	08.20.19 19.51		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH01A**
Lab Sample Id: 634401-012

Matrix: Soil
Date Collected: 08.14.19 13.25

Date Received: 08.19.19 08.00
Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3099041

Date Prep: 08.19.19 11.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	93.2	5.00	mg/kg	08.19.19 15.16		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099045

Date Prep: 08.19.19 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.20.19 01.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.20.19 01.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.20.19 01.01	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.20.19 01.01	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.20.19 01.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.20.19 01.01	
o-Terphenyl	84-15-1	98	%	70-135	08.20.19 01.01	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH01A**
Lab Sample Id: 634401-012

Matrix: Soil
Date Collected: 08.14.19 13.25

Date Received: 08.19.19 08.00
Sample Depth: 12 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 20.11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.20.19 20.11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.20.19 20.11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.20.19 20.11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.20.19 20.11	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.20.19 20.11	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.20.19 20.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	08.20.19 20.11		
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.20.19 20.11		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH02** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634401-013 Date Collected: 08.14.19 14.05 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.50 Basis: Wet Weight
 Seq Number: 3099041

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2110	25.0	mg/kg	08.19.19 15.42		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 09.00 Basis: Wet Weight
 Seq Number: 3099045

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.20.19 01.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.20.19 01.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.20.19 01.20	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.20.19 01.20	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.20.19 01.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	08.20.19 01.20	
o-Terphenyl	84-15-1	96	%	70-135	08.20.19 01.20	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH02**
Lab Sample Id: 634401-013

Matrix: Soil
Date Collected: 08.14.19 14.05

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: AMB

Date Prep: 08.19.19 17.00

Basis: Wet Weight

Seq Number: 3099163

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.20.19 20.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.20.19 20.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.20.19 20.31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.20.19 20.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.20.19 20.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.20.19 20.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.20.19 20.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	08.20.19 20.31		
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.20.19 20.31		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH02A**
Lab Sample Id: 634401-014

Matrix: Soil
Date Collected: 08.14.19 14.25

Date Received: 08.19.19 08.00
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3099041

Date Prep: 08.19.19 11.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.4	4.95	mg/kg	08.19.19 15.52		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099045

Date Prep: 08.19.19 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.20.19 01.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.20.19 01.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.20.19 01.39	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.20.19 01.39	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.20.19 01.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	08.20.19 01.39	
o-Terphenyl	84-15-1	98	%	70-135	08.20.19 01.39	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH02A**
Lab Sample Id: 634401-014

Matrix: Soil
Date Collected: 08.14.19 14.25

Date Received: 08.19.19 08.00
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 20.51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.20.19 20.51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.20.19 20.51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.20.19 20.51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.20.19 20.51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.20.19 20.51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.20.19 20.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	08.20.19 20.51		
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.20.19 20.51		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH03** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634401-015 Date Collected: 08.14.19 14.42 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.50 Basis: Wet Weight
 Seq Number: 3099041

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	169	5.02	mg/kg	08.19.19 15.59		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 09.00 Basis: Wet Weight
 Seq Number: 3099045

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.20.19 01.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	28.5	25.0	mg/kg	08.20.19 01.59		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.20.19 01.59	U	1
Total TPH	PHC635	28.5	25.0	mg/kg	08.20.19 01.59		1
Total GRO-DRO	PHC628	28.5	25.0	mg/kg	08.20.19 01.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	08.20.19 01.59	
o-Terphenyl	84-15-1	101	%	70-135	08.20.19 01.59	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH03**
Lab Sample Id: 634401-015

Matrix: Soil
Date Collected: 08.14.19 14.42

Date Received: 08.19.19 08.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 21.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.20.19 21.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.20.19 21.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.20.19 21.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.20.19 21.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.20.19 21.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.20.19 21.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	08.20.19 21.12		
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.20.19 21.12		



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH03A** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634401-016 Date Collected: 08.14.19 14.50 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.50 Basis: Wet Weight
 Seq Number: 3099041

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	260	49.7	mg/kg	08.20.19 11.20		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 09.00 Basis: Wet Weight
 Seq Number: 3099045

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.20.19 02.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.20.19 02.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.20.19 02.18	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.20.19 02.18	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.20.19 02.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	08.20.19 02.18	
o-Terphenyl	84-15-1	98	%	70-135	08.20.19 02.18	



Certificate of Analytical Results 634401



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **PH03A**
Lab Sample Id: 634401-016

Matrix: Soil
Date Collected: 08.14.19 14.50

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099163

Date Prep: 08.19.19 17.00

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	08.20.19 21.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.20.19 21.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.20.19 21.32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.20.19 21.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.20.19 21.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.20.19 21.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.20.19 21.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.20.19 21.32		
4-Bromofluorobenzene	460-00-4	100	%	70-130	08.20.19 21.32		



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.

PLU 423H

Analytical Method: Chloride by EPA 300

Seq Number: 3098956

MB Sample Id: 7684477-1-BLK

Matrix: Solid

LCS Sample Id: 7684477-1-BKS

Prep Method: E300P

Date Prep: 08.19.19

LCSD Sample Id: 7684477-1-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	237	95	237	95	90-110	0	20	mg/kg	08.19.19 11:11	

Analytical Method: Chloride by EPA 300

Seq Number: 3099041

MB Sample Id: 7684479-1-BLK

Matrix: Solid

LCS Sample Id: 7684479-1-BKS

Prep Method: E300P

Date Prep: 08.19.19

LCSD Sample Id: 7684479-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	241	96	239	96	90-110	1	20	mg/kg	08.19.19 15:04	

Analytical Method: Chloride by EPA 300

Seq Number: 3098956

Parent Sample Id: 634401-002

Matrix: Soil

MS Sample Id: 634401-002 S

Prep Method: E300P

Date Prep: 08.19.19

MSD Sample Id: 634401-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	125	253	378	100	378	100	90-110	0	20	mg/kg	08.19.19 11:39	

Analytical Method: Chloride by EPA 300

Seq Number: 3098956

Parent Sample Id: 634401-003

Matrix: Soil

MS Sample Id: 634401-003 S

Prep Method: E300P

Date Prep: 08.19.19

MSD Sample Id: 634401-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	28.3	250	281	101	281	101	90-110	0	20	mg/kg	08.19.19 13:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3099041

Parent Sample Id: 634286-003

Matrix: Soil

MS Sample Id: 634286-003 S

Prep Method: E300P

Date Prep: 08.19.19

MSD Sample Id: 634286-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	15.4	249	282	107	283	107	90-110	0	20	mg/kg	08.20.19 11:58	

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

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

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.

PLU 423H

Analytical Method: Chloride by EPA 300

Seq Number: 3099041

Parent Sample Id: 634401-012

Matrix: Soil

MS Sample Id: 634401-012 S

Prep Method: E300P

Date Prep: 08.19.19

MSD Sample Id: 634401-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	93.2	250	349	102	348	102	90-110	0	20	mg/kg	08.19.19 15:23	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3099045

MB Sample Id: 7684476-1-BLK

Matrix: Solid

LCS Sample Id: 7684476-1-BKS

Prep Method: TX1005P

Date Prep: 08.19.19

LCSD Sample Id: 7684476-1-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	1080	108	1110	111	70-135	3	20	mg/kg	08.19.19 19:53	
Diesel Range Organics (DRO)	<25.0	1000	1020	102	1050	105	70-135	3	20	mg/kg	08.19.19 19:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		115		119		70-135	%	08.19.19 19:53
o-Terphenyl	98		102		103		70-135	%	08.19.19 19:53

Analytical Method: TPH by SW8015 Mod

Seq Number: 3099045

Parent Sample Id: 634401-001

Matrix: Soil

MS Sample Id: 634401-001 S

Prep Method: TX1005P

Date Prep: 08.19.19

MSD Sample Id: 634401-001 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	879	88	888	89	70-135	1	20	mg/kg	08.19.19 20:51	
Diesel Range Organics (DRO)	<25.0	999	935	94	943	94	70-135	1	20	mg/kg	08.19.19 20:51	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		110		70-135	%	08.19.19 20:51
o-Terphenyl	98		96		70-135	%	08.19.19 20:51

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.

PLU 423H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099163

MB Sample Id: 7684585-1-BLK

Matrix: Solid

LCS Sample Id: 7684585-1-BKS

Prep Method: SW5030B

Date Prep: 08.19.19

LCSD Sample Id: 7684585-1-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	0.0978	98	0.101	101	70-130	3	35	mg/kg	08.20.19 13:32	
Toluene	<0.000456	0.100	0.0947	95	0.103	103	70-130	8	35	mg/kg	08.20.19 13:32	
Ethylbenzene	<0.000565	0.100	0.0948	95	0.106	106	70-130	11	35	mg/kg	08.20.19 13:32	
m,p-Xylenes	<0.00101	0.200	0.184	92	0.205	103	70-130	11	35	mg/kg	08.20.19 13:32	
o-Xylene	<0.000344	0.100	0.0936	94	0.105	105	70-130	11	35	mg/kg	08.20.19 13:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		103		100		70-130	%	08.20.19 13:32
4-Bromofluorobenzene	96		94		101		70-130	%	08.20.19 13:32

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099163

Parent Sample Id: 634401-004

Matrix: Soil

MS Sample Id: 634401-004 S

Prep Method: SW5030B

Date Prep: 08.19.19

MSD Sample Id: 634401-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0584	58	0.0611	60	70-130	5	35	mg/kg	08.20.19 14:12	X
Toluene	<0.00200	0.100	0.0577	58	0.0618	61	70-130	7	35	mg/kg	08.20.19 14:12	X
Ethylbenzene	<0.00200	0.100	0.0553	55	0.0613	61	70-130	10	35	mg/kg	08.20.19 14:12	X
m,p-Xylenes	<0.00101	0.200	0.106	53	0.118	58	70-130	11	35	mg/kg	08.20.19 14:12	X
o-Xylene	<0.00200	0.100	0.0540	54	0.0604	60	70-130	11	35	mg/kg	08.20.19 14:12	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	08.20.19 14:12
4-Bromofluorobenzene	106		105		70-130	%	08.20.19 14:12

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



Chain of Custody

Work Order No: 1034401

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-8334
 Midland, TX (432-704-5440) EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1236
 Phoenix, AZ (480) 355-0500 Atlanta, GA (770) 449-8800 Tampa, FL (813) 820-2000

www.xenco.com

Page 1 of 2

Project Manager:	Richard Baker	Don Moore	Bill to: (if different)	Kyle Little
Company Name:	LT Environmental, Inc., Permian office		Company Name:	YHS
Address:	3300 North A Street		Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705		City, State ZIP:	Carlsbad NM 88220
Phone:	432-704-5440 236 3819		Email:	don@xenco.com

Program: ☒ UST/PT ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund
State of Project:
Reporting Level I: ☐ Level II: ☐ Level III: ☐ Level IV: ☐
Deliverables: EDD ☐ ADAPT ☐ Other:

Project Name:	PLU 423H	Turn Around	ANALYSIS REQUEST										Work Order Notes			
Project Number:		Routine ☐														
P.O. Number:	220-446	Rush: 2 day														
Sampler's Name:	Don Baker	Due Date:														
SAMPLE RECEIPT		Temp Blank:	Yes ☐ No ☒	Wet Ice:	Yes ☐ No ☒									TAT starts the day received by the lab, if received by 4:30pm		
Temperature (°C):	41.39	Thermometer ID:	P8													
Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.2													
Cooler Custody Seals:	Yes ☐ No ☒	Total Containers:														
Sample Custody Seals:	Yes ☐ No ☒															
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Number of Containers										Sample Comments
						TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)								
PH08	S	8/16/19	0450	4'	1	X	X	X								
PH08A	S	8/16/19	1048	14'	1	X	X	X								
PH08C	S	8/16/19	0905	2'	1	X	X	X								
PH08A	S	8/16/19	0815	4'	1	X	X	X								
PH08A	S	8/16/19	0910	1'	1	X	X	X								
PH08A	S	8/16/19	0925	4'	1	X	X	X								
PH08A	S	8/15/19	1000	1'	1	X	X	X								
PH08A	S	8/15/19	1030	6'	1	X	X	X								
PH08A	S	8/15/19	1045	1'	1	X	X	X								
PH08A	S	8/15/19	1115	6'	1	X	X	X								

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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	1631 / 245.1 / 7470 / 7471 : Hg

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, that 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
Don Baker	Don Moore	8/16/19 1300	Don Baker	Don Moore	8/16/19 1500



Chain of Custody

Work Order No: 10341401

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 505-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Carrollton, TX (972) 704-5440
 Phoenix, AZ (480) 395-5900 Atlanta, GA (770) 445-3800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-5701

www.xenco.com Page 2 of 2

Project Manager:	DAN M. O'NEILL	Bill to (if different):	Kyle Lottels
Company Name:	LF Environmental	Company Name:	XTB
Address:	1300 North A Street	Address:	3101 E Green St
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carrollton TX 75006
Phone:	432 250 7844	Email:	dan@lfenv.com

Project Name:	PLU 4234	Turn Around:	
Project Number:		Routine:	☐
Project Location:	Quail Valley Co	Ruin:	2-day
Sampler's Name:	A. B. Jones	Due Date:	
PO #:	200-4444	Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	41.5.9			Thermometer ID:	PC	
Received Initial:	Yes	No		Correction Factor:		
Cooler Custody Seals:	Yes	No		Total Containers:	-02	
Sample Custody Seals:	Yes	No				

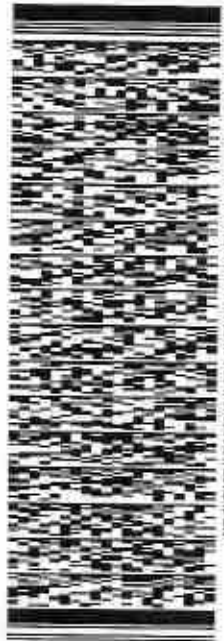
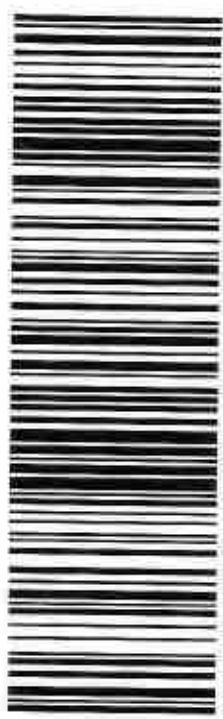
Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
RD1		S	8/14/19	1445	4'	1	TPH (EPA 8015)	MMCH: Me	
PH01A		S		1525	12'	1	BTEX (EPA 8021)	NONE: NO	
PH02		S		1405	4'	1	Chloride (EPA 300.0)	HNOS: HN	
PH02A		S		1425	8'	1		H2SO4: H2	
PH03		S		1442	1'	1		HCL: HL	
PH03A		S		1450	4	1		NaOH: NH	
								Zn Acetate + NaOH: ZN	
								TAT: events (in day) received by the lab, if received by 4:00pm	

Total 200.7 / 6010 200.8 / 6020: SPCRA 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
 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 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 staff 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 \$15.00 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
<i>[Signature]</i>	<i>[Signature]</i>	8/16/19 15:00	<i>[Signature]</i>	<i>[Signature]</i>	8/16/19 15:00
<i>[Signature]</i>	<i>[Signature]</i>	8/16/19 15:30	<i>[Signature]</i>	<i>[Signature]</i>	8/19/19 8:00

Revised Date 11/20/19 Rev. 2019.1

ORIGIN ID: CACA (281) 240-4200 SAMPLE CUSTODY SAMPLE CUSTODY 1009 N CANAL ST CARLSBAD, NM 88220 UNITED STATES US		SHIP DATE: 16AUG19 ACTWGT: 31.00 LB CAD: 1144867/0/MET4160 DIMS: 13x9x9 IN BILL SENDER	
TO SAMPLE RECEIVING MIDLAND FEDEX OFFICE PRINT & SHIP CENTER FEDEX OFFICE PRINT & SHIP CENTER 200 W INTERSTATE 20 MIDLAND TX 79701 (432) 704-5440 REF PO DEPT			
TRK# 7760 0963 2036 0201 SATURDAY HOLD PRIORITY OVERNIGHT HLD MAFKI TX-US LBB		 	
 41 MAFA			

557J3E9E705A2

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/19/2019 08:00:00 AM

Work Order #: 634401

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.9
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 08/19/2019

Checklist reviewed by:

Jessica Kramer

Date: 08/20/2019

Analytical Report 634402

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H

20-AUG-19

Collected By: Client



1211 W. Florida Ave
Midland TX 79701

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

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)



20-AUG-19

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

Reference: XENCO Report No(s): **634402**
PLU 423H
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) 634402. 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. 634402 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 634402****LT Environmental, Inc., Arvada, CO**

PLU 423H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	08-15-19 15:45	4 ft	634402-001
FS02	S	08-15-19 15:50	4 ft	634402-002
FS03	S	08-15-19 15:55	4 ft	634402-003
FS04	S	08-15-19 16:00	4 ft	634402-004
FS05	S	08-15-19 16:05	4 ft	634402-005
FS06	S	08-15-19 16:10	4 ft	634402-006
SW01	S	08-15-19 16:20	0.5 - 4 ft	634402-007
SW02	S	08-15-19 16:25	0.5 - 4 ft	634402-008
SW03	S	08-15-19 16:30	0.5 - 4 ft	634402-009
SW04	S	08-15-19 16:45	0.5 - 4 ft	634402-010



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H

Project ID:

Work Order Number(s): 634402

Report Date: 20-AUG-19

Date Received: 08/19/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3099040 BTEX by EPA 8021B

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



Certificate of Analysis Summary 634402

LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Aug-19-19 08:00 am

Report Date: 20-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	634402-001	634402-002	634402-003	634402-004	634402-005	634402-006
	Field Id:	FS01	FS02	FS03	FS04	FS05	FS06
	Depth:	4- ft	4- ft	4- ft	4- ft	4- ft	4- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-15-19 15:45	Aug-15-19 15:50	Aug-15-19 15:55	Aug-15-19 16:00	Aug-15-19 16:05	Aug-15-19 16:10
BTEX by EPA 8021B	Extracted:	Aug-19-19 15:00	Aug-19-19 15:00	Aug-19-19 15:00	Aug-19-19 15:00	Aug-19-19 15:00	Aug-19-19 15:00
	Analyzed:	Aug-20-19 04:30	Aug-20-19 04:50	Aug-20-19 05:11	Aug-20-19 05:31	Aug-20-19 05:51	Aug-20-19 06:11
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00399 0.00399	<0.00400 0.00400	<0.00402 0.00402	<0.00401 0.00401	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300	Extracted:	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00
	Analyzed:	Aug-19-19 11:56	Aug-19-19 12:02	Aug-19-19 12:09	Aug-19-19 12:15	Aug-20-19 11:14	Aug-19-19 12:40
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Chloride		1590 49.8	4370 25.0	1800 25.1	1210 49.5	244 4.95	3410 50.3
TPH by SW8015 Mod	Extracted:	Aug-19-19 10:00	Aug-19-19 10:00	Aug-19-19 10:00	Aug-19-19 10:00	Aug-19-19 10:00	Aug-19-19 10:00
	Analyzed:	Aug-19-19 11:48	Aug-19-19 12:47	Aug-19-19 13:06	Aug-19-19 13:26	Aug-19-19 13:45	Aug-19-19 14:04
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Gasoline Range Hydrocarbons (GRO)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0
Diesel Range Organics (DRO)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0
Total TPH		<24.9 24.9	<24.9 24.9	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0
Total GRO-DRO		<24.9 24.9	<24.9 24.9	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0

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 634402

LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Aug-19-19 08:00 am

Report Date: 20-AUG-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	634402-007	634402-008	634402-009	634402-010		
	<i>Field Id:</i>	SW01	SW02	SW03	SW04		
	<i>Depth:</i>	0.5-4 ft	0.5-4 ft	0.5-4 ft	0.5-4 ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Aug-15-19 16:20	Aug-15-19 16:25	Aug-15-19 16:30	Aug-15-19 16:45		
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-19-19 15:00	Aug-19-19 15:00	Aug-19-19 15:00	Aug-19-19 15:00		
	<i>Analyzed:</i>	Aug-20-19 06:31	Aug-20-19 06:51	Aug-20-19 07:12	Aug-20-19 07:32		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00201 0.00201	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
Toluene		<0.00201 0.00201	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
Ethylbenzene		<0.00201 0.00201	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
m,p-Xylenes		<0.00402 0.00402	<0.00397 0.00397	<0.00397 0.00397	<0.00396 0.00396		
o-Xylene		<0.00201 0.00201	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
Total Xylenes		<0.00201 0.00201	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
Total BTEX		<0.00201 0.00201	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
Chloride by EPA 300	<i>Extracted:</i>	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00	Aug-19-19 11:00		
	<i>Analyzed:</i>	Aug-19-19 12:46	Aug-19-19 12:57	Aug-19-19 13:04	Aug-19-19 13:29		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		3780 99.8	1280 5.00	5110 100	5160 101		
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-19-19 10:00	Aug-19-19 10:00	Aug-19-19 10:00	Aug-19-19 10:00		
	<i>Analyzed:</i>	Aug-19-19 14:23	Aug-19-19 14:43	Aug-19-19 15:02	Aug-19-19 15:21		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<25.0 25.0	<24.9 24.9	<24.9 24.9	<25.0 25.0		
Diesel Range Organics (DRO)		<25.0 25.0	<24.9 24.9	<24.9 24.9	<25.0 25.0		
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<24.9 24.9	<24.9 24.9	<25.0 25.0		
Total TPH		<25.0 25.0	<24.9 24.9	<24.9 24.9	<25.0 25.0		
Total GRO-DRO		<25.0 25.0	<24.9 24.9	<24.9 24.9	<25.0 25.0		

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 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **FS01** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634402-001 Date Collected: 08.15.19 15.45 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.00 Basis: Wet Weight
 Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1590	49.8	mg/kg	08.19.19 11.56		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 10.00 Basis: Wet Weight
 Seq Number: 3099044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.19.19 11.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.19.19 11.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.19.19 11.48	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.19.19 11.48	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.19.19 11.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.19.19 11.48	
o-Terphenyl	84-15-1	96	%	70-135	08.19.19 11.48	



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **FS01**
Lab Sample Id: 634402-001

Matrix: Soil
Date Collected: 08.15.19 15.45

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: AMB

Date Prep: 08.19.19 15.00

Basis: Wet Weight

Seq Number: 3099040

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.20.19 04.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.20.19 04.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.20.19 04.30	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.20.19 04.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.20.19 04.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.20.19 04.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.20.19 04.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	70-130	08.20.19 04.30		
1,4-Difluorobenzene	540-36-3	109	%	70-130	08.20.19 04.30		



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: FS02
Lab Sample Id: 634402-002

Matrix: Soil
Date Collected: 08.15.19 15.50

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 08.19.19 11.00

Basis: Wet Weight

Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4370	25.0	mg/kg	08.19.19 12.02		5

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 08.19.19 10.00

Basis: Wet Weight

Seq Number: 3099044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.19.19 12.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.19.19 12.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.19.19 12.47	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.19.19 12.47	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.19.19 12.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	08.19.19 12.47	
o-Terphenyl	84-15-1	91	%	70-135	08.19.19 12.47	



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **FS02**
Lab Sample Id: 634402-002

Matrix: Soil
Date Collected: 08.15.19 15.50

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099040

Date Prep: 08.19.19 15.00

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	08.20.19 04.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.20.19 04.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.20.19 04.50	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.20.19 04.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.20.19 04.50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.20.19 04.50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.20.19 04.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	08.20.19 04.50		
4-Bromofluorobenzene	460-00-4	98	%	70-130	08.20.19 04.50		



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **FS03** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634402-003 Date Collected: 08.15.19 15.55 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.00 Basis: Wet Weight
 Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1800	25.1	mg/kg	08.19.19 12.09		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 10.00 Basis: Wet Weight
 Seq Number: 3099044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.19.19 13.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.19.19 13.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.19.19 13.06	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.19.19 13.06	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.19.19 13.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	08.19.19 13.06	
o-Terphenyl	84-15-1	91	%	70-135	08.19.19 13.06	



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **FS03**
Lab Sample Id: 634402-003

Matrix: Soil
Date Collected: 08.15.19 15.55

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099040

Date Prep: 08.19.19 15.00

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	08.20.19 05.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.20.19 05.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.20.19 05.11	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	08.20.19 05.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.20.19 05.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.20.19 05.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.20.19 05.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	08.20.19 05.11		
1,4-Difluorobenzene	540-36-3	105	%	70-130	08.20.19 05.11		



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **FS04** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634402-004 Date Collected: 08.15.19 16.00 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.00 Basis: Wet Weight
 Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1210	49.5	mg/kg	08.19.19 12.15		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 10.00 Basis: Wet Weight
 Seq Number: 3099044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.19.19 13.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.19.19 13.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.19.19 13.26	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.19.19 13.26	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.19.19 13.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	08.19.19 13.26	
o-Terphenyl	84-15-1	91	%	70-135	08.19.19 13.26	



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **FS04**
Lab Sample Id: 634402-004

Matrix: Soil
Date Collected: 08.15.19 16.00

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: AMB

Date Prep: 08.19.19 15.00

Basis: Wet Weight

Seq Number: 3099040

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.20.19 05.31	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.20.19 05.31	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.20.19 05.31	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.20.19 05.31	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.20.19 05.31	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.20.19 05.31	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.20.19 05.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.20.19 05.31		
4-Bromofluorobenzene	460-00-4	112	%	70-130	08.20.19 05.31		



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **FS05**
 Lab Sample Id: 634402-005

Matrix: Soil
 Date Collected: 08.15.19 16.05

Date Received: 08.19.19 08.00
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 08.19.19 11.00

Basis: Wet Weight

Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	244	4.95	mg/kg	08.20.19 11.14		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 08.19.19 10.00

Basis: Wet Weight

Seq Number: 3099044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.19.19 13.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.19.19 13.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.19.19 13.45	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.19.19 13.45	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.19.19 13.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	08.19.19 13.45	
o-Terphenyl	84-15-1	91	%	70-135	08.19.19 13.45	



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **FS05**
Lab Sample Id: 634402-005

Matrix: Soil
Date Collected: 08.15.19 16.05

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099040

Date Prep: 08.19.19 15.00

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	08.20.19 05.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.20.19 05.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.20.19 05.51	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.20.19 05.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.20.19 05.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.20.19 05.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.20.19 05.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	08.20.19 05.51		
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.20.19 05.51		



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **FS06** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634402-006 Date Collected: 08.15.19 16.10 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.00 Basis: Wet Weight
 Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3410	50.3	mg/kg	08.19.19 12.40		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 10.00 Basis: Wet Weight
 Seq Number: 3099044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.19.19 14.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.19.19 14.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.19.19 14.04	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.19.19 14.04	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.19.19 14.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	08.19.19 14.04	
o-Terphenyl	84-15-1	89	%	70-135	08.19.19 14.04	



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **FS06**
Lab Sample Id: 634402-006

Matrix: Soil
Date Collected: 08.15.19 16.10

Date Received: 08.19.19 08.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099040

Date Prep: 08.19.19 15.00

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	08.20.19 06.11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.20.19 06.11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.20.19 06.11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.20.19 06.11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.20.19 06.11	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.20.19 06.11	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.20.19 06.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	08.20.19 06.11		
4-Bromofluorobenzene	460-00-4	119	%	70-130	08.20.19 06.11		



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **SW01** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634402-007 Date Collected: 08.15.19 16.20 Sample Depth: 0.5 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.00 Basis: Wet Weight
 Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3780	99.8	mg/kg	08.19.19 12.46		20

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 10.00 Basis: Wet Weight
 Seq Number: 3099044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.19.19 14.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.19.19 14.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.19.19 14.23	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.19.19 14.23	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.19.19 14.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	08.19.19 14.23	
o-Terphenyl	84-15-1	91	%	70-135	08.19.19 14.23	



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **SW01**
Lab Sample Id: 634402-007

Matrix: Soil
Date Collected: 08.15.19 16.20

Date Received: 08.19.19 08.00
Sample Depth: 0.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099040

Date Prep: 08.19.19 15.00

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	08.20.19 06.31	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.20.19 06.31	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.20.19 06.31	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.20.19 06.31	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.20.19 06.31	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.20.19 06.31	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.20.19 06.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	08.20.19 06.31		
1,4-Difluorobenzene	540-36-3	106	%	70-130	08.20.19 06.31		



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **SW02**
Lab Sample Id: 634402-008

Matrix: Soil
Date Collected: 08.15.19 16.25

Date Received: 08.19.19 08.00
Sample Depth: 0.5 - 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3098956

Date Prep: 08.19.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1280	5.00	mg/kg	08.19.19 12.57		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3099044

Date Prep: 08.19.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.19.19 14.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.19.19 14.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.19.19 14.43	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.19.19 14.43	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.19.19 14.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	08.19.19 14.43	
o-Terphenyl	84-15-1	92	%	70-135	08.19.19 14.43	



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **SW02**
Lab Sample Id: 634402-008

Matrix: Soil
Date Collected: 08.15.19 16.25

Date Received: 08.19.19 08.00
Sample Depth: 0.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099040

Date Prep: 08.19.19 15.00

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	08.20.19 06.51	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.20.19 06.51	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.20.19 06.51	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.20.19 06.51	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.20.19 06.51	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.20.19 06.51	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.20.19 06.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	08.20.19 06.51		
1,4-Difluorobenzene	540-36-3	107	%	70-130	08.20.19 06.51		



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **SW03** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634402-009 Date Collected: 08.15.19 16.30 Sample Depth: 0.5 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.00 Basis: Wet Weight
 Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5110	100	mg/kg	08.19.19 13.04		20

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 10.00 Basis: Wet Weight
 Seq Number: 3099044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.19.19 15.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.19.19 15.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.19.19 15.02	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.19.19 15.02	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.19.19 15.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	08.19.19 15.02	
o-Terphenyl	84-15-1	91	%	70-135	08.19.19 15.02	



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **SW03**
Lab Sample Id: 634402-009

Matrix: Soil
Date Collected: 08.15.19 16.30

Date Received: 08.19.19 08.00
Sample Depth: 0.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099040

Date Prep: 08.19.19 15.00

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	08.20.19 07.12	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.20.19 07.12	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.20.19 07.12	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.20.19 07.12	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.20.19 07.12	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.20.19 07.12	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.20.19 07.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	08.20.19 07.12		
4-Bromofluorobenzene	460-00-4	117	%	70-130	08.20.19 07.12		



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **SW04** Matrix: Soil Date Received: 08.19.19 08.00
 Lab Sample Id: 634402-010 Date Collected: 08.15.19 16.45 Sample Depth: 0.5 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.19.19 11.00 Basis: Wet Weight
 Seq Number: 3098956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5160	101	mg/kg	08.19.19 13.29		20

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.19.19 10.00 Basis: Wet Weight
 Seq Number: 3099044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.19.19 15.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.19.19 15.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.19.19 15.21	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.19.19 15.21	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.19.19 15.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	08.19.19 15.21	
o-Terphenyl	84-15-1	93	%	70-135	08.19.19 15.21	



Certificate of Analytical Results 634402



LT Environmental, Inc., Arvada, CO

PLU 423H

Sample Id: **SW04**
Lab Sample Id: 634402-010

Matrix: Soil
Date Collected: 08.15.19 16.45

Date Received: 08.19.19 08.00
Sample Depth: 0.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: AMB

Seq Number: 3099040

Date Prep: 08.19.19 15.00

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	08.20.19 07.32	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.20.19 07.32	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.20.19 07.32	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	08.20.19 07.32	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.20.19 07.32	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.20.19 07.32	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.20.19 07.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	08.20.19 07.32		
1,4-Difluorobenzene	540-36-3	100	%	70-130	08.20.19 07.32		



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.

PLU 423H

Analytical Method: Chloride by EPA 300

Seq Number: 3098956

MB Sample Id: 7684477-1-BLK

Matrix: Solid

LCS Sample Id: 7684477-1-BKS

Prep Method: E300P

Date Prep: 08.19.19

LCSD Sample Id: 7684477-1-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	237	95	237	95	90-110	0	20	mg/kg	08.19.19 11:11	

Analytical Method: Chloride by EPA 300

Seq Number: 3098956

Parent Sample Id: 634401-002

Matrix: Soil

MS Sample Id: 634401-002 S

Prep Method: E300P

Date Prep: 08.19.19

MSD Sample Id: 634401-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	125	253	378	100	378	100	90-110	0	20	mg/kg	08.19.19 11:39	

Analytical Method: Chloride by EPA 300

Seq Number: 3098956

Parent Sample Id: 634401-003

Matrix: Soil

MS Sample Id: 634401-003 S

Prep Method: E300P

Date Prep: 08.19.19

MSD Sample Id: 634401-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	28.3	250	281	101	281	101	90-110	0	20	mg/kg	08.19.19 13:16	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3099044

MB Sample Id: 7684466-1-BLK

Matrix: Solid

LCS Sample Id: 7684466-1-BKS

Prep Method: TX1005P

Date Prep: 08.19.19

LCSD Sample Id: 7684466-1-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	1090	109	1040	104	70-135	5	20	mg/kg	08.19.19 11:09	
Diesel Range Organics (DRO)	<25.0	1000	1030	103	979	98	70-135	5	20	mg/kg	08.19.19 11:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		116		115		70-135	%	08.19.19 11:09
o-Terphenyl	96		101		99		70-135	%	08.19.19 11:09

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.

PLU 423H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3099044

Parent Sample Id: 634402-001

Matrix: Soil

MS Sample Id: 634402-001 S

Prep Method: TX1005P

Date Prep: 08.19.19

MSD Sample Id: 634402-001 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	1230	123	1200	120	70-135	2	20	mg/kg	08.19.19 12:08	
Diesel Range Organics (DRO)	<25.0	999	1200	120	1170	117	70-135	3	20	mg/kg	08.19.19 12:08	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		123		70-135	%	08.19.19 12:08
o-Terphenyl	107		104		70-135	%	08.19.19 12:08

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099040

MB Sample Id: 7684533-1-BLK

Matrix: Solid

LCS Sample Id: 7684533-1-BKS

Prep Method: SW5030B

Date Prep: 08.19.19

LCSD Sample Id: 7684533-1-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	0.0898	90	0.0930	93	70-130	4	35	mg/kg	08.20.19 02:30	
Toluene	<0.00200	0.100	0.0909	91	0.0931	93	70-130	2	35	mg/kg	08.20.19 02:30	
Ethylbenzene	<0.00200	0.100	0.102	102	0.106	106	70-130	4	35	mg/kg	08.20.19 02:30	
m,p-Xylenes	<0.00400	0.200	0.210	105	0.219	110	70-130	4	35	mg/kg	08.20.19 02:30	
o-Xylene	<0.00200	0.100	0.0988	99	0.107	107	70-130	8	35	mg/kg	08.20.19 02:30	

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	%	08.20.19 02:30
4-Bromofluorobenzene	103		112		115		70-130	%	08.20.19 02:30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099040

Parent Sample Id: 634402-001

Matrix: Soil

MS Sample Id: 634402-001 S

Prep Method: SW5030B

Date Prep: 08.19.19

MSD Sample Id: 634402-001 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	0.0818	82	0.0759	76	70-130	7	35	mg/kg	08.20.19 03:11	
Toluene	<0.00199	0.0996	0.0799	80	0.0712	71	70-130	12	35	mg/kg	08.20.19 03:11	
Ethylbenzene	<0.00199	0.0996	0.0892	90	0.0791	79	70-130	12	35	mg/kg	08.20.19 03:11	
m,p-Xylenes	<0.00398	0.199	0.183	92	0.162	81	70-130	12	35	mg/kg	08.20.19 03:11	
o-Xylene	<0.00199	0.0996	0.0869	87	0.0777	78	70-130	11	35	mg/kg	08.20.19 03:11	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		100		70-130	%	08.20.19 03:11
4-Bromofluorobenzene	118		120		70-130	%	08.20.19 03:11

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: 1034402

Houston, TX (281) 240-4200 Dallas, TX (214) 802-0300 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296

Hobbs, NM (505) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-3000

www.xenco.com Page 1 of 1

Project Manager: Adrian Baker Dan Moore		Bill to: (if different) KYLE LITTELL	
Company Name: LT Environmental Inc., Permian office		Company Name: XTO	
Address: 3300 North A Street		Address: 504 E Green Street	
City, State ZIP: Midland, TX 79705		City, State ZIP: Carlsbad NM 88220	
Phone: 432 794 5775 236-3449	Email: dan.moore@ltenv.com	Reporting Level: ☐ Level I ☐ Level II ☐ Level III ☐ Level IV ☐	
Project Name: PLU 4234		Deliverables: EDD ☐ ADAPT ☐ Other: ☐	
Project Number: 2EP-4466		Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐	
P.O. Number: 2EP-4466		State of Project: ☐ Reporting Level II ☐ Level III ☐ UST/UST ☐ PRP ☐ Level IV ☐	
Sampler Name: Brian Egan		Due Date: 6/26/19	

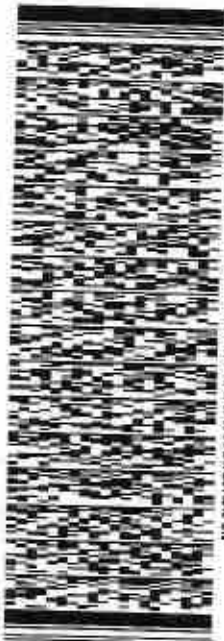
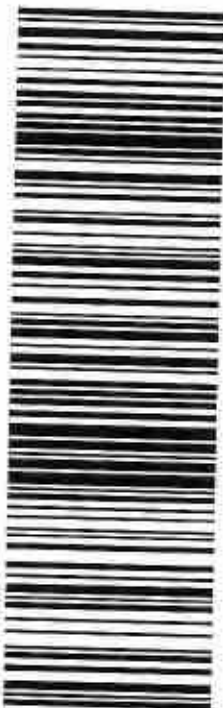
SAMPLE RECEIPT				ANALYSIS REQUEST										Work Order Notes			
Temperature (°C):	Temp Blank:	Yes	No	Wet Ice:	Yes	No	Number of Containers						TAT starts the day received by the lab, if received by 4:30pm.	Sample Comments			
Received Initial:	Yes	No	Thermometer ID:	Yes	No	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)									
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:													
Sample Custody Seals:	Yes	No	N/A	Total Containers:													
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth												
FS01		S	6/16/19	1545	4'												
FS02				1550	4'												
FS03				1555	4'												
FS04				1600	4'												
FS05				1605	4'												
FS06				1610	4'												
SW01				1620	0.5-4'												
SW02				1625	1												
SW03				1630	1												
SW04				1645	1												

Total 200.7 / 6010 200.8 / 6020:		8RCRA 13PPM Texas 11 A1 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	
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		1631 / 245.1 / 7470 / 7471 : Hg	
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) [Signature]	Date/Time 6/16/19 1500	Relinquished by: (Signature) [Signature]	Date/Time 6/16/19 1500
Received by: (Signature) [Signature]	Date/Time 6/16/19 1530	Received by: (Signature) [Signature]	Date/Time 6/16/19 1500

ORIGINAL ID: CACA SAMPLE CUSTODY SAMPLE CUSTODY 1089 N CANAL ST CARLSBAD, NM 88220 UNITED STATES US BILL SENDER	(281) 240-4200 SHIP DATE: 18AUG19 ACTWGT: 31.00 LB CMO: 114488676/MET4160 DIMS: 13x9x9 IN
---	---

TO SAMPLE RECEIVING MIDLAND FEDEX OFFICE PRINT & SHIP CENTER FEDEX OFFICE PRINT & SHIP CENTER 200 W INTERSTATE 20 MIDLAND TX 79701 (432) 704-5440 INV PO DEF1	557J3IE5E7J05A2
---	-----------------

TRK# 0201 7760 0963 2036 41 MAFA TX-US LBB MAFKI HLD	SATURDAY HOLD PRIORITY OVERNIGHT
---	---

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/19/2019 08:00:00 AM

Work Order #: 634402

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.9
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 08/19/2019

Checklist reviewed by:

Jessica Kramer

Date: 08/20/2019

Analytical Report 634863

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423 H Tank Battery

012919043

28-AUG-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

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



28-AUG-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **634863**

PLU 423 H Tank Battery

Project Address: Rural Eddy County

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) 634863. 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. 634863 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 634863

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH13 C	S	08-20-19 15:45	18 ft	634863-001
PH14 C	S	08-20-19 11:45	16 ft	634863-002



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423 H Tank Battery

Project ID: 012919043

Work Order Number(s): 634863

Report Date: 28-AUG-19

Date Received: 08/22/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3099824 BTEX by EPA 8021B

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

Certificate of Analysis Summary 634863



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012919043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Thu Aug-22-19 01:15 pm

Report Date: 28-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	634863-001	634863-002				
	Field Id:	PH13 C	PH14 C				
	Depth:	18- ft	16- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Aug-20-19 15:45	Aug-20-19 11:45				
BTEX by EPA 8021B SUB: T104704400-18-16	Extracted:	Aug-24-19 14:00	Aug-24-19 14:00				
	Analyzed:	Aug-24-19 19:37	Aug-24-19 19:57				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00200 0.00200	<0.00200 0.00200				
Toluene		<0.00200 0.00200	<0.00200 0.00200				
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200				
m,p-Xylenes		<0.00400 0.00400	<0.00399 0.00399				
o-Xylene		<0.00200 0.00200	<0.00200 0.00200				
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200				
Total BTEX		<0.00200 0.00200	<0.00200 0.00200				
Chloride by EPA 300 SUB: T104704400-18-16	Extracted:	Aug-26-19 10:40	Aug-26-19 10:40				
	Analyzed:	Aug-26-19 11:34	Aug-26-19 11:40				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		306 5.03	173 4.96				
TPH by SW8015 Mod SUB: T104704400-18-16	Extracted:	Aug-23-19 09:00	Aug-23-19 09:00				
	Analyzed:	Aug-23-19 18:21	Aug-23-19 18:41				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<24.9 24.9	<25.0 25.0				
Diesel Range Organics (DRO)		<24.9 24.9	<25.0 25.0				
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<25.0 25.0				
Total TPH		<24.9 24.9	<25.0 25.0				
Total GRO-DRO		<24.9 24.9	<25.0 25.0				

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 634863

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH13 C**
Lab Sample Id: 634863-001

Matrix: Soil
Date Collected: 08.20.19 15.45

Date Received: 08.22.19 13.15
Sample Depth: 18 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3099705

Date Prep: 08.26.19 10.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	306	5.03	mg/kg	08.26.19 11.34		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099533

Date Prep: 08.23.19 09.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.23.19 18.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.23.19 18.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.23.19 18.21	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.23.19 18.21	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.23.19 18.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	08.23.19 18.21	
o-Terphenyl	84-15-1	102	%	70-135	08.23.19 18.21	



Certificate of Analytical Results 634863

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH13 C**
Lab Sample Id: 634863-001

Matrix: Soil
Date Collected: 08.20.19 15.45

Date Received: 08.22.19 13.15
Sample Depth: 18 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3099824

Prep Method: SW5030B

% Moisture:

Date Prep: 08.24.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.24.19 19.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.24.19 19.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.24.19 19.37	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	08.24.19 19.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.24.19 19.37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.24.19 19.37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.24.19 19.37	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		102	%	70-130	08.24.19 19.37	
4-Bromofluorobenzene	460-00-4		111	%	70-130	08.24.19 19.37	



Certificate of Analytical Results 634863

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH14 C**
Lab Sample Id: 634863-002

Matrix: Soil
Date Collected: 08.20.19 11.45

Date Received: 08.22.19 13.15
Sample Depth: 16 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3099705

Date Prep: 08.26.19 10.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	173	4.96	mg/kg	08.26.19 11.40		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099533

Date Prep: 08.23.19 09.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.23.19 18.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.23.19 18.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.23.19 18.41	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.23.19 18.41	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.23.19 18.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	08.23.19 18.41	
o-Terphenyl	84-15-1	109	%	70-135	08.23.19 18.41	



Certificate of Analytical Results 634863

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH14 C**
Lab Sample Id: 634863-002

Matrix: Soil
Date Collected: 08.20.19 11.45

Date Received: 08.22.19 13.15
Sample Depth: 16 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 08.24.19 14.00

Basis: Wet Weight

Seq Number: 3099824

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.24.19 19.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.24.19 19.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.24.19 19.57	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.24.19 19.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.24.19 19.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.24.19 19.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.24.19 19.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.24.19 19.57		
4-Bromofluorobenzene	460-00-4	115	%	70-130	08.24.19 19.57		



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.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3099705

MB Sample Id: 7684957-1-BLK

Matrix: Solid

LCS Sample Id: 7684957-1-BKS

Prep Method: E300P

Date Prep: 08.26.19

LCSD Sample Id: 7684957-1-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	244	98	90-110	0	20	mg/kg	08.26.19 11:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3099705

Parent Sample Id: 634804-007

Matrix: Soil

MS Sample Id: 634804-007 S

Prep Method: E300P

Date Prep: 08.26.19

MSD Sample Id: 634804-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	56.4	250	296	96	296	96	90-110	0	20	mg/kg	08.26.19 11:21	

Analytical Method: Chloride by EPA 300

Seq Number: 3099705

Parent Sample Id: 634970-003

Matrix: Soil

MS Sample Id: 634970-003 S

Prep Method: E300P

Date Prep: 08.26.19

MSD Sample Id: 634970-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	27.1	248	272	99	271	98	90-110	0	20	mg/kg	08.26.19 12:55	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3099533

MB Sample Id: 7684807-1-BLK

Matrix: Solid

LCS Sample Id: 7684807-1-BKS

Prep Method: SW8015P

Date Prep: 08.23.19

LCSD Sample Id: 7684807-1-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	944	94	916	92	70-135	3	20	mg/kg	08.23.19 12:54	
Diesel Range Organics (DRO)	<25.0	1000	992	99	979	98	70-135	1	20	mg/kg	08.23.19 12:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		125		122		70-135	%	08.23.19 12:54
o-Terphenyl	97		107		104		70-135	%	08.23.19 12:54

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.

PLU 423 H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3099533

Parent Sample Id: 634743-001

Matrix: Soil

MS Sample Id: 634743-001 S

Prep Method: SW8015P

Date Prep: 08.23.19

MSD Sample Id: 634743-001 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)	3510	996	5120	162	5150	164	70-135	1	20	mg/kg	08.23.19 13:52	X
Diesel Range Organics (DRO)	7180	996	9330	216	9300	212	70-135	0	20	mg/kg	08.23.19 13:52	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		122		70-135	%	08.23.19 13:52
o-Terphenyl	95		117		70-135	%	08.23.19 13:52

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099824

MB Sample Id: 7684963-1-BLK

Matrix: Solid

LCS Sample Id: 7684963-1-BKS

Prep Method: SW5030B

Date Prep: 08.24.19

LCSD Sample Id: 7684963-1-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	0.0958	96	0.101	101	70-130	5	35	mg/kg	08.24.19 13:16	
Toluene	<0.000456	0.100	0.0941	94	0.0982	98	70-130	4	35	mg/kg	08.24.19 13:16	
Ethylbenzene	<0.000565	0.100	0.0984	98	0.102	102	70-130	4	35	mg/kg	08.24.19 13:16	
m,p-Xylenes	<0.00101	0.200	0.189	95	0.196	98	70-130	4	35	mg/kg	08.24.19 13:16	
o-Xylene	0.000450	0.100	0.0967	97	0.101	101	70-130	4	35	mg/kg	08.24.19 13:16	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		101		103		70-130	%	08.24.19 13:16
4-Bromofluorobenzene	99		102		106		70-130	%	08.24.19 13:16

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099824

Parent Sample Id: 634804-001

Matrix: Soil

MS Sample Id: 634804-001 S

Prep Method: SW5030B

Date Prep: 08.24.19

MSD Sample Id: 634804-001 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	0.0633	64	0.0824	83	70-130	26	35	mg/kg	08.24.19 13:56	X
Toluene	<0.000454	0.0996	0.0325	33	0.0612	61	70-130	61	35	mg/kg	08.24.19 13:56	XF
Ethylbenzene	<0.00199	0.0996	0.0144	14	0.0490	49	70-130	109	35	mg/kg	08.24.19 13:56	XF
m,p-Xylenes	<0.00101	0.199	0.0256	13	0.0904	45	70-130	112	35	mg/kg	08.24.19 13:56	XF
o-Xylene	<0.000343	0.0996	0.0142	14	0.0683	68	70-130	131	35	mg/kg	08.24.19 13:56	XF

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		107		70-130	%	08.24.19 13:56
4-Bromofluorobenzene	122		122		70-130	%	08.24.19 13:56

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:

034803

Houston, TX (281) 240-4200 Dallas, TX (214) 892-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-6440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Carrollton, NM (432) 794-6440
 Phoenix, AZ (480) 585-0000 Alameda, CA (770) 449-0000 Tampa, FL (813) 620-2000 Wood Palm Beach, FL (561) 889-6701

www.xencolab.com

Page 1 of 1

Project Manager:	Don Meir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental	Company Name:	YTD
Address:	3350 North A Street	Address:	304 E. Greene Street
City, State Zip:	Midland TX 79705	City, State Zip:	Carlsbad NM 88220
Phone:	432-236-3544	Email:	dmeir@ltenvironmental.com

Program:	UST/PST ☐ PPP ☐ Environmental ☐ RRC ☐ Superfund ☐
State of Project:	
Reporting Level II ☐ Level III ☐ PST/AST ☐ TRAP ☐ Level IV ☐	
Delivery: EDO ☐ ADAPT ☐ Other: ☐	

ANALYSIS REQUEST

Project Name:	PLV 4125H Tank Battery	Results:	☐
Project Number:	012917043	Run:	5 day
Project Location:	Pearl Eads, La	Due Date:	
Sample Name:	Anna Bayou		
PO #:	220-444	Quote #:	

Temp Blank:	☒ Yes ☐ No	Wet Load:	☒ Yes ☐ No
Temperature (°C):	43	Thermometer ID:	
Received Initial:	☒ Yes ☐ No	Correction Factor:	-1 - N/A - 0.5
Cooler Display Serial:	N/A	Total Containers:	2
Sample Display Serial:	N/A		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers
--------	-----------------------	--------	--------------	--------------	-------	----------------------

PH13C	S	8/26/19	15:15	18'	1	TAH (EPA 8015)
PH14C	S	8/26/19	11:45	16'	1	BTEX (EPA 8021)
						Chloride (EPA 8060)

[Signature]

Total: 200.7 / 6010 200.8 / 6020:

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

8RCRA 13PPM Texas 11 N Sb As Ba Be B Cd Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SnO2 Na Sr Ti Sn U V Zn
 TCLP / SPLP 6010 8RCRA Sb As Ba Be Cd Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SnO2 Na Sr Ti Sn U V Zn
 1631 / 245.1 / 7470 / 7471 / 119

Notice: Signatures of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. A release standard terms and conditions of service. Xenco will be liable only for the cost of analysis and shall not assume any responsibility for any losses or damages 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, and 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

Don Meir

[Signature]

8/26/2019 1:50

[Signature]

[Signature]

8/26/2019 13:11



Inter-Office Shipment

Page 1 of 1

IOS Number **46772**

Date/Time: 08/22/19 14:38

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.: 776056877801

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
634863-001	S	PH13 C	08/20/19 15:45	SW8015MOD_NM	TPH by SW8015 Mod	08/28/19	09/03/19	JKR	GRO-DRO PHCC10C28 PF	
634863-001	S	PH13 C	08/20/19 15:45	SW8021B	BTEX by EPA 8021B	08/28/19	09/03/19	JKR	BR4FBZ BZ BZME EBZ X	
634863-001	S	PH13 C	08/20/19 15:45	E300_CL	Chloride by EPA 300	08/28/19	02/16/20	JKR	CL	
634863-002	S	PH14 C	08/20/19 11:45	SW8021B	BTEX by EPA 8021B	08/28/19	09/03/19	JKR	BR4FBZ BZ BZME EBZ X	
634863-002	S	PH14 C	08/20/19 11:45	E300_CL	Chloride by EPA 300	08/28/19	02/16/20	JKR	CL	
634863-002	S	PH14 C	08/20/19 11:45	SW8015MOD_NM	TPH by SW8015 Mod	08/28/19	09/03/19	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 08/22/2019

Received By:

Brianna Teel

Date Received: 08/23/2019 11:56

Cooler Temperature: 0.5



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 46772

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 08/22/2019 02:38 PM

Received By: Brianna Teel

Date Received: 08/23/2019 11:56 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.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: 08/23/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/22/2019 01:15:00 PM

Work Order #: 634863

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)?	1.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	Yes
#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
#18 Water VOC samples have zero headspace?	N/A

Subbed to Xenco

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 08/22/2019

Checklist reviewed by:

Jessica Kramer

Date: 08/23/2019

Analytical Report 634867

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423 H Tank Battery

012917043

23-AUG-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

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



23-AUG-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **634867**

PLU 423 H Tank Battery

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) 634867. 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. 634867 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 634867****LT Environmental, Inc., Arvada, CO**

PLU 423 H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH09	S	08-20-19 10:35	3 ft	634867-001
PH09A	S	08-20-19 10:40	4 ft	634867-002
PH10	S	08-20-19 11:00	4 ft	634867-003
PH10A	S	08-20-19 11:05	14.5 ft	634867-004
PH11	S	08-20-19 12:45	1 ft	634867-005
PH11A	S	08-20-19 13:05	4 ft	634867-006
PH12	S	08-20-19 13:10	1 ft	634867-007
PH12A	S	08-20-19 13:25	4 ft	634867-008
PH13	S	08-20-19 14:00	1 ft	634867-009
PH13A	S	08-20-19 14:15	4 ft	634867-010
PH13B	S	08-20-19 14:55	10 ft	634867-011
PH14	S	08-21-19 10:10	1 ft	634867-012
PH14A	S	08-21-19 10:15	4 ft	634867-013
PH14B	S	08-21-19 11:00	10 ft	634867-014

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU 423 H Tank Battery**Project ID: 012917043
Work Order Number(s): 634867Report Date: 23-AUG-19
Date Received: 08/22/2019**Sample receipt non conformances and comments:**

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3099408 BTEX by EPA 8021B

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

Surrogate 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 634867-001 S.

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 634867-001 S, 634867-001 SD.

Surrogate 1,4-Difluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 634867-001 SD.

Batch: LBA-3099423 Chloride by EPA 300

Lab Sample ID 634867-014 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: 634867-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014.

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

Batch: LBA-3099498 TPH by SW8015 Mod

Analyst missed to spike MSD.

The Laboratory Control Sample for Gasoline Range Hydrocarbons (GRO), Diesel Range Organics (DRO) is within laboratory Control Limits, therefore the data was accepted

Certificate of Analysis Summary 634867



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Aug-22-19 01:15 pm

Report Date: 23-AUG-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	634867-001	634867-002	634867-003	634867-004	634867-005	634867-006
	<i>Field Id:</i>	PH09	PH09A	PH10	PH10A	PH11	PH11A
	<i>Depth:</i>	3- ft	4- ft	4- ft	14.5- ft	1- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-20-19 10:35	Aug-20-19 10:40	Aug-20-19 11:00	Aug-20-19 11:05	Aug-20-19 12:45	Aug-20-19 13:05
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-22-19 14:08	Aug-22-19 14:08	Aug-22-19 14:08	Aug-22-19 14:08	Aug-22-19 14:08	Aug-22-19 14:08
	<i>Analyzed:</i>	Aug-22-19 22:39	Aug-22-19 22:59	Aug-22-19 23:18	Aug-22-19 23:39	Aug-22-19 23:58	Aug-23-19 00:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.000996 0.000996	<0.00101 0.00101	<0.000998 0.000998	<0.000992 0.000992	<0.000994 0.000994	<0.00100 0.00100
Toluene		<0.000996 0.000996	<0.00101 0.00101	<0.000998 0.000998	<0.000992 0.000992	<0.000994 0.000994	<0.00100 0.00100
Ethylbenzene		<0.000996 0.000996	<0.00101 0.00101	<0.000998 0.000998	<0.000992 0.000992	<0.000994 0.000994	<0.00100 0.00100
m,p-Xylenes		<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00201 0.00201
o-Xylene		<0.000996 0.000996	<0.00101 0.00101	<0.000998 0.000998	<0.000992 0.000992	<0.000994 0.000994	<0.00100 0.00100
Total Xylenes		<0.000996 0.000996	<0.00101 0.00101	<0.000998 0.000998	<0.000992 0.000992	<0.000994 0.000994	<0.00100 0.00100
Total BTEX		<0.000996 0.000996	<0.00101 0.00101	<0.000998 0.000998	<0.000992 0.000992	<0.000994 0.000994	<0.00100 0.00100
Chloride by EPA 300	<i>Extracted:</i>	Aug-22-19 14:00	Aug-22-19 14:00	Aug-22-19 14:00	Aug-22-19 14:00	Aug-22-19 14:00	Aug-22-19 14:00
	<i>Analyzed:</i>	Aug-22-19 15:18	Aug-22-19 17:24	Aug-22-19 17:30	Aug-22-19 15:37	Aug-22-19 15:44	Aug-22-19 15:50
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		181 9.96	390 19.7	325 20.0	439 9.86	20.2 9.96	34.1 9.82
TPH by SW8015 Mod	<i>Extracted:</i>	** ** ** *	** ** ** *	** ** ** *	** ** ** *	** ** ** *	** ** ** *
	<i>Analyzed:</i>	Aug-22-19 15:05	Aug-22-19 15:24	Aug-22-19 15:44	Aug-22-19 16:04	Aug-22-19 16:44	Aug-22-19 17:04
	<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)		<24.9 24.9	<25.0 25.0	<24.9 24.9	<24.9 24.9	<24.9 24.9	<24.9 24.9
Diesel Range Organics (DRO)		<24.9 24.9	<25.0 25.0	<24.9 24.9	<24.9 24.9	<24.9 24.9	<24.9 24.9
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<25.0 25.0	<24.9 24.9	<24.9 24.9	<24.9 24.9	<24.9 24.9
Total TPH		<24.9 24.9	<25.0 25.0	<24.9 24.9	<24.9 24.9	<24.9 24.9	<24.9 24.9
Total GRO-DRO		<24.9 24.9	<25.0 25.0	<24.9 24.9	<24.9 24.9	<24.9 24.9	<24.9 24.9

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

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 634867



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Aug-22-19 01:15 pm

Report Date: 23-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	634867-007	634867-008	634867-009	634867-010	634867-011	634867-012
	Field Id:	PH12	PH12A	PH13	PH13A	PH13B	PH14
	Depth:	1- ft	4- ft	1- ft	4- ft	10- ft	1- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-20-19 13:10	Aug-20-19 13:25	Aug-20-19 14:00	Aug-20-19 14:15	Aug-20-19 14:55	Aug-21-19 10:10
BTEX by EPA 8021B	Extracted:	Aug-22-19 14:08	Aug-22-19 14:08	Aug-22-19 14:08	Aug-22-19 14:08	Aug-22-19 14:08	Aug-22-19 14:08
	Analyzed:	Aug-23-19 00:38	Aug-23-19 00:58	Aug-23-19 01:18	Aug-23-19 01:37	Aug-23-19 02:37	Aug-23-19 02:56
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.000994 0.000994	<0.000994 0.000994	<0.00100 0.00100	<0.00101 0.00101	<0.000994 0.000994	<0.00101 0.00101
Toluene		<0.000994 0.000994	<0.000994 0.000994	<0.00100 0.00100	<0.00101 0.00101	<0.000994 0.000994	<0.00101 0.00101
Ethylbenzene		<0.000994 0.000994	<0.000994 0.000994	<0.00100 0.00100	<0.00101 0.00101	<0.000994 0.000994	<0.00101 0.00101
m,p-Xylenes		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00202 0.00202
o-Xylene		<0.000994 0.000994	<0.000994 0.000994	<0.00100 0.00100	<0.00101 0.00101	<0.000994 0.000994	<0.00101 0.00101
Total Xylenes		<0.000994 0.000994	<0.000994 0.000994	<0.00100 0.00100	<0.00101 0.00101	<0.000994 0.000994	<0.00101 0.00101
Total BTEX		<0.000994 0.000994	<0.000994 0.000994	<0.00100 0.00100	<0.00101 0.00101	<0.000994 0.000994	<0.00101 0.00101
Chloride by EPA 300	Extracted:	Aug-22-19 14:00	Aug-22-19 14:00	Aug-22-19 14:00	Aug-22-19 14:00	Aug-22-19 14:00	Aug-22-19 14:00
	Analyzed:	Aug-22-19 15:57	Aug-22-19 16:03	Aug-22-19 16:09	Aug-22-19 16:16	Aug-22-19 16:48	Aug-22-19 16:54
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		20.4 9.84	20.3 9.94	7330 199	12700 492	2180 98.2	2560 100
TPH by SW8015 Mod	Extracted:	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *
	Analyzed:	Aug-22-19 17:24	Aug-22-19 17:44	Aug-22-19 18:04	Aug-22-19 18:49	Aug-22-19 19:09	Aug-22-19 19:28
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.1 25.1	<25.0 25.0	<25.1 25.1
Diesel Range Organics (DRO)		32.5 25.0	<25.0 25.0	<25.0 25.0	<25.1 25.1	29.8 25.0	<25.1 25.1
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.1 25.1	<25.0 25.0	<25.1 25.1
Total TPH		32.5 25.0	<25.0 25.0	<25.0 25.0	<25.1 25.1	29.8 25.0	<25.1 25.1
Total GRO-DRO		32.5 25.0	<25.0 25.0	<25.0 25.0	<25.1 25.1	29.8 25.0	<25.1 25.1

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 634867



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Aug-22-19 01:15 pm

Report Date: 23-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	634867-013	634867-014				
	Field Id:	PH14A	PH14B				
	Depth:	4- ft	10- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Aug-21-19 10:15	Aug-21-19 11:00				
BTEX by EPA 8021B	Extracted:	Aug-22-19 14:08	Aug-22-19 14:08				
	Analyzed:	Aug-23-19 03:16	Aug-23-19 03:36				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00101 0.00101	<0.00100 0.00100				
Toluene		<0.00101 0.00101	<0.00100 0.00100				
Ethylbenzene		<0.00101 0.00101	<0.00100 0.00100				
m,p-Xylenes		<0.00202 0.00202	<0.00200 0.00200				
o-Xylene		<0.00101 0.00101	<0.00100 0.00100				
Total Xylenes		<0.00101 0.00101	<0.00100 0.00100				
Total BTEX		<0.00101 0.00101	<0.00100 0.00100				
Chloride by EPA 300	Extracted:	Aug-22-19 14:00	Aug-22-19 14:00				
	Analyzed:	Aug-22-19 17:00	Aug-22-19 17:06				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		11700 100	2130 50.0				
TPH by SW8015 Mod	Extracted:	** * * * *	** * * * *				
	Analyzed:	Aug-22-19 19:48	Aug-22-19 20:09				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<25.1 25.1	<25.1 25.1				
Diesel Range Organics (DRO)		<25.1 25.1	<25.1 25.1				
Motor Oil Range Hydrocarbons (MRO)		<25.1 25.1	<25.1 25.1				
Total TPH		<25.1 25.1	<25.1 25.1				
Total GRO-DRO		<25.1 25.1	<25.1 25.1				

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 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH09**
Lab Sample Id: 634867-001

Matrix: Soil
Date Collected: 08.20.19 10.35

Date Received: 08.22.19 13.15
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	181	9.96	mg/kg	08.22.19 15.18		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.22.19 15.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.22.19 15.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.22.19 15.05	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.22.19 15.05	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.22.19 15.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	08.22.19 15.05	
o-Terphenyl	84-15-1	95	%	70-135	08.22.19 15.05	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH09**
Lab Sample Id: 634867-001

Matrix: Soil
Date Collected: 08.20.19 10.35

Date Received: 08.22.19 13.15
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.22.19 22.39	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.22.19 22.39	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.22.19 22.39	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.22.19 22.39	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.22.19 22.39	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.22.19 22.39	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.22.19 22.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	80-120	08.22.19 22.39		
1,4-Difluorobenzene	540-36-3	112	%	80-120	08.22.19 22.39		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH09A**
Lab Sample Id: 634867-002

Matrix: Soil
Date Collected: 08.20.19 10.40

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	390	19.7	mg/kg	08.22.19 17.24		2

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.22.19 15.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.22.19 15.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.22.19 15.24	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.22.19 15.24	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.22.19 15.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.22.19 15.24	
o-Terphenyl	84-15-1	90	%	70-135	08.22.19 15.24	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH09A**
Lab Sample Id: 634867-002

Matrix: Soil
Date Collected: 08.20.19 10.40

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.22.19 22.59	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.22.19 22.59	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.22.19 22.59	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.22.19 22.59	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.22.19 22.59	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.22.19 22.59	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.22.19 22.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	80-120	08.22.19 22.59		
4-Bromofluorobenzene	460-00-4	118	%	80-120	08.22.19 22.59		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH10**
Lab Sample Id: 634867-003

Matrix: Soil
Date Collected: 08.20.19 11.00

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	325	20.0	mg/kg	08.22.19 17.30		2

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.22.19 15.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.22.19 15.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.22.19 15.44	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.22.19 15.44	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.22.19 15.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	08.22.19 15.44	
o-Terphenyl	84-15-1	94	%	70-135	08.22.19 15.44	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH10**
Lab Sample Id: 634867-003

Matrix: Soil
Date Collected: 08.20.19 11.00

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	08.22.19 23.18	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	08.22.19 23.18	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	08.22.19 23.18	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.22.19 23.18	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	08.22.19 23.18	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	08.22.19 23.18	U	1
Total BTEX		<0.000998	0.000998	mg/kg	08.22.19 23.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	80-120	08.22.19 23.18		
1,4-Difluorobenzene	540-36-3	92	%	80-120	08.22.19 23.18		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH10A**
Lab Sample Id: 634867-004

Matrix: Soil
Date Collected: 08.20.19 11.05

Date Received: 08.22.19 13.15
Sample Depth: 14.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	439	9.86	mg/kg	08.22.19 15.37		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.22.19 16.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.22.19 16.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.22.19 16.04	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.22.19 16.04	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.22.19 16.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	08.22.19 16.04	
o-Terphenyl	84-15-1	89	%	70-135	08.22.19 16.04	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH10A**
Lab Sample Id: 634867-004

Matrix: Soil
Date Collected: 08.20.19 11.05

Date Received: 08.22.19 13.15
Sample Depth: 14.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.22.19 23.39	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.22.19 23.39	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.22.19 23.39	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.22.19 23.39	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.22.19 23.39	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.22.19 23.39	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.22.19 23.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	80-120	08.22.19 23.39		
4-Bromofluorobenzene	460-00-4	118	%	80-120	08.22.19 23.39		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH11** Matrix: Soil Date Received: 08.22.19 13.15
 Lab Sample Id: 634867-005 Date Collected: 08.20.19 12.45 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 08.22.19 14.00 Basis: Wet Weight
 Seq Number: 3099423

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.2	9.96	mg/kg	08.22.19 15.44		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 08.22.19 09.30 Basis: Wet Weight
 Seq Number: 3099498

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.22.19 16.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.22.19 16.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.22.19 16.44	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.22.19 16.44	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.22.19 16.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.22.19 16.44	
o-Terphenyl	84-15-1	85	%	70-135	08.22.19 16.44	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH11**
Lab Sample Id: 634867-005

Matrix: Soil
Date Collected: 08.20.19 12.45

Date Received: 08.22.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: CAC

Analyst: DTH

Seq Number: 3099408

Prep Method: SW5030B

% Moisture:

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	08.22.19 23.58	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	08.22.19 23.58	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	08.22.19 23.58	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.22.19 23.58	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	08.22.19 23.58	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	08.22.19 23.58	U	1
Total BTEX		<0.000994	0.000994	mg/kg	08.22.19 23.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	80-120	08.22.19 23.58		
1,4-Difluorobenzene	540-36-3	95	%	80-120	08.22.19 23.58		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH11A**
Lab Sample Id: 634867-006

Matrix: Soil
Date Collected: 08.20.19 13.05

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.1	9.82	mg/kg	08.22.19 15.50		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.22.19 17.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.22.19 17.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.22.19 17.04	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.22.19 17.04	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.22.19 17.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.22.19 17.04	
o-Terphenyl	84-15-1	85	%	70-135	08.22.19 17.04	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH11A**
Lab Sample Id: 634867-006

Matrix: Soil
Date Collected: 08.20.19 13.05

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.23.19 00.18	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.23.19 00.18	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.23.19 00.18	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	08.23.19 00.18	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.23.19 00.18	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.23.19 00.18	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.23.19 00.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	80-120	08.23.19 00.18		
1,4-Difluorobenzene	540-36-3	104	%	80-120	08.23.19 00.18		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH12**
Lab Sample Id: 634867-007

Matrix: Soil
Date Collected: 08.20.19 13.10

Date Received: 08.22.19 13.15
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.4	9.84	mg/kg	08.22.19 15.57		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.22.19 17.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	32.5	25.0	mg/kg	08.22.19 17.24		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.22.19 17.24	U	1
Total TPH	PHC635	32.5	25.0	mg/kg	08.22.19 17.24		1
Total GRO-DRO	PHC628	32.5	25.0	mg/kg	08.22.19 17.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	08.22.19 17.24	
o-Terphenyl	84-15-1	93	%	70-135	08.22.19 17.24	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH12**
Lab Sample Id: 634867-007

Matrix: Soil
Date Collected: 08.20.19 13.10

Date Received: 08.22.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	08.23.19 00.38	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	08.23.19 00.38	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	08.23.19 00.38	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.23.19 00.38	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	08.23.19 00.38	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	08.23.19 00.38	U	1
Total BTEX		<0.000994	0.000994	mg/kg	08.23.19 00.38	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119		%	80-120	08.23.19 00.38	
1,4-Difluorobenzene	540-36-3	102		%	80-120	08.23.19 00.38	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH12A**
Lab Sample Id: 634867-008

Matrix: Soil
Date Collected: 08.20.19 13.25

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.3	9.94	mg/kg	08.22.19 16.03		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.22.19 17.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.22.19 17.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.22.19 17.44	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.22.19 17.44	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.22.19 17.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	08.22.19 17.44	
o-Terphenyl	84-15-1	88	%	70-135	08.22.19 17.44	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH12A**
Lab Sample Id: 634867-008

Matrix: Soil
Date Collected: 08.20.19 13.25

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	08.23.19 00.58	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	08.23.19 00.58	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	08.23.19 00.58	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.23.19 00.58	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	08.23.19 00.58	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	08.23.19 00.58	U	1
Total BTEX		<0.000994	0.000994	mg/kg	08.23.19 00.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	80-120	08.23.19 00.58		
1,4-Difluorobenzene	540-36-3	104	%	80-120	08.23.19 00.58		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH13**
Lab Sample Id: 634867-009

Matrix: Soil
Date Collected: 08.20.19 14.00

Date Received: 08.22.19 13.15
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7330	199	mg/kg	08.22.19 16.09		20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.22.19 18.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.22.19 18.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.22.19 18.04	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.22.19 18.04	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.22.19 18.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	08.22.19 18.04	
o-Terphenyl	84-15-1	87	%	70-135	08.22.19 18.04	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH13**
Lab Sample Id: 634867-009

Matrix: Soil
Date Collected: 08.20.19 14.00

Date Received: 08.22.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.23.19 01.18	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.23.19 01.18	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.23.19 01.18	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.23.19 01.18	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.23.19 01.18	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.23.19 01.18	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.23.19 01.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	80-120	08.23.19 01.18		
1,4-Difluorobenzene	540-36-3	112	%	80-120	08.23.19 01.18		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH13A**
Lab Sample Id: 634867-010

Matrix: Soil
Date Collected: 08.20.19 14.15

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12700	492	mg/kg	08.22.19 16.16		50

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	08.22.19 18.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	08.22.19 18.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.22.19 18.49	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.22.19 18.49	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	08.22.19 18.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	08.22.19 18.49	
o-Terphenyl	84-15-1	89	%	70-135	08.22.19 18.49	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH13A**
Lab Sample Id: 634867-010

Matrix: Soil
Date Collected: 08.20.19 14.15

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.23.19 01.37	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.23.19 01.37	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.23.19 01.37	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.23.19 01.37	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.23.19 01.37	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.23.19 01.37	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.23.19 01.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	80-120	08.23.19 01.37		
1,4-Difluorobenzene	540-36-3	106	%	80-120	08.23.19 01.37		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH13B**
Lab Sample Id: 634867-011

Matrix: Soil
Date Collected: 08.20.19 14.55

Date Received: 08.22.19 13.15
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2180	98.2	mg/kg	08.22.19 16.48		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.22.19 19.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	29.8	25.0	mg/kg	08.22.19 19.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.22.19 19.09	U	1
Total TPH	PHC635	29.8	25.0	mg/kg	08.22.19 19.09		1
Total GRO-DRO	PHC628	29.8	25.0	mg/kg	08.22.19 19.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	08.22.19 19.09	
o-Terphenyl	84-15-1	99	%	70-135	08.22.19 19.09	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH13B**
Lab Sample Id: 634867-011

Matrix: Soil
Date Collected: 08.20.19 14.55

Date Received: 08.22.19 13.15
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	08.23.19 02.37	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	08.23.19 02.37	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	08.23.19 02.37	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.23.19 02.37	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	08.23.19 02.37	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	08.23.19 02.37	U	1
Total BTEX		<0.000994	0.000994	mg/kg	08.23.19 02.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	80-120	08.23.19 02.37		
4-Bromofluorobenzene	460-00-4	114	%	80-120	08.23.19 02.37		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH14**
Lab Sample Id: 634867-012

Matrix: Soil
Date Collected: 08.21.19 10.10

Date Received: 08.22.19 13.15
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2560	100	mg/kg	08.22.19 16.54		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	08.22.19 19.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	08.22.19 19.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.22.19 19.28	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.22.19 19.28	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	08.22.19 19.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	08.22.19 19.28	
o-Terphenyl	84-15-1	92	%	70-135	08.22.19 19.28	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH14**
Lab Sample Id: 634867-012

Matrix: Soil
Date Collected: 08.21.19 10.10

Date Received: 08.22.19 13.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.23.19 02.56	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.23.19 02.56	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.23.19 02.56	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.23.19 02.56	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.23.19 02.56	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.23.19 02.56	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.23.19 02.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	80-120	08.23.19 02.56		
1,4-Difluorobenzene	540-36-3	98	%	80-120	08.23.19 02.56		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH14A**
Lab Sample Id: 634867-013

Matrix: Soil
Date Collected: 08.21.19 10.15

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11700	100	mg/kg	08.22.19 17.00		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	08.22.19 19.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	08.22.19 19.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.22.19 19.48	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.22.19 19.48	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	08.22.19 19.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	08.22.19 19.48	
o-Terphenyl	84-15-1	91	%	70-135	08.22.19 19.48	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH14A**
Lab Sample Id: 634867-013

Matrix: Soil
Date Collected: 08.21.19 10.15

Date Received: 08.22.19 13.15
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.23.19 03.16	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.23.19 03.16	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.23.19 03.16	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.23.19 03.16	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.23.19 03.16	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.23.19 03.16	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.23.19 03.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	80-120	08.23.19 03.16		
1,4-Difluorobenzene	540-36-3	82	%	80-120	08.23.19 03.16		



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH14B**
Lab Sample Id: 634867-014

Matrix: Soil
Date Collected: 08.21.19 11.00

Date Received: 08.22.19 13.15
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099423

Date Prep: 08.22.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2130	50.0	mg/kg	08.22.19 17.06		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099498

Date Prep: 08.22.19 09.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	08.22.19 20.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	08.22.19 20.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.22.19 20.09	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.22.19 20.09	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	08.22.19 20.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	08.22.19 20.09	
o-Terphenyl	84-15-1	87	%	70-135	08.22.19 20.09	



Certificate of Analytical Results 634867

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH14B**
Lab Sample Id: 634867-014

Matrix: Soil
Date Collected: 08.21.19 11.00

Date Received: 08.22.19 13.15
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: CAC

% Moisture:

Analyst: DTH

Date Prep: 08.22.19 14.08

Basis: Wet Weight

Seq Number: 3099408

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.23.19 03.36	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.23.19 03.36	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.23.19 03.36	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.23.19 03.36	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.23.19 03.36	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.23.19 03.36	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.23.19 03.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	80-120	08.23.19 03.36		
4-Bromofluorobenzene	460-00-4	116	%	80-120	08.23.19 03.36		



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.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3099423

MB Sample Id: 7684725-1-BLK

Matrix: Solid

LCS Sample Id: 7684725-1-BKS

Prep Method: E300P

Date Prep: 08.22.19

LCSD Sample Id: 7684725-1-BSD

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

Analytical Method: Chloride by EPA 300

Seq Number: 3099423

Parent Sample Id: 634674-001

Matrix: Soil

MS Sample Id: 634674-001 S

Prep Method: E300P

Date Prep: 08.22.19

MSD Sample Id: 634674-001 SD

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

Analytical Method: Chloride by EPA 300

Seq Number: 3099423

Parent Sample Id: 634867-014

Matrix: Solid

MS Sample Id: 634867-014 S

Prep Method: E300P

Date Prep: 08.22.19

MSD Sample Id: 634867-014 SD

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

Analytical Method: TPH by SW8015 Mod

Seq Number: 3099498

MB Sample Id: 7684879-1-BLK

Matrix: Solid

LCS Sample Id: 7684879-1-BKS

Prep Method: SW8015P

Date Prep: 08.22.19

LCSD Sample Id: 7684879-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<9.88	1000	936	94	901	90	70-135	4	35	mg/kg	08.22.19 11:26	
Diesel Range Organics (DRO)	<9.88	1000	902	90	883	88	70-135	2	35	mg/kg	08.22.19 11:26	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		115		116		70-135	%	08.22.19 11:26
o-Terphenyl	95		104		107		70-135	%	08.22.19 11:26

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

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

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

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



LT Environmental, Inc.

PLU 423 H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3099498

Parent Sample Id: 634606-025

Matrix: Soil

MS Sample Id: 634606-025 S

Prep Method: SW8015P

Date Prep: 08.22.19

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	901	995	881	0	70-135	mg/kg	08.22.19 12:27	X
Diesel Range Organics (DRO)	1170	995	1110	0	70-135	mg/kg	08.22.19 12:27	X

Surrogate

	MS %Rec	MS Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		70-135	%	08.22.19 12:27
o-Terphenyl	115		70-135	%	08.22.19 12:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099408

MB Sample Id: 7684827-1-BLK

Matrix: Solid

LCS Sample Id: 7684827-1-BKS

Prep Method: SW5030B

Date Prep: 08.22.19

LCSD Sample Id: 7684827-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.101	101	0.0990	99	70-130	2	35	mg/kg	08.22.19 20:40	
Toluene	<0.00100	0.100	0.0902	90	0.0898	90	70-130	0	35	mg/kg	08.22.19 20:40	
Ethylbenzene	<0.00100	0.100	0.119	119	0.0946	95	71-129	23	35	mg/kg	08.22.19 20:40	
m,p-Xylenes	<0.00200	0.200	0.188	94	0.174	87	70-135	8	35	mg/kg	08.22.19 20:40	
o-Xylene	<0.00100	0.100	0.112	112	0.0868	87	71-133	25	35	mg/kg	08.22.19 20:40	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		102		111		80-120	%	08.22.19 20:40
4-Bromofluorobenzene	117		103		118		80-120	%	08.22.19 20:40

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099408

Parent Sample Id: 634867-001

Matrix: Soil

MS Sample Id: 634867-001 S

Prep Method: SW5030B

Date Prep: 08.22.19

MSD Sample Id: 634867-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0983	97	0.0943	94	70-130	4	35	mg/kg	08.22.19 21:19	
Toluene	<0.000504	0.101	0.0919	91	0.0956	96	70-130	4	35	mg/kg	08.22.19 21:19	
Ethylbenzene	<0.000504	0.101	0.116	115	0.123	123	71-129	6	35	mg/kg	08.22.19 21:19	
m,p-Xylenes	<0.00101	0.202	0.179	89	0.176	88	70-135	2	35	mg/kg	08.22.19 21:19	
o-Xylene	<0.000504	0.101	0.129	128	0.0930	93	71-133	32	35	mg/kg	08.22.19 21:19	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	0	**	121	**	80-120	%	08.22.19 21:19
4-Bromofluorobenzene	124	**	125	**	80-120	%	08.22.19 21:19

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:

1034807

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3304
 Midland, TX (432) 704-5440 EL Paso, TX (915) 565-3443 Lubbock, TX (806) 754-1296
 Hobbs, NM (575) 992-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 820-2000

www.xenco.com Page 1 of 2

Project Manager:	DAN MOIR	Cell to: (if different)	Kyle Littlell
Company Name:	LT ENVIRONMENTAL	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E. GREEN ST
City/State/ZIP:	MIDLAND, TX 79705	City/State/ZIP:	CARLSBAD, NM 86220
Phone:	432-236-3949	Email:	dmoir@xenco.com & kyle@xenco.com

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

Project Name:	DAN MOIR	PLU 4234	Turn Around	ANALYSIS REQUEST		Work Order Notes
Project Number:	012417043	End of	Routine ☐			
P.O. Number:	2 RP-4466	Rush: 24 hr				
Sampler's Name:	ANNA EBERS	Due Date:				
SAMPLE RECEIPT		Temp Blank:	Yes ☐ No ☐	Well Ice:	Yes ☐ No ☐	
Temperature (°C):	13	Thermometer ID	TAMM007			
Received Inlet:	Yes ☐ No ☐	Correction Factor:	-0.2			
Cooler Custody Seals:	Yes ☐ No ☐	Total Containers:	14			
Sample Custody Seals:	Yes ☐ No ☐					
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	
PH07	S	8/20/19	1035	3'	1	X TPH (EPA 8015)
PH09A			1040	4'	1	X BTEX (EPA 8021)
PH10			1100	4'	1	X CHLORIDE (EPA 300.0)
PH10A			1105	14.5'	1	
PH11			1245	1'	1	
PH11A			1205	4'	1	
PH12			1310	1'	1	
PH12A			1325	4'	1	
PH13			1415	1'	1	
PH13A			1415	4'	1	

Total 200.7 / 6010 200.8 / 6020: BRCRA 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
 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 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
Dan Moir	[Signature]	08/22/19 08:00	[Signature]	[Signature]	08/22/19 12:15



Chain of Custody

Work Order No:

634867

Houston, TX (281) 240-4320 Dallas, TX (214) 902-0300 San Antonio, TX (210) 629-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 825-3443 Lubbock, TX (806) 794-1296 Carrollton, TX (469) 704-5440
 Phoenix, AZ (480) 365-0900 Anaheim, CA (714) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 686-6701

www.xenco.com

Page 2 of 2

Project Manager:	DAN MEIR	Bill to: (address)	lyle littell
Company Name:	IT Environmental	Company Name:	XTO
Address:	3300 North A Street	Address:	3401 E Green Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 636 3649	Email:	dmore@houston-transportation.com

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

ANALYSIS REQUEST

Project Name:	PLU 4234 Tonn Battery	Turn Around:	☐ Routine ☐	Pre. Code:	
Project Number:	012917043	Route:	24 HRE		
Project Location:	Rural Caddy Co	Due Date:			
Sampler's Name:	Ann Byers	Queue #:			
PO #:	260-4966				

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

Lab ID	Sample Identification	Metite	Date Sampled	Time Sampled	Depth	Number of Containers																
PH13B		S	8/10/19	1455	10'	1	X															
PH14		S	8/21/19	1010	1'	1																
PH14A		S		1015	4'	1																
PH14B		S		1100	10'	1																

Total 200.7 / 6010 200.6 / 6020:

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

BRCPRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mn Mo Ni K Se Ag SiO2 Na S Ti Sn U V Zn
 TCLP / SPLP 6010: BRCPRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471: Hg

Notice: Signatures at this document and relinquishment of sample 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 sample 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 \$1500 will be applied to each project and a charge of \$10 per vial 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
<i>Ann Byers</i>	<i>[Signature]</i>	8/21/19 @ 0630	<i>[Signature]</i>	<i>[Signature]</i>	08/22/19 11:11



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/22/2019 01:15:00 PM

Work Order #: 634867

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)?	1.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 08/22/2019

Checklist reviewed by:

Jessica Kramer

Date: 08/23/2019

Analytical Report 635299

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

04-SEP-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

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



04-SEP-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **635299**

PLU 423H Tank Battery

Project Address: Rural Eddy County

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) 635299. 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. 635299 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 635299****LT Environmental, Inc., Arvada, CO**

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS07	S	08-27-19 10:10	8 ft	635299-001
FS08	S	08-27-19 10:15	8 ft	635299-002
FS09	S	08-27-19 10:20	8 ft	635299-003
FS10	S	08-27-19 10:25	8 ft	635299-004
FS11	S	08-27-19 10:30	8 ft	635299-005
FS12	S	08-27-19 10:35	8 ft	635299-006
FS13	S	08-27-19 10:40	8 ft	635299-007
FS14	S	08-27-19 10:45	8 ft	635299-008
FS15	S	08-27-19 12:45	10 ft	635299-009
FS16	S	08-27-19 12:50	10 ft	635299-010
FS17	S	08-27-19 12:55	10 ft	635299-011
FS18	S	08-27-19 13:10	10 ft	635299-012
FS19	S	08-27-19 13:15	10 ft	635299-013
FS20	S	08-27-19 13:20	10 ft	635299-014
FS21	S	08-27-19 13:00	10 ft	635299-015
FS22	S	08-27-19 13:05	10 ft	635299-016
FS23	S	08-27-19 13:25	10 ft	635299-017



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043
Work Order Number(s): 635299

Report Date: 04-SEP-19
Date Received: 08/27/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3100362 BTEX by EPA 8021B

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

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 635299-001 SD.

Certificate of Analysis Summary 635299



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Tue Aug-27-19 03:35 pm

Report Date: 04-SEP-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	635299-001	635299-002	635299-003	635299-004	635299-005	635299-006
	<i>Field Id:</i>	FS07	FS08	FS09	FS10	FS11	FS12
	<i>Depth:</i>	8- ft	8- ft	8- ft	8- ft	8- ft	8- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-27-19 10:10	Aug-27-19 10:15	Aug-27-19 10:20	Aug-27-19 10:25	Aug-27-19 10:30	Aug-27-19 10:35
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Aug-30-19 08:30	Aug-30-19 08:30	Aug-30-19 08:30	Aug-30-19 08:30	Aug-30-19 08:30	Aug-30-19 08:30
	<i>Analyzed:</i>	Aug-31-19 10:48	Aug-31-19 11:08	Aug-31-19 11:29	Aug-31-19 11:49	Aug-31-19 12:09	Aug-31-19 12:29
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00403 0.00403	<0.00403 0.00403	<0.00397 0.00397	<0.00402 0.00402	<0.00398 0.00398	<0.00398 0.00398
o-Xylene		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199
Total Xylenes		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199
Total BTEX		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Aug-29-19 15:15	Aug-29-19 15:15	Aug-29-19 15:15	Aug-29-19 15:15	Aug-29-19 15:15	Aug-29-19 15:15
	<i>Analyzed:</i>	Aug-29-19 20:09	Aug-29-19 21:27	Aug-29-19 21:33	Aug-29-19 21:40	Aug-29-19 21:46	Aug-29-19 21:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		221 4.96	584 25.2	1010 25.0	919 24.8	403 49.5	563 25.1
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Aug-29-19 13:00	Aug-29-19 13:00	Aug-29-19 13:00	Aug-29-19 13:00	Aug-29-19 13:00	Aug-29-19 13:00
	<i>Analyzed:</i>	Aug-30-19 00:38	Aug-30-19 01:43	Aug-30-19 02:05	Aug-30-19 02:27	Aug-30-19 02:48	Aug-30-19 03:10
	<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)		<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9
Diesel Range Organics (DRO)		35.0 24.9	26.2 25.0	<25.0 25.0	30.4 25.0	<25.0 25.0	<24.9 24.9
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9
Total TPH		35.0 24.9	26.2 25.0	<25.0 25.0	30.4 25.0	<25.0 25.0	<24.9 24.9
Total GRO-DRO		35.0 24.9	26.2 25.0	<25.0 25.0	30.4 25.0	<25.0 25.0	<24.9 24.9

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

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 635299



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Tue Aug-27-19 03:35 pm

Report Date: 04-SEP-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	635299-007	635299-008	635299-009	635299-010	635299-011	635299-012
	<i>Field Id:</i>	FS13	FS14	FS15	FS16	FS17	FS18
	<i>Depth:</i>	8- ft	8- ft	10- ft	10- ft	10- ft	10- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-27-19 10:40	Aug-27-19 10:45	Aug-27-19 12:45	Aug-27-19 12:50	Aug-27-19 12:55	Aug-27-19 13:10
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Aug-30-19 08:30	Aug-30-19 08:30	Aug-30-19 08:30	Aug-30-19 08:30	Aug-30-19 08:30	Aug-30-19 08:30
	<i>Analyzed:</i>	Aug-31-19 12:49	Aug-31-19 01:09	Aug-31-19 01:29	Aug-31-19 01:50	Aug-31-19 03:10	Aug-31-19 03:30
	<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	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00398 0.00398	<0.00398 0.00398	<0.00398 0.00398	<0.00402 0.00402
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Aug-29-19 15:15	Aug-29-19 16:45	Aug-29-19 16:45	Aug-29-19 16:45	Aug-30-19 10:30	Aug-29-19 16:45
	<i>Analyzed:</i>	Aug-29-19 21:59	Aug-30-19 02:41	Aug-30-19 02:48	Aug-30-19 02:54	Aug-30-19 10:59	Aug-30-19 03:00
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		361 4.99	317 24.8	1190 25.0	784 25.0	303 5.00	482 5.02
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Aug-29-19 13:00	Aug-29-19 13:00	Aug-29-19 13:00	Aug-29-19 13:00	Aug-29-19 13:00	Aug-29-19 13:00
	<i>Analyzed:</i>	Aug-30-19 03:32	Aug-30-19 03:53	Aug-30-19 04:15	Aug-30-19 04:37	Aug-30-19 05:20	Aug-30-19 05:42
	<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)		<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9
Total TPH		<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9
Total GRO-DRO		<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9

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

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 635299



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043
Contact: Dan Moir
Project Location: Rural Eddy County

Date Received in Lab: Tue Aug-27-19 03:35 pm
Report Date: 04-SEP-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	635299-013	635299-014	635299-015	635299-016	635299-017	
	<i>Field Id:</i>	FS19	FS20	FS21	FS22	FS23	
	<i>Depth:</i>	10- ft	10- ft	10- ft	10- ft	10- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Aug-27-19 13:15	Aug-27-19 13:20	Aug-27-19 13:00	Aug-27-19 13:05	Aug-27-19 13:25	
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Aug-30-19 08:30	Aug-30-19 08:30	Aug-30-19 08:30	Aug-30-19 08:30	Aug-30-19 08:30	
	<i>Analyzed:</i>	Aug-31-19 03:50	Aug-31-19 04:11	Aug-31-19 04:31	Aug-31-19 04:51	Aug-31-19 05:11	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Toluene		<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Ethylbenzene		<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
m,p-Xylenes		<0.00402 0.00402	<0.00402 0.00402	<0.00401 0.00401	<0.00398 0.00398	<0.00400 0.00400	
o-Xylene		<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Total Xylenes		<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Total BTEX		<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Aug-30-19 10:30	Aug-30-19 10:30	Aug-30-19 10:30	Aug-30-19 10:30	Aug-30-19 10:30	
	<i>Analyzed:</i>	Aug-30-19 11:15	Aug-30-19 11:20	Aug-30-19 11:26	Aug-30-19 11:31	Aug-30-19 11:48	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		371 5.02	338 49.6	185 5.00	215 5.05	208 5.05	
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Aug-29-19 13:00	Aug-29-19 13:00	Aug-29-19 13:00	Aug-29-19 13:00	Aug-29-19 13:00	
	<i>Analyzed:</i>	Aug-30-19 06:04	Aug-30-19 06:25	Aug-30-19 06:47	Aug-30-19 07:08	Aug-30-19 07:30	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	
Diesel Range Organics (DRO)		<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	
Total TPH		<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	
Total GRO-DRO		<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS07** Matrix: Soil Date Received: 08.27.19 15.35
 Lab Sample Id: 635299-001 Date Collected: 08.27.19 10.10 Sample Depth: 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.29.19 15.15 Basis: Wet Weight
 Seq Number: 3100140 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	221	4.96	mg/kg	08.29.19 20.09		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.29.19 13.00 Basis: Wet Weight
 Seq Number: 3100195 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.30.19 00.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	35.0	24.9	mg/kg	08.30.19 00.38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.30.19 00.38	U	1
Total TPH	PHC635	35.0	24.9	mg/kg	08.30.19 00.38		1
Total GRO-DRO	PHC628	35.0	24.9	mg/kg	08.30.19 00.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.30.19 00.38	
o-Terphenyl	84-15-1	101	%	70-135	08.30.19 00.38	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS07**
Lab Sample Id: 635299-001

Matrix: Soil
Date Collected: 08.27.19 10.10

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.31.19 10.48	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.31.19 10.48	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.31.19 10.48	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	08.31.19 10.48	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.31.19 10.48	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.31.19 10.48	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.31.19 10.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	08.31.19 10.48		
4-Bromofluorobenzene	460-00-4	125	%	70-130	08.31.19 10.48		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS08**
Lab Sample Id: 635299-002

Matrix: Soil
Date Collected: 08.27.19 10.15

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100140

Date Prep: 08.29.19 15.15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	584	25.2	mg/kg	08.29.19 21.27		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.30.19 01.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	26.2	25.0	mg/kg	08.30.19 01.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 01.43	U	1
Total TPH	PHC635	26.2	25.0	mg/kg	08.30.19 01.43		1
Total GRO-DRO	PHC628	26.2	25.0	mg/kg	08.30.19 01.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	08.30.19 01.43	
o-Terphenyl	84-15-1	105	%	70-135	08.30.19 01.43	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS08**
Lab Sample Id: 635299-002

Matrix: Soil
Date Collected: 08.27.19 10.15

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.31.19 11.08	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.31.19 11.08	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.31.19 11.08	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	08.31.19 11.08	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.31.19 11.08	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.31.19 11.08	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.31.19 11.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.31.19 11.08		
4-Bromofluorobenzene	460-00-4	122	%	70-130	08.31.19 11.08		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS09**
Lab Sample Id: 635299-003

Matrix: Soil
Date Collected: 08.27.19 10.20

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100140

Date Prep: 08.29.19 15.15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1010	25.0	mg/kg	08.29.19 21.33		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.30.19 02.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 02.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 02.05	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 02.05	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.30.19 02.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	08.30.19 02.05	
o-Terphenyl	84-15-1	90	%	70-135	08.30.19 02.05	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS09**
Lab Sample Id: 635299-003

Matrix: Soil
Date Collected: 08.27.19 10.20

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.31.19 11.29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.31.19 11.29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.31.19 11.29	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.31.19 11.29	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.31.19 11.29	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.31.19 11.29	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.31.19 11.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	08.31.19 11.29		
1,4-Difluorobenzene	540-36-3	105	%	70-130	08.31.19 11.29		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS10**
Lab Sample Id: 635299-004

Matrix: Soil
Date Collected: 08.27.19 10.25

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100140

Date Prep: 08.29.19 15.15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	919	24.8	mg/kg	08.29.19 21.40		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.30.19 02.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	30.4	25.0	mg/kg	08.30.19 02.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 02.27	U	1
Total TPH	PHC635	30.4	25.0	mg/kg	08.30.19 02.27		1
Total GRO-DRO	PHC628	30.4	25.0	mg/kg	08.30.19 02.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	08.30.19 02.27	
o-Terphenyl	84-15-1	111	%	70-135	08.30.19 02.27	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS10**
Lab Sample Id: 635299-004

Matrix: Soil
Date Collected: 08.27.19 10.25

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.31.19 11.49	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.31.19 11.49	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.31.19 11.49	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.31.19 11.49	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.31.19 11.49	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.31.19 11.49	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.31.19 11.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	08.31.19 11.49		
1,4-Difluorobenzene	540-36-3	105	%	70-130	08.31.19 11.49		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS11** Matrix: Soil Date Received: 08.27.19 15.35
 Lab Sample Id: 635299-005 Date Collected: 08.27.19 10.30 Sample Depth: 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.29.19 15.15 Basis: Wet Weight
 Seq Number: 3100140 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	403	49.5	mg/kg	08.29.19 21.46		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.29.19 13.00 Basis: Wet Weight
 Seq Number: 3100195 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.30.19 02.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 02.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 02.48	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 02.48	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.30.19 02.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	08.30.19 02.48	
o-Terphenyl	84-15-1	109	%	70-135	08.30.19 02.48	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS11**
Lab Sample Id: 635299-005

Matrix: Soil
Date Collected: 08.27.19 10.30

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.31.19 12.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.31.19 12.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.31.19 12.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.31.19 12.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.31.19 12.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.31.19 12.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.31.19 12.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	08.31.19 12.09		
1,4-Difluorobenzene	540-36-3	105	%	70-130	08.31.19 12.09		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS12**
Lab Sample Id: 635299-006

Matrix: Soil
Date Collected: 08.27.19 10.35

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100140

Date Prep: 08.29.19 15.15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	563	25.1	mg/kg	08.29.19 21.52		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.30.19 03.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.30.19 03.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.30.19 03.10	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.30.19 03.10	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.30.19 03.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	08.30.19 03.10	
o-Terphenyl	84-15-1	108	%	70-135	08.30.19 03.10	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS12**
Lab Sample Id: 635299-006

Matrix: Soil
Date Collected: 08.27.19 10.35

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.31.19 12.29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.31.19 12.29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.31.19 12.29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.31.19 12.29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.31.19 12.29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.31.19 12.29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.31.19 12.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.31.19 12.29		
4-Bromofluorobenzene	460-00-4	118	%	70-130	08.31.19 12.29		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS13**
Lab Sample Id: 635299-007

Matrix: Soil
Date Collected: 08.27.19 10.40

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100140

Date Prep: 08.29.19 15.15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	361	4.99	mg/kg	08.29.19 21.59		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.30.19 03.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 03.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 03.32	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 03.32	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.30.19 03.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	08.30.19 03.32	
o-Terphenyl	84-15-1	104	%	70-135	08.30.19 03.32	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS13**
Lab Sample Id: 635299-007

Matrix: Soil
Date Collected: 08.27.19 10.40

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.31.19 12.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.31.19 12.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.31.19 12.49	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.31.19 12.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.31.19 12.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.31.19 12.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.31.19 12.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.31.19 12.49		
4-Bromofluorobenzene	460-00-4	120	%	70-130	08.31.19 12.49		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS14** Matrix: Soil Date Received: 08.27.19 15.35
 Lab Sample Id: 635299-008 Date Collected: 08.27.19 10.45 Sample Depth: 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.29.19 16.45 Basis: Wet Weight
 Seq Number: 3100126 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	317	24.8	mg/kg	08.30.19 02.41		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.29.19 13.00 Basis: Wet Weight
 Seq Number: 3100195 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.30.19 03.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 03.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 03.53	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 03.53	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.30.19 03.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	08.30.19 03.53	
o-Terphenyl	84-15-1	113	%	70-135	08.30.19 03.53	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS14**
Lab Sample Id: 635299-008

Matrix: Soil
Date Collected: 08.27.19 10.45

Date Received: 08.27.19 15.35
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.31.19 01.09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.31.19 01.09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.31.19 01.09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.31.19 01.09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.31.19 01.09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.31.19 01.09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.31.19 01.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	08.31.19 01.09		
4-Bromofluorobenzene	460-00-4	118	%	70-130	08.31.19 01.09		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS15**
Lab Sample Id: 635299-009

Matrix: Soil
Date Collected: 08.27.19 12.45

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100126

Date Prep: 08.29.19 16.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1190	25.0	mg/kg	08.30.19 02.48		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.30.19 04.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.30.19 04.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.30.19 04.15	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.30.19 04.15	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.30.19 04.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	08.30.19 04.15	
o-Terphenyl	84-15-1	108	%	70-135	08.30.19 04.15	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS15**
Lab Sample Id: 635299-009

Matrix: Soil
Date Collected: 08.27.19 12.45

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.31.19 01.29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.31.19 01.29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.31.19 01.29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.31.19 01.29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.31.19 01.29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.31.19 01.29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.31.19 01.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	08.31.19 01.29		
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.31.19 01.29		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS16**
Lab Sample Id: 635299-010

Matrix: Soil
Date Collected: 08.27.19 12.50

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100126

Date Prep: 08.29.19 16.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	784	25.0	mg/kg	08.30.19 02.54		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.30.19 04.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 04.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 04.37	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 04.37	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.30.19 04.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	08.30.19 04.37	
o-Terphenyl	84-15-1	109	%	70-135	08.30.19 04.37	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS16**
Lab Sample Id: 635299-010

Matrix: Soil
Date Collected: 08.27.19 12.50

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.31.19 01.50	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.31.19 01.50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.31.19 01.50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.31.19 01.50	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.31.19 01.50	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.31.19 01.50	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.31.19 01.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	70-130	08.31.19 01.50		
1,4-Difluorobenzene	540-36-3	103	%	70-130	08.31.19 01.50		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS17**
Lab Sample Id: 635299-011

Matrix: Soil
Date Collected: 08.27.19 12.55

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100248

Date Prep: 08.30.19 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	303	5.00	mg/kg	08.30.19 10.59		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.30.19 05.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 05.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 05.20	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 05.20	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.30.19 05.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	08.30.19 05.20	
o-Terphenyl	84-15-1	106	%	70-135	08.30.19 05.20	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS17**
Lab Sample Id: 635299-011

Matrix: Soil
Date Collected: 08.27.19 12.55

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.31.19 03.10	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.31.19 03.10	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.31.19 03.10	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.31.19 03.10	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.31.19 03.10	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.31.19 03.10	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.31.19 03.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	08.31.19 03.10		
1,4-Difluorobenzene	540-36-3	98	%	70-130	08.31.19 03.10		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS18**
Lab Sample Id: 635299-012

Matrix: Soil
Date Collected: 08.27.19 13.10

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100126

Date Prep: 08.29.19 16.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	482	5.02	mg/kg	08.30.19 03.00		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.30.19 05.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.30.19 05.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.30.19 05.42	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.30.19 05.42	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.30.19 05.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	08.30.19 05.42	
o-Terphenyl	84-15-1	94	%	70-135	08.30.19 05.42	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS18**
Lab Sample Id: 635299-012

Matrix: Soil
Date Collected: 08.27.19 13.10

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Date Prep: 08.30.19 08.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.31.19 03.30	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.31.19 03.30	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.31.19 03.30	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.31.19 03.30	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.31.19 03.30	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.31.19 03.30	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.31.19 03.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	08.31.19 03.30		
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.31.19 03.30		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS19**
Lab Sample Id: 635299-013

Matrix: Soil
Date Collected: 08.27.19 13.15

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100248

Date Prep: 08.30.19 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	371	5.02	mg/kg	08.30.19 11.15		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.30.19 06.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 06.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 06.04	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 06.04	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.30.19 06.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	08.30.19 06.04	
o-Terphenyl	84-15-1	91	%	70-135	08.30.19 06.04	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS19**
Lab Sample Id: 635299-013

Matrix: Soil
Date Collected: 08.27.19 13.15

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Date Prep: 08.30.19 08.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.31.19 03.50	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.31.19 03.50	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.31.19 03.50	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.31.19 03.50	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.31.19 03.50	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.31.19 03.50	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.31.19 03.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	08.31.19 03.50		
4-Bromofluorobenzene	460-00-4	123	%	70-130	08.31.19 03.50		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS20**
Lab Sample Id: 635299-014

Matrix: Soil
Date Collected: 08.27.19 13.20

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100248

Date Prep: 08.30.19 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	338	49.6	mg/kg	08.30.19 11.20		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.30.19 06.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.30.19 06.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.30.19 06.25	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.30.19 06.25	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.30.19 06.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	08.30.19 06.25	
o-Terphenyl	84-15-1	93	%	70-135	08.30.19 06.25	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS20**
Lab Sample Id: 635299-014

Matrix: Soil
Date Collected: 08.27.19 13.20

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.31.19 04.11	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.31.19 04.11	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.31.19 04.11	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.31.19 04.11	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.31.19 04.11	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.31.19 04.11	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.31.19 04.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	122	%	70-130	08.31.19 04.11		
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.31.19 04.11		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS21**
Lab Sample Id: 635299-015

Matrix: Soil
Date Collected: 08.27.19 13.00

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100248

Date Prep: 08.30.19 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	185	5.00	mg/kg	08.30.19 11.26		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.30.19 06.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 06.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 06.47	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 06.47	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.30.19 06.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	08.30.19 06.47	
o-Terphenyl	84-15-1	110	%	70-135	08.30.19 06.47	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS21**
Lab Sample Id: 635299-015

Matrix: Soil
Date Collected: 08.27.19 13.00

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.31.19 04.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.31.19 04.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.31.19 04.31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.31.19 04.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.31.19 04.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.31.19 04.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.31.19 04.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	08.31.19 04.31		
4-Bromofluorobenzene	460-00-4	119	%	70-130	08.31.19 04.31		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS22
Lab Sample Id: 635299-016

Matrix: Soil
Date Collected: 08.27.19 13.05

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100248

Date Prep: 08.30.19 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	215	5.05	mg/kg	08.30.19 11.31		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.30.19 07.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 07.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 07.08	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 07.08	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.30.19 07.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	08.30.19 07.08	
o-Terphenyl	84-15-1	114	%	70-135	08.30.19 07.08	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS22**
Lab Sample Id: 635299-016

Matrix: Soil
Date Collected: 08.27.19 13.05

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.31.19 04.51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.31.19 04.51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.31.19 04.51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.31.19 04.51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.31.19 04.51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.31.19 04.51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.31.19 04.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	08.31.19 04.51		
1,4-Difluorobenzene	540-36-3	106	%	70-130	08.31.19 04.51		



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS23**
Lab Sample Id: 635299-017

Matrix: Soil
Date Collected: 08.27.19 13.25

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3100248

Date Prep: 08.30.19 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	208	5.05	mg/kg	08.30.19 11.48		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100195

Date Prep: 08.29.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.30.19 07.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.30.19 07.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.30.19 07.30	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.30.19 07.30	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.30.19 07.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	08.30.19 07.30	
o-Terphenyl	84-15-1	88	%	70-135	08.30.19 07.30	



Certificate of Analytical Results 635299

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS23**
Lab Sample Id: 635299-017

Matrix: Soil
Date Collected: 08.27.19 13.25

Date Received: 08.27.19 15.35
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100362

Prep Method: SW5030B

% Moisture:

Date Prep: 08.30.19 08.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.31.19 05.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.31.19 05.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.31.19 05.11	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	08.31.19 05.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.31.19 05.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.31.19 05.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.31.19 05.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.31.19 05.11		
4-Bromofluorobenzene	460-00-4	124	%	70-130	08.31.19 05.11		



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3100140

MB Sample Id: 7685294-1-BLK

Matrix: Solid

LCS Sample Id: 7685294-1-BKS

Prep Method: E300P

Date Prep: 08.29.19

LCSD Sample Id: 7685294-1-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	262	105	261	104	90-110	0	20	mg/kg	08.29.19 18:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3100126

MB Sample Id: 7685347-1-BLK

Matrix: Solid

LCS Sample Id: 7685347-1-BKS

Prep Method: E300P

Date Prep: 08.29.19

LCSD Sample Id: 7685347-1-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	253	101	253	101	90-110	0	20	mg/kg	08.29.19 23:57	

Analytical Method: Chloride by EPA 300

Seq Number: 3100248

MB Sample Id: 7685356-1-BLK

Matrix: Solid

LCS Sample Id: 7685356-1-BKS

Prep Method: E300P

Date Prep: 08.30.19

LCSD Sample Id: 7685356-1-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	245	98	244	98	90-110	0	20	mg/kg	08.30.19 10:48	

Analytical Method: Chloride by EPA 300

Seq Number: 3100140

Parent Sample Id: 635290-001

Matrix: Soil

MS Sample Id: 635290-001 S

Prep Method: E300P

Date Prep: 08.29.19

MSD Sample Id: 635290-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.5	253	292	106	295	107	90-110	1	20	mg/kg	08.29.19 20:48	

Analytical Method: Chloride by EPA 300

Seq Number: 3100140

Parent Sample Id: 635467-037

Matrix: Soil

MS Sample Id: 635467-037 S

Prep Method: E300P

Date Prep: 08.29.19

MSD Sample Id: 635467-037 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.29	248	265	106	261	105	90-110	2	20	mg/kg	08.29.19 19:11	

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.
PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3100126

Parent Sample Id: 634408-004

Matrix: Soil

MS Sample Id: 634408-004 S

Prep Method: E300P

Date Prep: 08.29.19

MSD Sample Id: 634408-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	282	250	516	94	515	93	90-110	0	20	mg/kg	08.30.19 00:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3100126

Parent Sample Id: 635540-001

Matrix: Soil

MS Sample Id: 635540-001 S

Prep Method: E300P

Date Prep: 08.29.19

MSD Sample Id: 635540-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5.21	252	271	105	272	106	90-110	0	20	mg/kg	08.30.19 01:44	

Analytical Method: Chloride by EPA 300

Seq Number: 3100248

Parent Sample Id: 635299-011

Matrix: Soil

MS Sample Id: 635299-011 S

Prep Method: E300P

Date Prep: 08.30.19

MSD Sample Id: 635299-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	303	250	571	107	565	105	90-110	1	20	mg/kg	08.30.19 11:04	

Analytical Method: Chloride by EPA 300

Seq Number: 3100248

Parent Sample Id: 635303-005

Matrix: Soil

MS Sample Id: 635303-005 S

Prep Method: E300P

Date Prep: 08.30.19

MSD Sample Id: 635303-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	225	250	483	103	482	103	90-110	0	20	mg/kg	08.30.19 12:20	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100195

MB Sample Id: 7685284-1-BLK

Matrix: Solid

LCS Sample Id: 7685284-1-BKS

Prep Method: SW8015P

Date Prep: 08.29.19

LCSD Sample Id: 7685284-1-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	909	91	1080	108	70-135	17	20	mg/kg	08.29.19 23:54	
Diesel Range Organics (DRO)	<25.0	1000	928	93	1070	107	70-135	14	20	mg/kg	08.29.19 23:54	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		101		128		70-135	%	08.29.19 23:54
o-Terphenyl	109		101		121		70-135	%	08.29.19 23:54

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100195

Parent Sample Id: 635299-001

Matrix: Soil

MS Sample Id: 635299-001 S

Prep Method: SW8015P

Date Prep: 08.29.19

MSD Sample Id: 635299-001 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	965	97	873	88	70-135	10	20	mg/kg	08.30.19 00:59	
Diesel Range Organics (DRO)	35.0	999	984	95	877	84	70-135	11	20	mg/kg	08.30.19 00:59	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		94		70-135	%	08.30.19 00:59
o-Terphenyl	104		91		70-135	%	08.30.19 00:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3100362

MB Sample Id: 7685345-1-BLK

Matrix: Solid

LCS Sample Id: 7685345-1-BKS

Prep Method: SW5030B

Date Prep: 08.30.19

LCSD Sample Id: 7685345-1-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	0.100	100	70-130	8	35	mg/kg	08.31.19 08:48	
Toluene	<0.00200	0.100	0.104	104	0.0960	96	70-130	8	35	mg/kg	08.31.19 08:48	
Ethylbenzene	<0.00200	0.100	0.121	121	0.110	110	70-130	10	35	mg/kg	08.31.19 08:48	
m,p-Xylenes	<0.00400	0.200	0.246	123	0.228	114	70-130	8	35	mg/kg	08.31.19 08:48	
o-Xylene	<0.00200	0.100	0.117	117	0.112	112	70-130	4	35	mg/kg	08.31.19 08:48	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		96		99		70-130	%	08.31.19 08:48
4-Bromofluorobenzene	109		117		124		70-130	%	08.31.19 08:48

Analytical Method: BTEX by EPA 8021B

Seq Number: 3100362

Parent Sample Id: 635299-001

Matrix: Soil

MS Sample Id: 635299-001 S

Prep Method: SW5030B

Date Prep: 08.30.19

MSD Sample Id: 635299-001 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	0.0853	86	0.0898	91	70-130	5	35	mg/kg	08.31.19 09:29	
Toluene	<0.00199	0.0996	0.0801	80	0.0886	89	70-130	10	35	mg/kg	08.31.19 09:29	
Ethylbenzene	<0.00199	0.0996	0.0930	93	0.101	102	70-130	8	35	mg/kg	08.31.19 09:29	
m,p-Xylenes	<0.00398	0.199	0.189	95	0.205	104	70-130	8	35	mg/kg	08.31.19 09:29	
o-Xylene	<0.00199	0.0996	0.0918	92	0.0991	100	70-130	8	35	mg/kg	08.31.19 09:29	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		100		70-130	%	08.31.19 09:29
4-Bromofluorobenzene	130		134	**	70-130	%	08.31.19 09:29

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: 1635299

Houston, TX (281) 340-4300 Dallas, TX (214) 902-0100 San Antonio, TX (210) 596-5334
 McAllen, TX (361) 704-5440 El Paso, TX (915) 555-3442 Lubbock, TX (806) 794-1200 Cleveland, OH (440) 704-5440
 Phoenix, AZ (480) 355-0000 Atlanta, GA (770) 440-0000 Tampa, FL (813) 822-2000 West Palm Beach, FL (561) 988-4701

WWW.XENCO.LAB Page 1 of 2

Project Manager: Dan McAir		Bill to: (if different)	
Company Name: LT Environmental Inc.		Company Name: XTD Energy	
Address: 3800 North A Street		Address: 3104 E. Green Street	
City, State ZIP: Midland TX 79705		City, State ZIP: Carlsbad NM 88220	
Phone: 432 256 9849		Email: dan@ltenv.com; dbyers@ltenv.com	
Project Name: PLU 41234 Tank Battery		Turn Around: ☐ Routine ☐ Rush: 3 day	
Project Number: 012917043		Due Date:	
Project Location: Purex Eddy County			
Sampler's Name: Anne Byers			
PO #: 282-4466		Quote #:	

SAMPLE RECEIPT				ANALYSIS REQUEST				PRESERVATIVE CODES	
Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	
FS07		S	5/23/19	10:10	8'	1	THI (EPA 8015)	MECH: Mo	
FS08		S		10:15	8'	1	BTEX (EPA 8021)	NIH: NO	
FS09		S		10:16	8'	1	Chloride (EPA 8020)	NIHOS: HN	
FS10		S		10:25	8'	1		HS04: H2	
FS11		S		10:30	8'	1		HCL: HL	
FS12		S		10:35	8'	1		NACH: NA	
FS13		S		10:40	8'	1		Zn Acetate: March, Zn	
FS14		S		10:45	8'	1			
FS15		S		11:45	10'	1			
FS16		S		12:50	10'	1			

Total 200.7 / 6010 200.8 / 6020:

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

BRORA 13PPM Texas 11 A Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K S Se Ag SiO2 Na Sr Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 : HD

Notes: Signature of the 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 \$2 for each sample submitted to Xenco, but not analyzed. These terms will be withheld unless previously stipulated.

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Anne Byers

Cathy J

8/21/19 15:35

Cathy J

Cathy J

8/21/19 15:35



Chain of Custody

Work Order No: 435279

Houston, TX (281) 340-4200 Dallas, TX (214) 902-0200 San Antonio, TX (210) 565-3334
 McAllen, TX (361) 704-4444 El Paso, TX (915) 565-3443 Lubbock, TX (806) 794-1208 Chesapeake, MD (410) 704-5440
 Phoenix, AZ (480) 355-0800 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-3000 West Palm Beach, FL (561) 880-6703

www.xencolabs.com Page 2 of 2

Project Manager:	Don Meir	Bill to: (if different)	Kyle Littlefield
Company Name:	LT Environmental	Company Name:	XLD
Address:	3800 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 256 3849	Email:	don@ltenv.com kyle@xld.com

Project Name:	PU 423H Tank Battery	Turn Around:	☐ Rush 3 day
Project Number:	012917043	Analysis Request:	Program: UST/PT ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
Project Location:	Rural Eddy County	State of Project:	Reporting Level I ☐ Level II ☐ Level III ☐ PST/IST ☐ TRIP ☐ Level IV ☐
Sample Name:	Anna Byers	Delivery:	EDD ☐ ADAPT ☐ Other: ☐
PO #:	228-4446		

Project Name:	PU 423H Tank Battery	Turn Around:	☐ Rush 3 day
Project Number:	012917043	Analysis Request:	Program: UST/PT ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
Project Location:	Rural Eddy County	State of Project:	Reporting Level I ☐ Level II ☐ Level III ☐ PST/IST ☐ TRIP ☐ Level IV ☐
Sample Name:	Anna Byers	Delivery:	EDD ☐ ADAPT ☐ Other: ☐
PO #:	228-4446		

Project Name:	PU 423H Tank Battery	Turn Around:	☐ Rush 3 day
Project Number:	012917043	Analysis Request:	Program: UST/PT ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
Project Location:	Rural Eddy County	State of Project:	Reporting Level I ☐ Level II ☐ Level III ☐ PST/IST ☐ TRIP ☐ Level IV ☐
Sample Name:	Anna Byers	Delivery:	EDD ☐ ADAPT ☐ Other: ☐
PO #:	228-4446		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
FS17		S	8/27/19	1255	10'	1	TPH (EPA 8015)		
FS18		S		1310	10'	1	BTEX (EPA 8021)		
FS19		S		1315	10'	1	Chloride (EPA 300.0)		
FS20		S		1320	10'	1			
FS21		S		1300	10'	1			
FS22		S		1305	10'	1			
FS23		S		1325	10'	1			

Total 200.7 / 6010 200.8 / 6020:

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

BRORA 13PPLM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K S Ag SiO2 Na Sr Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 Hg

Notice: Signature of this document and relinquishment of sample constitutes a valid purchase order from client company to Xenco, its affiliates and subsidiaries. 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 \$15.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco that not analyzed. These terms will be entered unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Carol	8/27/19 15:35			



Inter-Office Shipment

Page 1 of 3

IOS Number **47031**

Date/Time: 08/28/19 09:50

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.: 776104978254

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
635299-001	S	FS07	08/27/19 10:10	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-001	S	FS07	08/27/19 10:10	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-001	S	FS07	08/27/19 10:10	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-002	S	FS08	08/27/19 10:15	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-002	S	FS08	08/27/19 10:15	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-002	S	FS08	08/27/19 10:15	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-003	S	FS09	08/27/19 10:20	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-003	S	FS09	08/27/19 10:20	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-003	S	FS09	08/27/19 10:20	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-004	S	FS10	08/27/19 10:25	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-004	S	FS10	08/27/19 10:25	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-004	S	FS10	08/27/19 10:25	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-005	S	FS11	08/27/19 10:30	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-005	S	FS11	08/27/19 10:30	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-005	S	FS11	08/27/19 10:30	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-006	S	FS12	08/27/19 10:35	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-006	S	FS12	08/27/19 10:35	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-006	S	FS12	08/27/19 10:35	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-007	S	FS13	08/27/19 10:40	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-007	S	FS13	08/27/19 10:40	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-007	S	FS13	08/27/19 10:40	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-008	S	FS14	08/27/19 10:45	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-008	S	FS14	08/27/19 10:45	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-008	S	FS14	08/27/19 10:45	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-009	S	FS15	08/27/19 12:45	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	



Inter-Office Shipment

Page 2 of 3

IOS Number **47031**

Date/Time: 08/28/19 09:50

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.: 776104978254

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
635299-009	S	FS15	08/27/19 12:45	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-009	S	FS15	08/27/19 12:45	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-010	S	FS16	08/27/19 12:50	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-010	S	FS16	08/27/19 12:50	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-010	S	FS16	08/27/19 12:50	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-011	S	FS17	08/27/19 12:55	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-011	S	FS17	08/27/19 12:55	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-011	S	FS17	08/27/19 12:55	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-012	S	FS18	08/27/19 13:10	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-012	S	FS18	08/27/19 13:10	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-012	S	FS18	08/27/19 13:10	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-013	S	FS19	08/27/19 13:15	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-013	S	FS19	08/27/19 13:15	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-013	S	FS19	08/27/19 13:15	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-014	S	FS20	08/27/19 13:20	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-014	S	FS20	08/27/19 13:20	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-014	S	FS20	08/27/19 13:20	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-015	S	FS21	08/27/19 13:00	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-015	S	FS21	08/27/19 13:00	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-015	S	FS21	08/27/19 13:00	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-016	S	FS22	08/27/19 13:05	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635299-016	S	FS22	08/27/19 13:05	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	
635299-016	S	FS22	08/27/19 13:05	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-017	S	FS23	08/27/19 13:25	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635299-017	S	FS23	08/27/19 13:25	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:



Inter-Office Shipment

Page 3 of 3

IOS Number **47031**

Date/Time: 08/28/19 09:50

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.: 776104978254

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
635299-017	S	FS23	08/27/19 13:25	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Date Relinquished:

Elizabeth McClellan

08/28/2019

Received By:

Date Received:

Brianna Teel

Cooler Temperature:

08/29/2019 11:46

0.3



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 47031

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 08/28/2019 09:50 AM

Received By: Brianna Teel

Date Received: 08/29/2019 11:46 AM

Sample Receipt Checklist

Comments

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 08/29/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/27/2019 03:35:00 PM

Work Order #: 635299

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 08/28/2019

Checklist reviewed by:

Jessica Kramer

Date: 08/28/2019

Analytical Report 636048

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

06-SEP-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

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



06-SEP-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **636048**

PLU 423H Tank Battery

Project Address: Rural Eddy County

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) 636048. 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. 636048 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,

Carlos Castro

Carlsbad Laboratory Director

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 636048****LT Environmental, Inc., Arvada, CO**

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW05	S	08-30-19 16:45	0.5 - 8 ft	636048-001
SW06	S	08-30-19 16:55	0.5 - 8 ft	636048-002
SW07	S	08-30-19 17:00	0.5 - 8 ft	636048-003
SW08	S	08-30-19 17:05	0.5 - 8 ft	636048-004
FS24	S	08-30-19 17:10	8 ft	636048-005
FS27	S	08-30-19 17:20	8 ft	636048-006
FS25	S	08-30-19 17:15	8 ft	636048-007
FS26	S	08-30-19 17:17	8 ft	636048-008
SW09	S	08-30-19 17:30	4 - 10 ft	636048-009



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 423H Tank Battery*

Project ID: 012917043

Work Order Number(s): 636048

Report Date: 06-SEP-19

Date Received: 09/05/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 636048



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Thu Sep-05-19 10:40 am

Report Date: 06-SEP-19

Project Manager: Jessica Kramer

Draft

<i>Analysis Requested</i>	<i>Lab Id:</i>	636048-001	636048-002	636048-003	636048-004	636048-005	636048-006
	<i>Field Id:</i>	SW05	SW06	SW07	SW08	FS24	FS27
	<i>Depth:</i>	0.5-8 ft	0.5-8 ft	0.5-8 ft	0.5-8 ft	8- ft	8- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-30-19 16:45	Aug-30-19 16:55	Aug-30-19 17:00	Aug-30-19 17:05	Aug-30-19 17:10	Aug-30-19 17:20
Chloride by EPA 300	<i>Extracted:</i>	Sep-05-19 16:09	Sep-05-19 16:09	Sep-05-19 16:09	Sep-05-19 16:09	Sep-05-19 16:09	Sep-05-19 16:09
	<i>Analyzed:</i>	Sep-05-19 17:32	Sep-05-19 17:49	Sep-05-19 17:55	Sep-05-19 18:01	Sep-05-19 18:07	Sep-05-19 18:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		706 199	769 50.1	1470 504	1080 499	523 99.4	694 99.8
TPH by SW8015 Mod	<i>Extracted:</i>	Sep-05-19 14:00	Sep-05-19 14:00	Sep-05-19 14:00	Sep-05-19 14:00	Sep-05-19 14:00	Sep-05-19 14:00
	<i>Analyzed:</i>	Sep-05-19 19:19	Sep-05-19 19:40	Sep-05-19 20:00	Sep-05-19 20:20	Sep-05-19 20:41	Sep-05-19 21:22
	<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)		<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.1 25.1	<25.1 25.1	<25.0 25.0
Diesel Range Organics (DRO)		<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.1 25.1	<25.1 25.1	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.1 25.1	<25.1 25.1	<25.0 25.0
Total GRO-DRO		<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.1 25.1	<25.1 25.1	<25.0 25.0
Total TPH		<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.1 25.1	<25.1 25.1	<25.0 25.0

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

Carlos Castro
Carlsbad Laboratory Director

Certificate of Analysis Summary 636048



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Thu Sep-05-19 10:40 am

Report Date: 06-SEP-19

Project Manager: Jessica Kramer

Draft

Analysis Requested	Lab Id:	636048-007	636048-008	636048-009			
	Field Id:	FS25	FS26	SW09			
	Depth:	8- ft	8- ft	4-10 ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	Aug-30-19 17:15	Aug-30-19 17:17	Aug-30-19 17:30			
Chloride by EPA 300	Extracted:	Sep-05-19 16:09	Sep-05-19 16:09	Sep-05-19 16:09			
	Analyzed:	Sep-05-19 18:32	Sep-05-19 18:39	Sep-05-19 18:45			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		741 99.8	424 50.0	1280 200			
TPH by SW8015 Mod	Extracted:	Sep-05-19 14:00	Sep-05-19 14:00	Sep-05-19 14:00			
	Analyzed:	Sep-05-19 21:42	Sep-05-19 22:03	Sep-05-19 22:23			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<24.9 24.9	<25.1 25.1	<25.1 25.1			
Diesel Range Organics (DRO)		<24.9 24.9	<25.1 25.1	<25.1 25.1			
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<25.1 25.1	<25.1 25.1			
Total GRO-DRO		<24.9 24.9	<25.1 25.1	<25.1 25.1			
Total TPH		<24.9 24.9	<25.1 25.1	<25.1 25.1			

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

Carlos Castro
Carlsbad Laboratory Director



Certificate of Analytical Results 636048

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW05**
Lab Sample Id: 636048-001

Matrix: Soil
Date Collected: 08.30.19 16.45

Date Received: 09.05.19 10.40
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	706	199	mg/kg	09.05.19 17.32		20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.05.19 19.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.05.19 19.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.05.19 19.19	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.05.19 19.19	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.05.19 19.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	09.05.19 19.19	
o-Terphenyl	84-15-1	89	%	70-135	09.05.19 19.19	



Certificate of Analytical Results 636048

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW06**
Lab Sample Id: 636048-002

Matrix: Soil
Date Collected: 08.30.19 16.55

Date Received: 09.05.19 10.40
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	769	50.1	mg/kg	09.05.19 17.49		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.05.19 19.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.05.19 19.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.05.19 19.40	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.05.19 19.40	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.05.19 19.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	131	%	70-135	09.05.19 19.40	
o-Terphenyl	84-15-1	96	%	70-135	09.05.19 19.40	



Certificate of Analytical Results 636048

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW07**
Lab Sample Id: 636048-003

Matrix: Soil
Date Collected: 08.30.19 17.00

Date Received: 09.05.19 10.40
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1470	504	mg/kg	09.05.19 17.55		50

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.05.19 20.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.05.19 20.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.05.19 20.00	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.05.19 20.00	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.05.19 20.00	U	1

Surrogate

1-Chlorooctane

o-Terphenyl

Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
111-85-3	121	%	70-135	09.05.19 20.00	
84-15-1	90	%	70-135	09.05.19 20.00	



Certificate of Analytical Results 636048

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW08**
Lab Sample Id: 636048-004

Matrix: Soil
Date Collected: 08.30.19 17.05

Date Received: 09.05.19 10.40
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1080	499	mg/kg	09.05.19 18.01		50

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.05.19 20.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.05.19 20.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.05.19 20.20	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.05.19 20.20	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.05.19 20.20	U	1

Surrogate

1-Chlorooctane

o-Terphenyl

Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
111-85-3	130	%	70-135	09.05.19 20.20	
84-15-1	94	%	70-135	09.05.19 20.20	



Certificate of Analytical Results 636048

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS24**
Lab Sample Id: 636048-005

Matrix: Soil
Date Collected: 08.30.19 17.10

Date Received: 09.05.19 10.40
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	523	99.4	mg/kg	09.05.19 18.07		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.05.19 20.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.05.19 20.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.05.19 20.41	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.05.19 20.41	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.05.19 20.41	U	1

Surrogate

1-Chlorooctane

o-Terphenyl

Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
111-85-3	112	%	70-135	09.05.19 20.41	
84-15-1	83	%	70-135	09.05.19 20.41	



Certificate of Analytical Results 636048

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS27
Lab Sample Id: 636048-006

Matrix: Soil
Date Collected: 08.30.19 17.20

Date Received: 09.05.19 10.40
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	694	99.8	mg/kg	09.05.19 18.26		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.05.19 21.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.05.19 21.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.05.19 21.22	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.05.19 21.22	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.05.19 21.22	U	1

Surrogate

1-Chlorooctane

o-Terphenyl

Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
111-85-3	125	%	70-135	09.05.19 21.22	
84-15-1	92	%	70-135	09.05.19 21.22	



Certificate of Analytical Results 636048

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS25
Lab Sample Id: 636048-007

Matrix: Soil
Date Collected: 08.30.19 17.15

Date Received: 09.05.19 10.40
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	741	99.8	mg/kg	09.05.19 18.32		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.05.19 21.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.05.19 21.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.05.19 21.42	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.05.19 21.42	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.05.19 21.42	U	1

Surrogate

1-Chlorooctane

o-Terphenyl

Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
111-85-3	121	%	70-135	09.05.19 21.42	
84-15-1	89	%	70-135	09.05.19 21.42	



Certificate of Analytical Results 636048

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS26**
Lab Sample Id: 636048-008

Matrix: Soil
Date Collected: 08.30.19 17.17

Date Received: 09.05.19 10.40
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	424	50.0	mg/kg	09.05.19 18.39		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.05.19 22.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.05.19 22.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.05.19 22.03	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.05.19 22.03	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.05.19 22.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	133	%	70-135	09.05.19 22.03	
o-Terphenyl	84-15-1	105	%	70-135	09.05.19 22.03	



Certificate of Analytical Results 636048

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW09**
Lab Sample Id: 636048-009

Matrix: Soil
Date Collected: 08.30.19 17.30

Date Received: 09.05.19 10.40
Sample Depth: 4 - 10 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1280	200	mg/kg	09.05.19 18.45		20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.05.19 22.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.05.19 22.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.05.19 22.23	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.05.19 22.23	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.05.19 22.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	09.05.19 22.23	
o-Terphenyl	84-15-1	98	%	70-135	09.05.19 22.23	



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.
PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3100678

MB Sample Id: 7685663-1-BLK

Matrix: Solid

LCS Sample Id: 7685663-1-BKS

Prep Method: E300P

Date Prep: 09.05.19

LCSD Sample Id: 7685663-1-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	262	105	263	105	80-120	0	20	mg/kg	09.05.19 17:21	

Draft

Analytical Method: Chloride by EPA 300

Seq Number: 3100678

Parent Sample Id: 636048-001

Matrix: Soil

MS Sample Id: 636048-001 S

Prep Method: E300P

Date Prep: 09.05.19

MSD Sample Id: 636048-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	706	3990	4950	106	4980	108	80-120	1	20	mg/kg	09.05.19 17:38	

Analytical Method: Chloride by EPA 300

Seq Number: 3100678

Parent Sample Id: 636055-007

Matrix: Solid

MS Sample Id: 636055-007 S

Prep Method: E300P

Date Prep: 09.05.19

MSD Sample Id: 636055-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	404	1990	2610	111	2680	114	80-120	3	20	mg/kg	09.05.19 19:59	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100743

MB Sample Id: 7685674-1-BLK

Matrix: Solid

LCS Sample Id: 7685674-1-BKS

Prep Method: SW8015P

Date Prep: 09.05.19

LCSD Sample Id: 7685674-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<9.88	1000	926	93	902	90	70-135	3	35	mg/kg	09.05.19 16:15	
Diesel Range Organics (DRO)	<9.88	1000	823	82	830	83	70-135	1	35	mg/kg	09.05.19 16:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		131		116		70-135	%	09.05.19 16:15
o-Terphenyl	80		96		99		70-135	%	09.05.19 16:15

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100743

Parent Sample Id: 636038-001

Matrix: Soil

MS Sample Id: 636038-001 S

Prep Method: SW8015P

Date Prep: 09.05.19

MSD Sample Id: 636038-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<9.83	995	900	90	940	94	70-135	4	35	mg/kg	09.05.19 17:17	
Diesel Range Organics (DRO)	487	995	1070	59	1290	80	70-135	19	35	mg/kg	09.05.19 17:17	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	132		129		70-135	%	09.05.19 17:17
o-Terphenyl	92		81		70-135	%	09.05.19 17:17

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

Houston, TX (281) 340-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 569-3234
 Midland, TX (432) 704-5440 El Paso, TX (910) 595-3443 Lubbock, TX (806) 794-1256 Grand Prairie, TX (469) 704-5440
 Phoenix, AZ (480) 355-0200 Atlanta, GA (770) 449-8500 Tampa, FL (813) 820-2000 West Palm Beach, FL (561) 855-6701

Work Order No: 03048

WWW.XENCO.COM Page 1 of 1

Project Manager: Dan Moir
 Company Name: LT Environmental
 Address: 5300 North A Street
 City, State ZIP: Midland TX 79705
 Phone: (432) 236-3844
 Project Name: PLW 423H Tank Battery
 Project Number: 012017043
 Project Location: Rural Eddy County
 Sampler's Name: Anna Byers
 PO #: 288-446

Bill to: (in office)
 Company Name: XTO Energy
 Address: 3104 E. Greene Street
 City, State ZIP: Corsicana, NM 88020
 Email: abyers@herve.com | dmoir@herve.com

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
 State of Project:
 Reporting Level: ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
 Deliverables: EDO ☐ ADAPT ☐ Other:
 Turn Around:
 Routine ☐ Rush: 24 HR
 Due Date:
 Quote #:
 Temp Blank: 3.0
 Received Intact: Yes ☒ No ☐
 Cooler Custody Seals: Yes ☒ No ☐
 Sample Custody Seals: Yes ☒ No ☐
 Thermometer ID: T-NM-007
 Correction Factor: -0.2
 Total Containers: 9

ANALYSIS REQUEST									
Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Preservative Codes	Sample Comments	
SW05		S	8/15/19	1645	0.5-8'	1	MeOH: Mo		
SW06		S		1655	0.5-8'	1	None: NO		
SW07		S		1700	0.5-8'	1	HNO3: HN		
SW08		S		1705	0.5-8'	1	H2SO4: H2		
FS24		S		1710	8'	1	HCL: HL		
FS25		S		1720	8'	1	NaOH: Na		
FS26		S		1715	8'	1	Zn Acetate+ NaOH: Zn		
SW09		S		1717	8'	1	TAT starts the day received by the lab, received by a client		
				1730	4-10'	1			

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
 TOLP / 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 Xenko, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenko will be liable only for the cost of samples and shall not assume any responsibility for any losses or damages incurred by the client if such losses are due to circumstances beyond the control of Xenko. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenko, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature) Anna Byers	Received by: (Signature) [Signature]	Date/Time 8/15/19 8:01	Relinquished by: (Signature) [Signature]	Received by: (Signature) [Signature]	Date/Time 8/15/19 1:54p
--	---	---------------------------	---	---	----------------------------



Inter-Office Shipment

Page 1 of 1

IOS Number **47500**

Date/Time: 09/05/19 12:58

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.: 776167105560

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
636048-001	S	SW05	08/30/19 16:45	SW8021B	BTEX by EPA 8021B	09/06/19	09/13/19	JKR	BR4FBZ BZ BZME EBZ X	
636048-002	S	SW06	08/30/19 16:55	SW8021B	BTEX by EPA 8021B	09/06/19	09/13/19	JKR	BR4FBZ BZ BZME EBZ X	
636048-003	S	SW07	08/30/19 17:00	SW8021B	BTEX by EPA 8021B	09/06/19	09/13/19	JKR	BR4FBZ BZ BZME EBZ X	
636048-004	S	SW08	08/30/19 17:05	SW8021B	BTEX by EPA 8021B	09/06/19	09/13/19	JKR	BR4FBZ BZ BZME EBZ X	
636048-005	S	FS24	08/30/19 17:10	SW8021B	BTEX by EPA 8021B	09/06/19	09/13/19	JKR	BR4FBZ BZ BZME EBZ X	
636048-006	S	FS27	08/30/19 17:20	SW8021B	BTEX by EPA 8021B	09/06/19	09/13/19	JKR	BR4FBZ BZ BZME EBZ X	
636048-007	S	FS25	08/30/19 17:15	SW8021B	BTEX by EPA 8021B	09/06/19	09/13/19	JKR	BR4FBZ BZ BZME EBZ X	
636048-008	S	FS26	08/30/19 17:17	SW8021B	BTEX by EPA 8021B	09/06/19	09/13/19	JKR	BR4FBZ BZ BZME EBZ X	
636048-009	S	SW09	08/30/19 17:30	SW8021B	BTEX by EPA 8021B	09/06/19	09/13/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 09/05/2019

Received By:

Brianna Teel

Date Received: 09/06/2019 11:12

Cooler Temperature: 2.1



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 47500

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 09/05/2019 12:58 PM

Received By: Brianna Teel

Date Received: 09/06/2019 11:12 AM

Sample Receipt Checklist

Comments

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 09/06/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/05/2019 10:40:00 AM

Work Order #: 636048

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.6	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	Yes	BTEX Subbed To Xenco Midland.
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 09/05/2019

Checklist reviewed by:

Jessica Kramer

Date: 09/05/2019

Analytical Report 636055

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423 H Tank Battery

012917043

06-SEP-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

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

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)



06-SEP-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **636055**

PLU 423 H Tank Battery

Project Address: Eddy County

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) 636055. 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. 636055 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,

Carlos Castro

Carlsbad Laboratory Director

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 636055****LT Environmental, Inc., Arvada, CO**

PLU 423 H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW10	S	09-04-19 09:25	0.5 - 8 ft	636055-001
SW11	S	09-04-19 16:35	0.5 - 4 ft	636055-002
SW12	S	09-04-19 16:40	0.5 - 8 ft	636055-003
FS28	S	09-04-19 16:45	8 ft	636055-004
FS30	S	09-04-19 16:47	8 ft	636055-005
FS31	S	09-04-19 16:50	4 - 8 ft	636055-006
FS29	S	09-04-19 17:00	8 ft	636055-007



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423 H Tank Battery

Project ID: 012917043
Work Order Number(s): 636055

Report Date: 06-SEP-19
Date Received: 09/05/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3100743 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 636055-006,636055-002.

Batch: LBA-3100746 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 636055-007 S,636055-007 SD.

Certificate of Analysis Summary 636055



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Thu Sep-05-19 10:40 am

Report Date: 06-SEP-19

Project Manager: Jessica Kramer

Draft

<i>Analysis Requested</i>	<i>Lab Id:</i>	636055-001	636055-002	636055-003	636055-004	636055-005	636055-006
	<i>Field Id:</i>	SW10	SW11	SW12	FS28	FS30	FS31
	<i>Depth:</i>	0.5-8 ft	0.5-4 ft	0.5-8 ft	8- ft	8- ft	4-8 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-04-19 09:25	Sep-04-19 16:35	Sep-04-19 16:40	Sep-04-19 16:45	Sep-04-19 16:47	Sep-04-19 16:50
Chloride by EPA 300	<i>Extracted:</i>	Sep-05-19 16:09	Sep-05-19 16:09	Sep-05-19 16:09	Sep-05-19 16:09	Sep-05-19 16:09	Sep-05-19 16:09
	<i>Analyzed:</i>	Sep-05-19 19:03	Sep-05-19 19:10	Sep-05-19 19:28	Sep-05-19 19:35	Sep-05-19 19:41	Sep-05-19 19:47
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		66.9 D 19.9	306 100	809 504	165 100	71.3 50.0	380 D 20.0
TPH by SW8015 Mod	<i>Extracted:</i>	Sep-05-19 14:00	Sep-05-19 14:00	Sep-05-19 14:00	Sep-05-19 14:00	Sep-05-19 14:00	Sep-05-19 14:00
	<i>Analyzed:</i>	Sep-05-19 22:43	Sep-05-19 23:04	Sep-05-19 23:24	Sep-05-19 23:45	Sep-06-19 00:05	Sep-06-19 00:25
	<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)		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.1 25.1	<25.1 25.1
Diesel Range Organics (DRO)		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.1 25.1	<25.1 25.1
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.1 25.1	<25.1 25.1
Total GRO-DRO		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.1 25.1	<25.1 25.1
Total TPH		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.1 25.1	<25.1 25.1

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

Carlos Castro
 Carlsbad Laboratory Director

Certificate of Analysis Summary 636055



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Thu Sep-05-19 10:40 am

Report Date: 06-SEP-19

Project Manager: Jessica Kramer

Draft

Analysis Requested	Lab Id:	636055-007					
	Field Id:	FS29					
	Depth:	8- ft					
	Matrix:	SOIL					
	Sampled:	Sep-04-19 17:00					
Chloride by EPA 300	Extracted:	Sep-05-19 16:09					
	Analyzed:	Sep-05-19 19:53					
	Units/RL:	mg/kg RL					
Chloride		404 99.0					
TPH by SW8015 Mod	Extracted:	Sep-05-19 16:00					
	Analyzed:	Sep-06-19 02:28					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<25.1 25.1					
Diesel Range Organics (DRO)		<25.1 25.1					
Motor Oil Range Hydrocarbons (MRO)		<25.1 25.1					
Total GRO-DRO		<25.1 25.1					
Total TPH		<25.1 25.1					

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

 Carlos Castro
 Carlsbad Laboratory Director



Certificate of Analytical Results 636055

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW10**
Lab Sample Id: 636055-001

Matrix: Soil
Date Collected: 09.04.19 09.25

Date Received: 09.05.19 10.40
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	66.9	19.9	mg/kg	09.06.19 11.31	D	2

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.05.19 22.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.05.19 22.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.05.19 22.43	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.05.19 22.43	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.05.19 22.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	133	%	70-135	09.05.19 22.43	
o-Terphenyl	84-15-1	96	%	70-135	09.05.19 22.43	



Certificate of Analytical Results 636055

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW11**
Lab Sample Id: 636055-002

Matrix: Soil
Date Collected: 09.04.19 16.35

Date Received: 09.05.19 10.40
Sample Depth: 0.5 - 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 16.09

Draft

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	306	100	mg/kg	09.05.19 19.10		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.05.19 23.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.05.19 23.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.05.19 23.04	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.05.19 23.04	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.05.19 23.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	137	%	70-135	09.05.19 23.04	**
o-Terphenyl	84-15-1	107	%	70-135	09.05.19 23.04	



Certificate of Analytical Results 636055

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW12**
Lab Sample Id: 636055-003

Matrix: Soil
Date Collected: 09.04.19 16.40

Date Received: 09.05.19 10.40
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	809	504	mg/kg	09.05.19 19.28		50

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.05.19 23.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.05.19 23.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.05.19 23.24	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.05.19 23.24	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.05.19 23.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	131	%	70-135	09.05.19 23.24	
o-Terphenyl	84-15-1	94	%	70-135	09.05.19 23.24	



Certificate of Analytical Results 636055

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS28**
Lab Sample Id: 636055-004

Matrix: Soil
Date Collected: 09.04.19 16.45

Date Received: 09.05.19 10.40
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Draft

Date Prep: 09.05.19 16.09

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	165	100	mg/kg	09.05.19 19.35		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.05.19 23.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.05.19 23.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.05.19 23.45	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.05.19 23.45	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.05.19 23.45	U	1

Surrogate

1-Chlorooctane

o-Terphenyl

Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
111-85-3	129	%	70-135	09.05.19 23.45	
84-15-1	107	%	70-135	09.05.19 23.45	



Certificate of Analytical Results 636055

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS30**
Lab Sample Id: 636055-005

Matrix: Soil
Date Collected: 09.04.19 16.47

Date Received: 09.05.19 10.40
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 16.09

Draft

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	71.3	50.0	mg/kg	09.05.19 19.41		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.06.19 00.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.06.19 00.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.06.19 00.05	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.06.19 00.05	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.06.19 00.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	133	%	70-135	09.06.19 00.05	
o-Terphenyl	84-15-1	113	%	70-135	09.06.19 00.05	



Certificate of Analytical Results 636055

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS31**
Lab Sample Id: 636055-006

Matrix: Soil
Date Collected: 09.04.19 16.50

Date Received: 09.05.19 10.40
Sample Depth: 4 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 16.09

Draft

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	380	20.0	mg/kg	09.06.19 11.39	D	2

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100743

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.06.19 00.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.06.19 00.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.06.19 00.25	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.06.19 00.25	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.06.19 00.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	144	%	70-135	09.06.19 00.25	**
o-Terphenyl	84-15-1	122	%	70-135	09.06.19 00.25	



Certificate of Analytical Results 636055

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS29**
Lab Sample Id: 636055-007

Matrix: Soil
Date Collected: 09.04.19 17.00

Date Received: 09.05.19 10.40
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3100678

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 16.09

Draft

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	404	99.0	mg/kg	09.05.19 19.53		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3100746

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 09.05.19 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.06.19 02.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.06.19 02.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.06.19 02.28	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.06.19 02.28	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.06.19 02.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	09.06.19 02.28	
o-Terphenyl	84-15-1	115	%	70-135	09.06.19 02.28	



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.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3100678

MB Sample Id: 7685663-1-BLK

Matrix: Solid

LCS Sample Id: 7685663-1-BKS

Prep Method: E300P

Date Prep: 09.05.19

LCSD Sample Id: 7685663-1-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	262	105	263	105	80-120	0	20	mg/kg	09.05.19 17:21	

Draft

Analytical Method: Chloride by EPA 300

Seq Number: 3100678

Parent Sample Id: 636048-001

Matrix: Soil

MS Sample Id: 636048-001 S

Prep Method: E300P

Date Prep: 09.05.19

MSD Sample Id: 636048-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	706	3990	4950	106	4980	108	80-120	1	20	mg/kg	09.05.19 17:38	

Analytical Method: Chloride by EPA 300

Seq Number: 3100678

Parent Sample Id: 636055-007

Matrix: Solid

MS Sample Id: 636055-007 S

Prep Method: E300P

Date Prep: 09.05.19

MSD Sample Id: 636055-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	404	1990	2610	111	2680	114	80-120	3	20	mg/kg	09.05.19 19:59	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100743

MB Sample Id: 7685674-1-BLK

Matrix: Solid

LCS Sample Id: 7685674-1-BKS

Prep Method: SW8015P

Date Prep: 09.05.19

LCSD Sample Id: 7685674-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<9.88	1000	926	93	902	90	70-135	3	35	mg/kg	09.05.19 16:15	
Diesel Range Organics (DRO)	<9.88	1000	823	82	830	83	70-135	1	35	mg/kg	09.05.19 16:15	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		131		116		70-135	%	09.05.19 16:15
o-Terphenyl	80		96		99		70-135	%	09.05.19 16:15

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.

PLU 423 H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100746

MB Sample Id: 7685675-1-BLK

Matrix: Solid

LCS Sample Id: 7685675-1-BKS

Prep Method: SW8015P

Date Prep: 09.05.19

LCSD Sample Id: 7685675-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<9.88	1000	941	94	927	93	70-135	1	35	mg/kg	09.06.19 01:47	
Diesel Range Organics (DRO)	<9.88	1000	876	88	855	86	70-135	2	35	mg/kg	09.06.19 01:47	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	124		126		128		70-135	%	09.06.19 01:47			
o-Terphenyl	104		120		110		70-135	%	09.06.19 01:47			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100743

Parent Sample Id: 636038-001

Matrix: Soil

MS Sample Id: 636038-001 S

Prep Method: SW8015P

Date Prep: 09.05.19

MSD Sample Id: 636038-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<9.83	995	900	90	940	94	70-135	4	35	mg/kg	09.05.19 17:17	
Diesel Range Organics (DRO)	487	995	1070	59	1290	80	70-135	19	35	mg/kg	09.05.19 17:17	X
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			132		129		70-135	%	09.05.19 17:17			
o-Terphenyl			92		81		70-135	%	09.05.19 17:17			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100746

Parent Sample Id: 636055-007

Matrix: Soil

MS Sample Id: 636055-007 S

Prep Method: SW8015P

Date Prep: 09.05.19

MSD Sample Id: 636055-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<9.89	1000	1040	104	995	100	70-135	4	35	mg/kg	09.06.19 02:48	
Diesel Range Organics (DRO)	<9.89	1000	961	96	919	92	70-135	4	35	mg/kg	09.06.19 02:48	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			147	**	140	**	70-135	%	09.06.19 02:48			
o-Terphenyl			127		119		70-135	%	09.06.19 02:48			

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) 519-3334
Midland, TX (432) 794-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1206 Oneil, NM (432) 704-5440
Phoenix, AZ (480) 355-0909 Atlanta, GA (770) 440-8800 Tampa, FL (813) 620-2900 West Palm Beach, FL (561) 689-0701

Work Order No: 0234055

Project Manager:	Don Moore	Bill to: (if different)	Kyle Littrell
Company Name:	LS Environmental	Company Name:	XTD
Address:	3300 North A St	Address:	3104 E. Greene St
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 236 3849	Email:	abeyers@lsenv.com; tlittrell@lsenv.com

Project Name:	PLW4234 Tank Battery	Turn Around	
Project Number:	012917043	Routine	☐
Project Location:	Rural Giddy County	Rush:	24 HR
Sampler's Name:	Anna Byers	Due Date:	
PO #:	200-4444	Quote #:	

Temp Blank:	3.0	Wet Ion:	☒ No
Received Intact:	☒ No	Thermometer ID:	T-NU-07
Cooler Custody Seals:	Yes ☒ No	Correction Factor:	-0.2
Sample Custody Seals:	Yes ☒ No	Total Containers:	7

SAMPLE RECEIPT				ANALYSIS REQUEST				Preservative Codes	
Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pre. Code		
SW10	S	9/4/19	0925	0.5-8'	1			MSOH: Me	
SW11	S		1635	0.5-4'	1			None: NO	
FS20 SW12	S		1640	0.5-8'	1			HNO3: HN	
FS20	S		1645	8'	1			H2SO4: H2	
FS31	S		1647	8'	1			HCL: HL	
FS29	S		1650	4-8'	1			NaOH: Na	
	S		1700	8'	1			Zn Acetate+ NaOHE: Zn	
not crossed out								TAT: (see for day received by the lab, if received by 4:00pm)	
Please run								Sample Comments	

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 Se Ag Ti U
TCLP / SPLP 6010, 6020, 6030, 6040, 6050, 6060, 6070, 6080, 6090, 6100, 6110, 6120, 6130, 6140, 6150, 6160, 6170, 6180, 6190, 6200, 6210, 6220, 6230, 6240, 6250, 6260, 6270, 6280, 6290, 6300, 6310, 6320, 6330, 6340, 6350, 6360, 6370, 6380, 6390, 6400, 6410, 6420, 6430, 6440, 6450, 6460, 6470, 6480, 6490, 6500, 6510, 6520, 6530, 6540, 6550, 6560, 6570, 6580, 6590, 6600, 6610, 6620, 6630, 6640, 6650, 6660, 6670, 6680, 6690, 6700, 6710, 6720, 6730, 6740, 6750, 6760, 6770, 6780, 6790, 6800, 6810, 6820, 6830, 6840, 6850, 6860, 6870, 6880, 6890, 6900, 6910, 6920, 6930, 6940, 6950, 6960, 6970, 6980, 6990, 7000, 7010, 7020, 7030, 7040, 7050, 7060, 7070, 7080, 7090, 7100, 7110, 7120, 7130, 7140, 7150, 7160, 7170, 7180, 7190, 7200, 7210, 7220, 7230, 7240, 7250, 7260, 7270, 7280, 7290, 7300, 7310, 7320, 7330, 7340, 7350, 7360, 7370, 7380, 7390, 7400, 7410, 7420, 7430, 7440, 7450, 7460, 7470, 7480, 7490, 7500, 7510, 7520, 7530, 7540, 7550, 7560, 7570, 7580, 7590, 7600, 7610, 7620, 7630, 7640, 7650, 7660, 7670, 7680, 7690, 7700, 7710, 7720, 7730, 7740, 7750, 7760, 7770, 7780, 7790, 7800, 7810, 7820, 7830, 7840, 7850, 7860, 7870, 7880, 7890, 7900, 7910, 7920, 7930, 7940, 7950, 7960, 7970, 7980, 7990, 8000, 8010, 8020, 8030, 8040, 8050, 8060, 8070, 8080, 8090, 8100, 8110, 8120, 8130, 8140, 8150, 8160, 8170, 8180, 8190, 8200, 8210, 8220, 8230, 8240, 8250, 8260, 8270, 8280, 8290, 8300, 8310, 8320, 8330, 8340, 8350, 8360, 8370, 8380, 8390, 8400, 8410, 8420, 8430, 8440, 8450, 8460, 8470, 8480, 8490, 8500, 8510, 8520, 8530, 8540, 8550, 8560, 8570, 8580, 8590, 8600, 8610, 8620, 8630, 8640, 8650, 8660, 8670, 8680, 8690, 8700, 8710, 8720, 8730, 8740, 8750, 8760, 8770, 8780, 8790, 8800, 8810, 8820, 8830, 8840, 8850, 8860, 8870, 8880, 8890, 8900, 8910, 8920, 8930, 8940, 8950, 8960, 8970, 8980, 8990, 9000, 9010, 9020, 9030, 9040, 9050, 9060, 9070, 9080, 9090, 9100, 9110, 9120, 9130, 9140, 9150, 9160, 9170, 9180, 9190, 9200, 9210, 9220, 9230, 9240, 9250, 9260, 9270, 9280, 9290, 9300, 9310, 9320, 9330, 9340, 9350, 9360, 9370, 9380, 9390, 9400, 9410, 9420, 9430, 9440, 9450, 9460, 9470, 9480, 9490, 9500, 9510, 9520, 9530, 9540, 9550, 9560, 9570, 9580, 9590, 9600, 9610, 9620, 9630, 9640, 9650, 9660, 9670, 9680, 9690, 9700, 9710, 9720, 9730, 9740, 9750, 9760, 9770, 9780, 9790, 9800, 9810, 9820, 9830, 9840, 9850, 9860, 9870, 9880, 9890, 9900, 9910, 9920, 9930, 9940, 9950, 9960, 9970, 9980, 9990, 10000

Relinquished by: (Signature)	Received by: (Signature)
Anna Byers	Anna Byers
Date/Time	Date/Time
09/05/19 8:00	09/05/19 10:40
Relinquished by: (Signature)	Received by: (Signature)
Date/Time	Date/Time



Inter-Office Shipment

Page 1 of 1

IOS Number **47501**

Date/Time: 09/05/19 13:07

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.: 776167105560

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
636055-001	S	SW10	09/04/19 09:25	SW8021B	BTEX by EPA 8021B	09/06/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636055-002	S	SW11	09/04/19 16:35	SW8021B	BTEX by EPA 8021B	09/06/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636055-003	S	SW12	09/04/19 16:40	SW8021B	BTEX by EPA 8021B	09/06/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636055-004	S	FS28	09/04/19 16:45	SW8021B	BTEX by EPA 8021B	09/06/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636055-005	S	FS30	09/04/19 16:47	SW8021B	BTEX by EPA 8021B	09/06/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636055-006	S	FS31	09/04/19 16:50	SW8021B	BTEX by EPA 8021B	09/06/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636055-007	S	FS29	09/04/19 17:00	SW8021B	BTEX by EPA 8021B	09/06/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 09/05/2019

Received By:

Brianna Teel

Date Received: 09/06/2019 11:12

Cooler Temperature: 2.1



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 47501

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 09/05/2019 01:07 PM

Received By: Brianna Teel

Date Received: 09/06/2019 11:12 AM

Sample Receipt Checklist

Comments

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 09/06/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/05/2019 10:40:00 AM

Work Order #: 636055

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.6	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	Yes	BTEX Subbed to Xenco Midland.
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 09/05/2019

Checklist reviewed by:

Jessica Kramer

Date: 09/05/2019

Analytical Report 636059

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

09-SEP-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

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



09-SEP-19

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

Reference: XENCO Report No(s): **636059**
PLU 423H Tank Battery
Project Address: Eddy County

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) 636059. 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. 636059 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 636059****LT Environmental, Inc., Arvada, CO**

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH15	S	09-04-19 09:55	1 ft	636059-001
PH15A	S	09-04-19 10:05	4 ft	636059-002
PH15B	S	09-04-19 11:05	18 ft	636059-003
PH16	S	09-04-19 12:37	3 ft	636059-004
PH16A	S	09-04-19 13:10	9 ft	636059-005
PH16B	S	09-04-19 13:25	12 ft	636059-006
PH17	S	09-04-19 13:37	1 ft	636059-007
PH17A	S	09-04-19 13:45	4 ft	636059-008
PH17B	S	09-04-19 14:40	16 ft	636059-009
SS06A	S	09-04-19 15:03	2 ft	636059-010
SS06B	S	09-04-19 15:12	6 ft	636059-011
SS06C	S	09-04-19 15:50	16 ft	636059-012



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043

Work Order Number(s): 636059

Report Date: 09-SEP-19

Date Received: 09/05/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3100786 BTEX by EPA 8021B

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

Certificate of Analysis Summary 636059



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Thu Sep-05-19 10:40 am

Report Date: 09-SEP-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	636059-001	636059-002	636059-003	636059-004	636059-005	636059-006
	<i>Field Id:</i>	PH15	PH15A	PH15B	PH16	PH16A	PH16B
	<i>Depth:</i>	1- ft	4- ft	18- ft	3- ft	9- ft	12- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-04-19 09:55	Sep-04-19 10:05	Sep-04-19 11:05	Sep-04-19 12:37	Sep-04-19 13:10	Sep-04-19 13:25
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30
	<i>Analyzed:</i>	Sep-07-19 01:24	Sep-07-19 01:44	Sep-07-19 02:05	Sep-07-19 02:25	Sep-07-19 02:45	Sep-07-19 03:05
	<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	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
m,p-Xylenes		<0.00399 0.00399	<0.00399 0.00399	<0.00401 0.00401	<0.00402 0.00402	<0.00402 0.00402	<0.00397 0.00397
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 15:40
	<i>Analyzed:</i>	Sep-06-19 20:04	Sep-06-19 20:09	Sep-06-19 20:27	Sep-06-19 20:33	Sep-06-19 20:39	Sep-06-19 20:44
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		26.3 5.00	14.9 5.04	128 5.04	10300 50.0	282 5.05	389 5.04
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30
	<i>Analyzed:</i>	Sep-06-19 20:05	Sep-06-19 21:03	Sep-06-19 21:22	Sep-06-19 21:42	Sep-06-19 22:01	Sep-06-19 22:21
	<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)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Total GRO-DRO		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Total TPH		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0

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

Version: 1.9%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 636059



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Thu Sep-05-19 10:40 am

Report Date: 09-SEP-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	636059-007	636059-008	636059-009	636059-010	636059-011	636059-012
	<i>Field Id:</i>	PH17	PH17A	PH17B	SS06A	SS06B	SS06C
	<i>Depth:</i>	1- ft	4- ft	16- ft	2- ft	6- ft	16- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-04-19 13:37	Sep-04-19 13:45	Sep-04-19 14:40	Sep-04-19 15:03	Sep-04-19 15:12	Sep-04-19 15:50
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30
	<i>Analyzed:</i>	Sep-07-19 04:24	Sep-07-19 04:44	Sep-07-19 05:04	Sep-07-19 05:24	Sep-07-19 05:44	Sep-07-19 06:05
	<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	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00398 0.00398	<0.00400 0.00400	<0.00400 0.00400	<0.00401 0.00401	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 16:50	Sep-06-19 16:50	Sep-06-19 16:50
	<i>Analyzed:</i>	Sep-06-19 20:50	Sep-06-19 20:56	Sep-06-19 21:02	Sep-06-19 20:08	Sep-06-19 20:14	Sep-06-19 19:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		72.5 5.01	188 24.9	145 4.96	5780 49.7	372 25.1	146 5.03
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30
	<i>Analyzed:</i>	Sep-06-19 22:40	Sep-06-19 22:59	Sep-06-19 23:19	Sep-06-19 23:38	Sep-07-19 00:16	Sep-07-19 00:36
	<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)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Diesel Range Organics (DRO)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Total GRO-DRO		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Total TPH		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0

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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15**
Lab Sample Id: 636059-001

Matrix: Soil
Date Collected: 09.04.19 09.55

Date Received: 09.05.19 10.40
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.3	5.00	mg/kg	09.06.19 20.04		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 20.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 20.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 20.05	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 20.05	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 20.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	09.06.19 20.05	
o-Terphenyl	84-15-1	99	%	70-135	09.06.19 20.05	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15**
Lab Sample Id: 636059-001

Matrix: Soil
Date Collected: 09.04.19 09.55

Date Received: 09.05.19 10.40
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.07.19 01.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	70-130	09.07.19 01.24		
4-Bromofluorobenzene	460-00-4	130	%	70-130	09.07.19 01.24		



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15A**
Lab Sample Id: 636059-002

Matrix: Soil
Date Collected: 09.04.19 10.05

Date Received: 09.05.19 10.40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.9	5.04	mg/kg	09.06.19 20.09		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 21.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 21.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 21.03	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 21.03	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 21.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	09.06.19 21.03	
o-Terphenyl	84-15-1	99	%	70-135	09.06.19 21.03	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15A**
Lab Sample Id: 636059-002

Matrix: Soil
Date Collected: 09.04.19 10.05

Date Received: 09.05.19 10.40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.07.19 01.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	130	%	70-130	09.07.19 01.44		
1,4-Difluorobenzene	540-36-3	98	%	70-130	09.07.19 01.44		



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15B**
Lab Sample Id: 636059-003

Matrix: Soil
Date Collected: 09.04.19 11.05

Date Received: 09.05.19 10.40
Sample Depth: 18 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	128	5.04	mg/kg	09.06.19 20.27		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 21.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 21.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 21.22	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 21.22	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 21.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	09.06.19 21.22	
o-Terphenyl	84-15-1	85	%	70-135	09.06.19 21.22	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15B**
Lab Sample Id: 636059-003

Matrix: Soil
Date Collected: 09.04.19 11.05

Date Received: 09.05.19 10.40
Sample Depth: 18 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.07.19 02.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	09.07.19 02.05		
4-Bromofluorobenzene	460-00-4	114	%	70-130	09.07.19 02.05		



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16**
Lab Sample Id: 636059-004

Matrix: Soil
Date Collected: 09.04.19 12.37

Date Received: 09.05.19 10.40
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10300	50.0	mg/kg	09.06.19 20.33		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 21.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 21.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 21.42	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 21.42	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 21.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.06.19 21.42	
o-Terphenyl	84-15-1	91	%	70-135	09.06.19 21.42	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16**
Lab Sample Id: 636059-004

Matrix: Soil
Date Collected: 09.04.19 12.37

Date Received: 09.05.19 10.40
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.07.19 02.25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112		%	70-130	09.07.19 02.25	
1,4-Difluorobenzene	540-36-3	102		%	70-130	09.07.19 02.25	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16A**
Lab Sample Id: 636059-005

Matrix: Soil
Date Collected: 09.04.19 13.10

Date Received: 09.05.19 10.40
Sample Depth: 9 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	282	5.05	mg/kg	09.06.19 20.39		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.06.19 22.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.06.19 22.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.06.19 22.01	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.06.19 22.01	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.06.19 22.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.06.19 22.01	
o-Terphenyl	84-15-1	86	%	70-135	09.06.19 22.01	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16A**
Lab Sample Id: 636059-005

Matrix: Soil
Date Collected: 09.04.19 13.10

Date Received: 09.05.19 10.40
Sample Depth: 9 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.07.19 02.45	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99		%	70-130	09.07.19 02.45	
4-Bromofluorobenzene	460-00-4	118		%	70-130	09.07.19 02.45	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16B**
Lab Sample Id: 636059-006

Matrix: Soil
Date Collected: 09.04.19 13.25

Date Received: 09.05.19 10.40
Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	389	5.04	mg/kg	09.06.19 20.44		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 22.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 22.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 22.21	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 22.21	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 22.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	09.06.19 22.21	
o-Terphenyl	84-15-1	89	%	70-135	09.06.19 22.21	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16B**
Lab Sample Id: 636059-006

Matrix: Soil
Date Collected: 09.04.19 13.25

Date Received: 09.05.19 10.40
Sample Depth: 12 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.07.19 03.05	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99		%	70-130	09.07.19 03.05	
4-Bromofluorobenzene	460-00-4	111		%	70-130	09.07.19 03.05	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17**
Lab Sample Id: 636059-007

Matrix: Soil
Date Collected: 09.04.19 13.37

Date Received: 09.05.19 10.40
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	72.5	5.01	mg/kg	09.06.19 20.50		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.06.19 22.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.06.19 22.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.06.19 22.40	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.06.19 22.40	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.06.19 22.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.06.19 22.40	
o-Terphenyl	84-15-1	89	%	70-135	09.06.19 22.40	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17**
Lab Sample Id: 636059-007

Matrix: Soil
Date Collected: 09.04.19 13.37

Date Received: 09.05.19 10.40
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.07.19 04.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	70-130	09.07.19 04.24		
4-Bromofluorobenzene	460-00-4	101	%	70-130	09.07.19 04.24		



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17A**
Lab Sample Id: 636059-008

Matrix: Soil
Date Collected: 09.04.19 13.45

Date Received: 09.05.19 10.40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	188	24.9	mg/kg	09.06.19 20.56		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.06.19 22.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.06.19 22.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.06.19 22.59	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.06.19 22.59	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.06.19 22.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	09.06.19 22.59	
o-Terphenyl	84-15-1	95	%	70-135	09.06.19 22.59	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17A**
Lab Sample Id: 636059-008

Matrix: Soil
Date Collected: 09.04.19 13.45

Date Received: 09.05.19 10.40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.07.19 04.44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
% Recovery							
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4		119	%	70-130	09.07.19 04.44	
1,4-Difluorobenzene	540-36-3		105	%	70-130	09.07.19 04.44	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17B**
Lab Sample Id: 636059-009

Matrix: Soil
Date Collected: 09.04.19 14.40

Date Received: 09.05.19 10.40
Sample Depth: 16 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	145	4.96	mg/kg	09.06.19 21.02		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 23.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 23.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 23.19	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 23.19	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 23.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.06.19 23.19	
o-Terphenyl	84-15-1	87	%	70-135	09.06.19 23.19	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17B**
Lab Sample Id: 636059-009

Matrix: Soil
Date Collected: 09.04.19 14.40

Date Received: 09.05.19 10.40
Sample Depth: 16 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 09.06.19 11.30

Basis: Wet Weight

Seq Number: 3100786

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.07.19 05.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105		%	70-130	09.07.19 05.04	
4-Bromofluorobenzene	460-00-4	115		%	70-130	09.07.19 05.04	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06A**
Lab Sample Id: 636059-010

Matrix: Soil
Date Collected: 09.04.19 15.03

Date Received: 09.05.19 10.40
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: CHE

Seq Number: 3100796

Date Prep: 09.06.19 16.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5780	49.7	mg/kg	09.06.19 20.08		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 23.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 23.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 23.38	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 23.38	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 23.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.06.19 23.38	
o-Terphenyl	84-15-1	89	%	70-135	09.06.19 23.38	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06A**
Lab Sample Id: 636059-010

Matrix: Soil
Date Collected: 09.04.19 15.03

Date Received: 09.05.19 10.40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 09.06.19 11.30

Basis: Wet Weight

Seq Number: 3100786

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.07.19 05.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108		%	70-130	09.07.19 05.24	
4-Bromofluorobenzene	460-00-4	124		%	70-130	09.07.19 05.24	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06B**
Lab Sample Id: 636059-011

Matrix: Soil
Date Collected: 09.04.19 15.12

Date Received: 09.05.19 10.40
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: CHE

Seq Number: 3100796

Date Prep: 09.06.19 16.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	372	25.1	mg/kg	09.06.19 20.14		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.07.19 00.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.07.19 00.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.07.19 00.16	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.07.19 00.16	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.07.19 00.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	09.07.19 00.16	
o-Terphenyl	84-15-1	93	%	70-135	09.07.19 00.16	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06B**
Lab Sample Id: 636059-011

Matrix: Soil
Date Collected: 09.04.19 15.12

Date Received: 09.05.19 10.40
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.07.19 05.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109		%	70-130	09.07.19 05.44	
4-Bromofluorobenzene	460-00-4	121		%	70-130	09.07.19 05.44	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06C** Matrix: Soil Date Received: 09.05.19 10.40
 Lab Sample Id: 636059-012 Date Collected: 09.04.19 15.50 Sample Depth: 16 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC % Moisture:
 Analyst: CHE Date Prep: 09.06.19 16.50 Basis: Wet Weight
 Seq Number: 3100796 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	146	5.03	mg/kg	09.06.19 19.48		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 09.06.19 12.30 Basis: Wet Weight
 Seq Number: 3100799 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.07.19 00.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.07.19 00.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.07.19 00.36	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.07.19 00.36	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.07.19 00.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.07.19 00.36	
o-Terphenyl	84-15-1	87	%	70-135	09.07.19 00.36	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06C**
Lab Sample Id: 636059-012

Matrix: Soil
Date Collected: 09.04.19 15.50

Date Received: 09.05.19 10.40
Sample Depth: 16 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Date Prep: 09.06.19 11.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.07.19 06.05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4		112	%	70-130	09.07.19 06.05	
1,4-Difluorobenzene	540-36-3		103	%	70-130	09.07.19 06.05	



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.
PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3100795

MB Sample Id: 7685762-1-BLK

Matrix: Solid

LCS Sample Id: 7685762-1-BKS

Prep Method: E300P

Date Prep: 09.06.19

LCSD Sample Id: 7685762-1-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	256	102	255	102	90-110	0	20	mg/kg	09.06.19 18:13	

Analytical Method: Chloride by EPA 300

Seq Number: 3100796

MB Sample Id: 7685763-1-BLK

Matrix: Solid

LCS Sample Id: 7685763-1-BKS

Prep Method: E300P

Date Prep: 09.06.19

LCSD Sample Id: 7685763-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5.53	250	255	102	258	103	90-110	1	20	mg/kg	09.06.19 19:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3100795

Parent Sample Id: 636033-002

Matrix: Soil

MS Sample Id: 636033-002 S

Prep Method: E300P

Date Prep: 09.06.19

MSD Sample Id: 636033-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	389	248	628	96	627	96	90-110	0	20	mg/kg	09.06.19 19:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3100795

Parent Sample Id: 636062-019

Matrix: Soil

MS Sample Id: 636062-019 S

Prep Method: E300P

Date Prep: 09.06.19

MSD Sample Id: 636062-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	463	250	706	97	704	96	90-110	0	20	mg/kg	09.06.19 18:31	

Analytical Method: Chloride by EPA 300

Seq Number: 3100796

Parent Sample Id: 636059-012

Matrix: Soil

MS Sample Id: 636059-012 S

Prep Method: E300P

Date Prep: 09.06.19

MSD Sample Id: 636059-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	146	503	683	107	682	107	90-110	0	20	mg/kg	09.06.19 19:55	

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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3100796

Parent Sample Id: 636072-006

Matrix: Soil

MS Sample Id: 636072-006 S

Prep Method: E300P

Date Prep: 09.06.19

MSD Sample Id: 636072-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	99.5	497	634	108	634	108	90-110	0	20	mg/kg	09.06.19 21:25	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100799

MB Sample Id: 7685727-1-BLK

Matrix: Solid

LCS Sample Id: 7685727-1-BKS

Prep Method: SW8015P

Date Prep: 09.06.19

LCSD Sample Id: 7685727-1-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	949	95	968	97	70-135	2	20	mg/kg	09.06.19 19:27	
Diesel Range Organics (DRO)	<25.0	1000	910	91	931	93	70-135	2	20	mg/kg	09.06.19 19:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		119		116		70-135	%	09.06.19 19:27
o-Terphenyl	99		100		100		70-135	%	09.06.19 19:27

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100799

Parent Sample Id: 636059-001

Matrix: Soil

MS Sample Id: 636059-001 S

Prep Method: SW8015P

Date Prep: 09.06.19

MSD Sample Id: 636059-001 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	921	92	934	94	70-135	1	20	mg/kg	09.06.19 20:25	
Diesel Range Organics (DRO)	<24.9	997	892	89	903	91	70-135	1	20	mg/kg	09.06.19 20:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		121		70-135	%	09.06.19 20:25
o-Terphenyl	103		99		70-135	%	09.06.19 20:25

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

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

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.

PLU 423H Tank Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3100786

MB Sample Id: 7685715-1-BLK

Matrix: Solid

LCS Sample Id: 7685715-1-BKS

Prep Method: SW5030B

Date Prep: 09.06.19

LCSD Sample Id: 7685715-1-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	0.0909	91	0.0936	94	70-130	3	35	mg/kg	09.06.19 10:04	
Toluene	<0.00200	0.100	0.0884	88	0.0903	90	70-130	2	35	mg/kg	09.06.19 10:04	
Ethylbenzene	<0.00200	0.100	0.104	104	0.106	106	70-130	2	35	mg/kg	09.06.19 10:04	
m,p-Xylenes	<0.00400	0.200	0.207	104	0.214	107	70-130	3	35	mg/kg	09.06.19 10:04	
o-Xylene	<0.00200	0.100	0.101	101	0.104	104	70-130	3	35	mg/kg	09.06.19 10:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		92		97		70-130	%	09.06.19 10:04
4-Bromofluorobenzene	100		107		115		70-130	%	09.06.19 10:04

Analytical Method: BTEX by EPA 8021B

Seq Number: 3100786

Parent Sample Id: 636038-001

Matrix: Soil

MS Sample Id: 636038-001 S

Prep Method: SW5030B

Date Prep: 09.06.19

MSD Sample Id: 636038-001 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	0.0994	0.0742	75	0.0614	61	70-130	19	35	mg/kg	09.06.19 10:44	X
Toluene	<0.00199	0.0994	0.0624	63	0.0407	41	70-130	42	35	mg/kg	09.06.19 10:44	XF
Ethylbenzene	<0.00199	0.0994	0.0622	63	0.0361	36	70-130	53	35	mg/kg	09.06.19 10:44	XF
m,p-Xylenes	<0.00398	0.199	0.120	60	0.0872	44	70-130	32	35	mg/kg	09.06.19 10:44	X
o-Xylene	<0.00199	0.0994	0.0579	58	0.0466	47	70-130	22	35	mg/kg	09.06.19 10:44	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		110		70-130	%	09.06.19 10:44
4-Bromofluorobenzene	116		73		70-130	%	09.06.19 10:44

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: 1630089

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3304
 Midland, TX (432) 704-0440 El Paso, TX (915) 560-3443 Lubbock, TX (806) 794-1199
 Phoenix, AZ (480) 356-0900 Atlanta, GA (770) 443-8500 Tampa, FL (813) 420-2000 West Palm Beach, FL (561) 689-6701

WWW.XENONCO.COM Page 1 of 2

Project Manager:	Don Moir	Bill to: (if different)	Kyle Little
Company Name:	LI Environmental	Company Name:	XTO Energy
Address:	3800 North A St	Address:	3104 E. Greene St
City, State Zip:	Midland TX 79705	City, State Zip:	Odessa NM 88620
Phone:	(432) 286-3849	Email:	cybers@houston.com + dmoir@houston.com

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

Project Name:	PLU 4234 Tank Battery	Turn Amount:	XI
Project Number:	012917043	Facility:	
Project Location:	Early County	Date Date:	
Sampler's Name:	Anna Byers		
PO #:	282-4466	Quote #:	

SAMPLE RECEIPT		Temp Blank:	☒ No	Well Ken:	☒ No
Temperature (°C):	3.10	Thermometer ID:	T-NM-003		
Received Inset:	☒ No	Correction Factor:	-0.2		
Cooler Custody Status:	Yes ☒ No ☐	Total Containers:	12		
Sample Custody Status:	Yes ☒ No ☐				

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes
PH15	S	9/4/19	0955	1'	1	TPH (EPA 8015)		
PH15A				4'	1	BTEX (EPA 8021)		
PH15B				1105	1	Chloride (EPA 300.0)		
PH16				1237	1			
PH16A				1310	1			
PH16B				1325	1			
PH17				1337	1			
PH17A				1345	1			
PH17B				1440	1			
SSC1A				1503	2			

Total 200.7 / 6010 200.8 / 6020: RRCRA 13PFM Texas 11 A Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Ss Ag SiO2 Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed: TCLP / SPLP 6010: RRCRA: Sb As Ba Be Cd Cr Co Cu Fe 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 Xenonco, its affiliates and subsidiaries. It assigns standard terms and conditions of service. Xenonco 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 Xenonco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenonco, but not analyzed. These terms will be subject to our standard terms and conditions.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	[Signature]	09/04/19 8:00	[Signature]	[Signature]	09/05/19 10:40



Chain of Custody

Work Order No: u36059

Houston, TX (281) 340-4200 Dallas, TX (214) 502-0300 San Antonio, TX (210) 600-3334
 Midland, TX (432) 704-9440 El Paso, TX (915) 560-3443 Lubbock, TX (807) 724-3298 Chabot, NM (432) 704-9440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 445-8000 Tampa, FL (813) 620-5000 West Palm Beach, FL (561) 689-0701

www.xencolabs.com Page 2 of 2

Project Manager:	Don Meir	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental	Company Name:	XTB
Address:	3500 North A St	Address:	3101 E. Greene St
City, State ZIP:	Midland TX 79705	City, State ZIP:	Chabot, NM 88720
Phone:	432-236-8849	Email:	alyers@xencolabs.com dmeir@xencolabs.com

Project Name:	PLU 4234 Tank Battery	Turn Amount:	
Project Number:	012917043	Refill:	☒
Project Location:	Fort Brady Co.	Flow:	
Sample Name:	Anna Byers	Date:	
PO #:	288-446	Quote #:	

SAMPLE RECEIPT			
Temperature (°C):	Temp Blank:	Yes	No
Received intact:	Yes	No	
Cooler Custody Scale:	Yes	No	
Sample Custody Scale:	Yes	No	
Sample Custody Scale:	Yes	No	

Thermometer ID:	Wet Cell:	Yes	No
Correction Factor:	Total Containers:		
Sample ID:	Number of Containers:		
Sample Identification:	TPH (EPA 8015)		
Matrix:	BTEX (EPA 8021)		
Date Sampled:	Chloride (EPA 8020)		
Time Sampled:			
Depth:			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
55065		S	9/4/19	1512	6'	1	X		
55066		S	9/4/19	1550	16'	1	X		

Total 200.7 / 6010 200.8 / 6020: gRCRA 13PFA Texas 11 N Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Sr Ag SiO2 Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: gRCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers		09/05/19 8:00			09/05/19 10:00



Inter-Office Shipment

Page 1 of 2

IOS Number **47504**

Date/Time: 09/05/19 13:22

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.: 776167105560

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
636059-001	S	PH15	09/04/19 09:55	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-001	S	PH15	09/04/19 09:55	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-002	S	PH15A	09/04/19 10:05	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-002	S	PH15A	09/04/19 10:05	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-003	S	PH15B	09/04/19 11:05	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-003	S	PH15B	09/04/19 11:05	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-004	S	PH16	09/04/19 12:37	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-004	S	PH16	09/04/19 12:37	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-005	S	PH16A	09/04/19 13:10	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-005	S	PH16A	09/04/19 13:10	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-006	S	PH16B	09/04/19 13:25	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-006	S	PH16B	09/04/19 13:25	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-007	S	PH17	09/04/19 13:37	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-007	S	PH17	09/04/19 13:37	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-008	S	PH17A	09/04/19 13:45	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-008	S	PH17A	09/04/19 13:45	SW8015MOD_NM	TPH by SW8015 Mod	09/11/19	09/18/19	JKR	GRO-DRO PHCC10C28 PF	
636059-008	S	PH17A	09/04/19 13:45	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-009	S	PH17B	09/04/19 14:40	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-009	S	PH17B	09/04/19 14:40	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-009	S	PH17B	09/04/19 14:40	SW8015MOD_NM	TPH by SW8015 Mod	09/11/19	09/18/19	JKR	GRO-DRO PHCC10C28 PF	
636059-010	S	SS06A	09/04/19 15:03	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-010	S	SS06A	09/04/19 15:03	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-010	S	SS06A	09/04/19 15:03	SW8015MOD_NM	TPH by SW8015 Mod	09/11/19	09/18/19	JKR	GRO-DRO PHCC10C28 PF	
636059-011	S	SS06B	09/04/19 15:12	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-011	S	SS06B	09/04/19 15:12	SW8015MOD_NM	TPH by SW8015 Mod	09/11/19	09/18/19	JKR	GRO-DRO PHCC10C28 PF	



Inter-Office Shipment

Page 2 of 2

IOS Number **47504**

Date/Time: 09/05/19 13:22

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.: 776167105560

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
636059-011	S	SS06B	09/04/19 15:12	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-012	S	SS06C	09/04/19 15:50	SW8015MOD_NM	TPH by SW8015 Mod	09/11/19	09/18/19	JKR	GRO-DRO PHCC10C28 PF	
636059-012	S	SS06C	09/04/19 15:50	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-012	S	SS06C	09/04/19 15:50	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By:

Brianna Teel

Date Relinquished: 09/05/2019

Received By:

Brianna Teel

Date Received: 09/06/2019 11:12

Cooler Temperature: 2.1



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 47504

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 09/05/2019 01:22 PM

Received By: Brianna Teel

Date Received: 09/06/2019 11:12 AM

Sample Receipt Checklist

Comments

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 09/06/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/05/2019 10:40:00 AM

Work Order #: 636059

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.6	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	Yes	BTEX Subbed To Xenco Midland.
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 09/05/2019

Checklist reviewed by:

Jessica Kramer

Date: 09/06/2019

Analytical Report 636059

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

09-SEP-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

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



09-SEP-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **636059**

PLU 423H Tank Battery

Project Address: Eddy County

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) 636059. 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. 636059 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 636059****LT Environmental, Inc., Arvada, CO**

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH15	S	09-04-19 09:55	1 ft	636059-001
PH15A	S	09-04-19 10:05	4 ft	636059-002
PH15B	S	09-04-19 11:05	18 ft	636059-003
PH16	S	09-04-19 12:37	3 ft	636059-004
PH16A	S	09-04-19 13:10	9 ft	636059-005
PH16B	S	09-04-19 13:25	12 ft	636059-006
PH17	S	09-04-19 13:37	1 ft	636059-007
PH17A	S	09-04-19 13:45	4 ft	636059-008
PH17B	S	09-04-19 14:40	16 ft	636059-009
SS06A	S	09-04-19 15:03	2 ft	636059-010
SS06B	S	09-04-19 15:12	6 ft	636059-011
SS06C	S	09-04-19 15:50	16 ft	636059-012



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043

Work Order Number(s): 636059

Report Date: 09-SEP-19

Date Received: 09/05/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3100786 BTEX by EPA 8021B

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

Certificate of Analysis Summary 636059



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Thu Sep-05-19 10:40 am

Report Date: 09-SEP-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	636059-001	636059-002	636059-003	636059-004	636059-005	636059-006
	<i>Field Id:</i>	PH15	PH15A	PH15B	PH16	PH16A	PH16B
	<i>Depth:</i>	1- ft	4- ft	18- ft	3- ft	9- ft	12- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-04-19 09:55	Sep-04-19 10:05	Sep-04-19 11:05	Sep-04-19 12:37	Sep-04-19 13:10	Sep-04-19 13:25
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30
	<i>Analyzed:</i>	Sep-07-19 01:24	Sep-07-19 01:44	Sep-07-19 02:05	Sep-07-19 02:25	Sep-07-19 02:45	Sep-07-19 03:05
	<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	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
m,p-Xylenes		<0.00399 0.00399	<0.00399 0.00399	<0.00401 0.00401	<0.00402 0.00402	<0.00402 0.00402	<0.00397 0.00397
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 15:40
	<i>Analyzed:</i>	Sep-06-19 20:04	Sep-06-19 20:09	Sep-06-19 20:27	Sep-06-19 20:33	Sep-06-19 20:39	Sep-06-19 20:44
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		26.3 5.00	14.9 5.04	128 5.04	10300 50.0	282 5.05	389 5.04
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30
	<i>Analyzed:</i>	Sep-06-19 20:05	Sep-06-19 21:03	Sep-06-19 21:22	Sep-06-19 21:42	Sep-06-19 22:01	Sep-06-19 22:21
	<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)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Total GRO-DRO		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Total TPH		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0

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

Version: 1.9%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 636059



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Thu Sep-05-19 10:40 am

Report Date: 09-SEP-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	636059-007	636059-008	636059-009	636059-010	636059-011	636059-012
	<i>Field Id:</i>	PH17	PH17A	PH17B	SS06A	SS06B	SS06C
	<i>Depth:</i>	1- ft	4- ft	16- ft	2- ft	6- ft	16- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-04-19 13:37	Sep-04-19 13:45	Sep-04-19 14:40	Sep-04-19 15:03	Sep-04-19 15:12	Sep-04-19 15:50
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30	Sep-06-19 11:30
	<i>Analyzed:</i>	Sep-07-19 04:24	Sep-07-19 04:44	Sep-07-19 05:04	Sep-07-19 05:24	Sep-07-19 05:44	Sep-07-19 06:05
	<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	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00398 0.00398	<0.00400 0.00400	<0.00400 0.00400	<0.00401 0.00401	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 15:40	Sep-06-19 16:50	Sep-06-19 16:50	Sep-06-19 16:50
	<i>Analyzed:</i>	Sep-06-19 20:50	Sep-06-19 20:56	Sep-06-19 21:02	Sep-06-19 20:08	Sep-06-19 20:14	Sep-06-19 19:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		72.5 5.01	188 24.9	145 4.96	5780 49.7	372 25.1	146 5.03
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30	Sep-06-19 12:30
	<i>Analyzed:</i>	Sep-06-19 22:40	Sep-06-19 22:59	Sep-06-19 23:19	Sep-06-19 23:38	Sep-07-19 00:16	Sep-07-19 00:36
	<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)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Diesel Range Organics (DRO)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Total GRO-DRO		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0
Total TPH		<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.0 25.0	<24.9 24.9	<25.0 25.0

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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15**
Lab Sample Id: 636059-001

Matrix: Soil
Date Collected: 09.04.19 09.55

Date Received: 09.05.19 10.40
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.3	5.00	mg/kg	09.06.19 20.04		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 20.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 20.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 20.05	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 20.05	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 20.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	09.06.19 20.05	
o-Terphenyl	84-15-1	99	%	70-135	09.06.19 20.05	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15**
Lab Sample Id: 636059-001

Matrix: Soil
Date Collected: 09.04.19 09.55

Date Received: 09.05.19 10.40
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.07.19 01.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 01.24	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93		%	70-130	09.07.19 01.24	
4-Bromofluorobenzene	460-00-4	130		%	70-130	09.07.19 01.24	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15A**
Lab Sample Id: 636059-002

Matrix: Soil
Date Collected: 09.04.19 10.05

Date Received: 09.05.19 10.40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.9	5.04	mg/kg	09.06.19 20.09		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 21.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 21.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 21.03	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 21.03	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 21.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	09.06.19 21.03	
o-Terphenyl	84-15-1	99	%	70-135	09.06.19 21.03	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15A**
Lab Sample Id: 636059-002

Matrix: Soil
Date Collected: 09.04.19 10.05

Date Received: 09.05.19 10.40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.07.19 01.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 01.44	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	130	%	70-130	09.07.19 01.44		
1,4-Difluorobenzene	540-36-3	98	%	70-130	09.07.19 01.44		



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15B**
Lab Sample Id: 636059-003

Matrix: Soil
Date Collected: 09.04.19 11.05

Date Received: 09.05.19 10.40
Sample Depth: 18 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	128	5.04	mg/kg	09.06.19 20.27		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 21.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 21.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 21.22	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 21.22	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 21.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	09.06.19 21.22	
o-Terphenyl	84-15-1	85	%	70-135	09.06.19 21.22	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH15B**
Lab Sample Id: 636059-003

Matrix: Soil
Date Collected: 09.04.19 11.05

Date Received: 09.05.19 10.40
Sample Depth: 18 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.07.19 02.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 02.05	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107		%	70-130	09.07.19 02.05	
4-Bromofluorobenzene	460-00-4	114		%	70-130	09.07.19 02.05	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16**
Lab Sample Id: 636059-004

Matrix: Soil
Date Collected: 09.04.19 12.37

Date Received: 09.05.19 10.40
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10300	50.0	mg/kg	09.06.19 20.33		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 21.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 21.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 21.42	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 21.42	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 21.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.06.19 21.42	
o-Terphenyl	84-15-1	91	%	70-135	09.06.19 21.42	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16**
Lab Sample Id: 636059-004

Matrix: Soil
Date Collected: 09.04.19 12.37

Date Received: 09.05.19 10.40
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.07.19 02.25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.07.19 02.25	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112		%	70-130	09.07.19 02.25	
1,4-Difluorobenzene	540-36-3	102		%	70-130	09.07.19 02.25	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16A**
Lab Sample Id: 636059-005

Matrix: Soil
Date Collected: 09.04.19 13.10

Date Received: 09.05.19 10.40
Sample Depth: 9 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	282	5.05	mg/kg	09.06.19 20.39		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.06.19 22.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.06.19 22.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.06.19 22.01	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.06.19 22.01	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.06.19 22.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.06.19 22.01	
o-Terphenyl	84-15-1	86	%	70-135	09.06.19 22.01	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16A**
Lab Sample Id: 636059-005

Matrix: Soil
Date Collected: 09.04.19 13.10

Date Received: 09.05.19 10.40
Sample Depth: 9 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 09.06.19 11.30

Basis: Wet Weight

Seq Number: 3100786

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.07.19 02.45	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.07.19 02.45	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99		%	70-130	09.07.19 02.45	
4-Bromofluorobenzene	460-00-4	118		%	70-130	09.07.19 02.45	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16B**
Lab Sample Id: 636059-006

Matrix: Soil
Date Collected: 09.04.19 13.25

Date Received: 09.05.19 10.40
Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	389	5.04	mg/kg	09.06.19 20.44		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 22.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 22.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 22.21	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 22.21	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 22.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	09.06.19 22.21	
o-Terphenyl	84-15-1	89	%	70-135	09.06.19 22.21	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH16B**
Lab Sample Id: 636059-006

Matrix: Soil
Date Collected: 09.04.19 13.25

Date Received: 09.05.19 10.40
Sample Depth: 12 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.07.19 03.05	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.07.19 03.05	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99		%	70-130	09.07.19 03.05	
4-Bromofluorobenzene	460-00-4	111		%	70-130	09.07.19 03.05	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17**
Lab Sample Id: 636059-007

Matrix: Soil
Date Collected: 09.04.19 13.37

Date Received: 09.05.19 10.40
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	72.5	5.01	mg/kg	09.06.19 20.50		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.06.19 22.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.06.19 22.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.06.19 22.40	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.06.19 22.40	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.06.19 22.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.06.19 22.40	
o-Terphenyl	84-15-1	89	%	70-135	09.06.19 22.40	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17**
Lab Sample Id: 636059-007

Matrix: Soil
Date Collected: 09.04.19 13.37

Date Received: 09.05.19 10.40
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.07.19 04.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 04.24	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		93	%	70-130	09.07.19 04.24	
4-Bromofluorobenzene	460-00-4		101	%	70-130	09.07.19 04.24	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17A**
Lab Sample Id: 636059-008

Matrix: Soil
Date Collected: 09.04.19 13.45

Date Received: 09.05.19 10.40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	188	24.9	mg/kg	09.06.19 20.56		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.06.19 22.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.06.19 22.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.06.19 22.59	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.06.19 22.59	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.06.19 22.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	09.06.19 22.59	
o-Terphenyl	84-15-1	95	%	70-135	09.06.19 22.59	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17A**
Lab Sample Id: 636059-008

Matrix: Soil
Date Collected: 09.04.19 13.45

Date Received: 09.05.19 10.40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.07.19 04.44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.07.19 04.44	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4		119	%	70-130	09.07.19 04.44	
1,4-Difluorobenzene	540-36-3		105	%	70-130	09.07.19 04.44	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17B**
Lab Sample Id: 636059-009

Matrix: Soil
Date Collected: 09.04.19 14.40

Date Received: 09.05.19 10.40
Sample Depth: 16 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3100795

Date Prep: 09.06.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	145	4.96	mg/kg	09.06.19 21.02		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 23.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 23.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 23.19	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 23.19	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 23.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.06.19 23.19	
o-Terphenyl	84-15-1	87	%	70-135	09.06.19 23.19	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH17B**
Lab Sample Id: 636059-009

Matrix: Soil
Date Collected: 09.04.19 14.40

Date Received: 09.05.19 10.40
Sample Depth: 16 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 09.06.19 11.30

Basis: Wet Weight

Seq Number: 3100786

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.07.19 05.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 05.04	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105		%	70-130	09.07.19 05.04	
4-Bromofluorobenzene	460-00-4	115		%	70-130	09.07.19 05.04	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06A**
Lab Sample Id: 636059-010

Matrix: Soil
Date Collected: 09.04.19 15.03

Date Received: 09.05.19 10.40
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: CHE

Seq Number: 3100796

Date Prep: 09.06.19 16.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5780	49.7	mg/kg	09.06.19 20.08		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.06.19 23.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.06.19 23.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.06.19 23.38	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.06.19 23.38	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.06.19 23.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.06.19 23.38	
o-Terphenyl	84-15-1	89	%	70-135	09.06.19 23.38	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06A**
Lab Sample Id: 636059-010

Matrix: Soil
Date Collected: 09.04.19 15.03

Date Received: 09.05.19 10.40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.07.19 05.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 05.24	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108		%	70-130	09.07.19 05.24	
4-Bromofluorobenzene	460-00-4	124		%	70-130	09.07.19 05.24	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06B**
Lab Sample Id: 636059-011

Matrix: Soil
Date Collected: 09.04.19 15.12

Date Received: 09.05.19 10.40
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: CHE

Seq Number: 3100796

Date Prep: 09.06.19 16.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	372	25.1	mg/kg	09.06.19 20.14		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3100799

Date Prep: 09.06.19 12.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.07.19 00.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.07.19 00.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.07.19 00.16	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.07.19 00.16	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.07.19 00.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	09.07.19 00.16	
o-Terphenyl	84-15-1	93	%	70-135	09.07.19 00.16	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06B**
Lab Sample Id: 636059-011

Matrix: Soil
Date Collected: 09.04.19 15.12

Date Received: 09.05.19 10.40
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.07.19 05.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.19 05.44	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109		%	70-130	09.07.19 05.44	
4-Bromofluorobenzene	460-00-4	121		%	70-130	09.07.19 05.44	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06C** Matrix: Soil Date Received: 09.05.19 10.40
 Lab Sample Id: 636059-012 Date Collected: 09.04.19 15.50 Sample Depth: 16 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC % Moisture:
 Analyst: CHE Date Prep: 09.06.19 16.50 Basis: Wet Weight
 Seq Number: 3100796 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	146	5.03	mg/kg	09.06.19 19.48		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 09.06.19 12.30 Basis: Wet Weight
 Seq Number: 3100799 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.07.19 00.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.07.19 00.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.07.19 00.36	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.07.19 00.36	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.07.19 00.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.07.19 00.36	
o-Terphenyl	84-15-1	87	%	70-135	09.07.19 00.36	



Certificate of Analytical Results 636059

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SS06C**
Lab Sample Id: 636059-012

Matrix: Soil
Date Collected: 09.04.19 15.50

Date Received: 09.05.19 10.40
Sample Depth: 16 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3100786

Prep Method: SW5030B

% Moisture:

Date Prep: 09.06.19 11.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.07.19 06.05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.07.19 06.05	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4		112	%	70-130	09.07.19 06.05	
1,4-Difluorobenzene	540-36-3		103	%	70-130	09.07.19 06.05	



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3100795

MB Sample Id: 7685762-1-BLK

Matrix: Solid

LCS Sample Id: 7685762-1-BKS

Prep Method: E300P

Date Prep: 09.06.19

LCSD Sample Id: 7685762-1-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	256	102	255	102	90-110	0	20	mg/kg	09.06.19 18:13	

Analytical Method: Chloride by EPA 300

Seq Number: 3100796

MB Sample Id: 7685763-1-BLK

Matrix: Solid

LCS Sample Id: 7685763-1-BKS

Prep Method: E300P

Date Prep: 09.06.19

LCSD Sample Id: 7685763-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5.53	250	255	102	258	103	90-110	1	20	mg/kg	09.06.19 19:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3100795

Parent Sample Id: 636033-002

Matrix: Soil

MS Sample Id: 636033-002 S

Prep Method: E300P

Date Prep: 09.06.19

MSD Sample Id: 636033-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	389	248	628	96	627	96	90-110	0	20	mg/kg	09.06.19 19:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3100795

Parent Sample Id: 636062-019

Matrix: Soil

MS Sample Id: 636062-019 S

Prep Method: E300P

Date Prep: 09.06.19

MSD Sample Id: 636062-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	463	250	706	97	704	96	90-110	0	20	mg/kg	09.06.19 18:31	

Analytical Method: Chloride by EPA 300

Seq Number: 3100796

Parent Sample Id: 636059-012

Matrix: Soil

MS Sample Id: 636059-012 S

Prep Method: E300P

Date Prep: 09.06.19

MSD Sample Id: 636059-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	146	503	683	107	682	107	90-110	0	20	mg/kg	09.06.19 19:55	

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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3100796

Parent Sample Id: 636072-006

Matrix: Soil

MS Sample Id: 636072-006 S

Prep Method: E300P

Date Prep: 09.06.19

MSD Sample Id: 636072-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	99.5	497	634	108	634	108	90-110	0	20	mg/kg	09.06.19 21:25	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100799

MB Sample Id: 7685727-1-BLK

Matrix: Solid

LCS Sample Id: 7685727-1-BKS

Prep Method: SW8015P

Date Prep: 09.06.19

LCSD Sample Id: 7685727-1-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	949	95	968	97	70-135	2	20	mg/kg	09.06.19 19:27	
Diesel Range Organics (DRO)	<25.0	1000	910	91	931	93	70-135	2	20	mg/kg	09.06.19 19:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		119		116		70-135	%	09.06.19 19:27
o-Terphenyl	99		100		100		70-135	%	09.06.19 19:27

Analytical Method: TPH by SW8015 Mod

Seq Number: 3100799

Parent Sample Id: 636059-001

Matrix: Soil

MS Sample Id: 636059-001 S

Prep Method: SW8015P

Date Prep: 09.06.19

MSD Sample Id: 636059-001 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	921	92	934	94	70-135	1	20	mg/kg	09.06.19 20:25	
Diesel Range Organics (DRO)	<24.9	997	892	89	903	91	70-135	1	20	mg/kg	09.06.19 20:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		121		70-135	%	09.06.19 20:25
o-Terphenyl	103		99		70-135	%	09.06.19 20:25

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

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

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.

PLU 423H Tank Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3100786

MB Sample Id: 7685715-1-BLK

Matrix: Solid

LCS Sample Id: 7685715-1-BKS

Prep Method: SW5030B

Date Prep: 09.06.19

LCSD Sample Id: 7685715-1-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	0.0909	91	0.0936	94	70-130	3	35	mg/kg	09.06.19 10:04	
Toluene	<0.00200	0.100	0.0884	88	0.0903	90	70-130	2	35	mg/kg	09.06.19 10:04	
Ethylbenzene	<0.00200	0.100	0.104	104	0.106	106	70-130	2	35	mg/kg	09.06.19 10:04	
m,p-Xylenes	<0.00400	0.200	0.207	104	0.214	107	70-130	3	35	mg/kg	09.06.19 10:04	
o-Xylene	<0.00200	0.100	0.101	101	0.104	104	70-130	3	35	mg/kg	09.06.19 10:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		92		97		70-130	%	09.06.19 10:04
4-Bromofluorobenzene	100		107		115		70-130	%	09.06.19 10:04

Analytical Method: BTEX by EPA 8021B

Seq Number: 3100786

Parent Sample Id: 636038-001

Matrix: Soil

MS Sample Id: 636038-001 S

Prep Method: SW5030B

Date Prep: 09.06.19

MSD Sample Id: 636038-001 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	0.0994	0.0742	75	0.0614	61	70-130	19	35	mg/kg	09.06.19 10:44	X
Toluene	<0.00199	0.0994	0.0624	63	0.0407	41	70-130	42	35	mg/kg	09.06.19 10:44	XF
Ethylbenzene	<0.00199	0.0994	0.0622	63	0.0361	36	70-130	53	35	mg/kg	09.06.19 10:44	XF
m,p-Xylenes	<0.00398	0.199	0.120	60	0.0872	44	70-130	32	35	mg/kg	09.06.19 10:44	X
o-Xylene	<0.00199	0.0994	0.0579	58	0.0466	47	70-130	22	35	mg/kg	09.06.19 10:44	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		110		70-130	%	09.06.19 10:44
4-Bromofluorobenzene	116		73		70-130	%	09.06.19 10:44

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: 1630089

Houston, TX (281) 240-4200 Dallas, TX (214) 962-0300 San Antonio, TX (210) 569-3304
 Midland, TX (432) 702-0440 El Paso, TX (915) 560-3443 Lubbock, TX (806) 794-1199
 Phoenix, AZ (480) 356-0900 Atlanta, GA (770) 443-8500 Tampa, FL (813) 420-2000 West Palm Beach, FL (561) 689-6701

WWW.XENONCO.COM Page 1 of 2

Project Manager:	Don Moir	Bill to: (if different)	Kyle Little
Company Name:	LI Environmental	Company Name:	XTO Energy
Address:	3500 North A St	Address:	3104 E. Greene St
City, State Zip:	Midland TX 79705	City, State Zip:	Odessa NM 88620
Phone:	(432) 286-3849	Email:	cybers@houston.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 ☐ ADAT ☐ Other:

Project Name:	PLU 4234 Tank Battery	Turn Amount:	XI
Project Number:	012917043	Facility:	
Project Location:	Edley County	Date Date:	
Sampler's Name:	Anna Byers		
PO #:	282-4466	Quote #:	

Temperature (°C):	3.10	Temp Blank:	☒ No	Well Cap:	☒ No
Received Inact:	☒ No	Thermometer ID:	F-NM-003		
Cooler Custody Status:	Yes ☒ No ☐	Correction Factor:	-0.2		
Sample Custody Status:	Yes ☒ No ☐	Total Containers:	12		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes
PH15	S	9/4/19	0955	1'	1	TPH (EPA 8015)		AsCH: Mo
PH15A				4'	1	BTEX (EPA 8021)		NiOX: NO
PH15B				1105	1	Chloride (EPA 300.0)		HNDS: HN
PH16				1237	3'			H2SO4: H2
PH16A				1310	9'			HCL: HL
PH16B				1325	12'			NiOX: Na
PH17				1337	1'			Zn Acetate: NiOX: Zn
PH17A				1345	4'			
PH17B				1440	16'			
SSC1A				1503	2'			

Total 200.7 / 6010 200.8 / 6020: RRCRA 13PFM Texas 11 A Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Sg Ag SiO2 Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed: TCLP / SPLP 6010: RRCRA: Sb As Ba Be Cd Cr Co Cu Fe 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 Xenonco, its affiliates and subsidiaries. It assigns standard terms and conditions of service. Xenonco 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 Xenonco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenonco, but not analyzed. These terms will be subject to our standard terms and conditions.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	[Signature]	09/05/19 8:00	[Signature]	[Signature]	09/05/19 10:40



Chain of Custody

Work Order No: u36059

Houston, TX (281) 340-4200 Dallas, TX (214) 502-0300 San Antonio, TX (210) 500-3334
 Midland, TX (432) 704-9440 El Paso, TX (915) 560-3443 Lubbock, TX (806) 794-3299 Chubbuck, NH (603) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 445-8000 Tampa, FL (813) 620-5000 West Palm Beach, FL (561) 689-0701

www.xencolabs.com Page 2 of 2

Project Manager:	Don Meir	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental	Company Name:	XTB
Address:	3500 North A St	Address:	3101 E. Greene St
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432-236-8849	Email:	alyers@xencolabs.com dlmair@xencolabs.com

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

Project Name:	PLU 4234 Tank Battery	Turn Amount		ANALYSIS REQUEST	Preservative Codes
Project Number:	012917043	Rolling	☒		
Project Location:	Fort Ledy Co.	Fluor:			
Sample's Name:	Anna Byers	Due Date:			
PO #:	282-446	Quote #:			

SAMPLE RECEIPT			
Temperature (°C):	Temp Blank:	Yes	No
Received intact:	Yes	No	
Cooler Custody Scale:	Yes	No	
Sample Custody Scale:	Yes	No	
Thermometer ID:	502 PGT 0096/15		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis
55065		S	9/4/19	1512	6'	1	TPH (EPA 8015)
55066		S	9/4/19	1550	16'	1	BTEX (EPA 8021)
							Chloride (EPA 8020)

Total 200.7 / 6010 200.8 / 6020: gRPCA 13PFA Texas 11 N Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Sr Ag SiO2 Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: gRPCA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

Notice: Signatures at this document and substantiation of samples constitutes a valid purchase order from client sampling to Xenco, its affiliates and subcontractors. It signifies standard terms and conditions of service. Samples will be held only for the use of sample 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 attached unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers		09/05/19 8:00			09/05/19 10:00



Inter-Office Shipment

Page 1 of 2

IOS Number **47504**

Date/Time: 09/05/19 13:22

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.: 776167105560

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
636059-001	S	PH15	09/04/19 09:55	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-001	S	PH15	09/04/19 09:55	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-002	S	PH15A	09/04/19 10:05	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-002	S	PH15A	09/04/19 10:05	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-003	S	PH15B	09/04/19 11:05	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-003	S	PH15B	09/04/19 11:05	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-004	S	PH16	09/04/19 12:37	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-004	S	PH16	09/04/19 12:37	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-005	S	PH16A	09/04/19 13:10	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-005	S	PH16A	09/04/19 13:10	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-006	S	PH16B	09/04/19 13:25	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-006	S	PH16B	09/04/19 13:25	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-007	S	PH17	09/04/19 13:37	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-007	S	PH17	09/04/19 13:37	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-008	S	PH17A	09/04/19 13:45	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-008	S	PH17A	09/04/19 13:45	SW8015MOD_NM	TPH by SW8015 Mod	09/11/19	09/18/19	JKR	GRO-DRO PHCC10C28 PF	
636059-008	S	PH17A	09/04/19 13:45	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-009	S	PH17B	09/04/19 14:40	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-009	S	PH17B	09/04/19 14:40	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-009	S	PH17B	09/04/19 14:40	SW8015MOD_NM	TPH by SW8015 Mod	09/11/19	09/18/19	JKR	GRO-DRO PHCC10C28 PF	
636059-010	S	SS06A	09/04/19 15:03	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-010	S	SS06A	09/04/19 15:03	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-010	S	SS06A	09/04/19 15:03	SW8015MOD_NM	TPH by SW8015 Mod	09/11/19	09/18/19	JKR	GRO-DRO PHCC10C28 PF	
636059-011	S	SS06B	09/04/19 15:12	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	
636059-011	S	SS06B	09/04/19 15:12	SW8015MOD_NM	TPH by SW8015 Mod	09/11/19	09/18/19	JKR	GRO-DRO PHCC10C28 PF	



Inter-Office Shipment

Page 2 of 2

IOS Number **47504**

Date/Time: 09/05/19 13:22

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.: 776167105560

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
636059-011	S	SS06B	09/04/19 15:12	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-012	S	SS06C	09/04/19 15:50	SW8015MOD_NM	TPH by SW8015 Mod	09/11/19	09/18/19	JKR	GRO-DRO PHCC10C28 PF	
636059-012	S	SS06C	09/04/19 15:50	E300_CL	Chloride by EPA 300	09/11/19	03/02/20	JKR	CL	
636059-012	S	SS06C	09/04/19 15:50	SW8021B	BTEX by EPA 8021B	09/11/19	09/18/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By:

Brianna Teel

Date Relinquished: 09/05/2019

Received By:

Brianna Teel

Date Received: 09/06/2019 11:12

Cooler Temperature: 2.1



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 47504

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 09/05/2019 01:22 PM

Received By: Brianna Teel

Date Received: 09/06/2019 11:12 AM

Sample Receipt Checklist

Comments

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 09/06/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/05/2019 10:40:00 AM

Work Order #: 636059

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes
#18 Water VOC samples have zero headspace?	N/A

BTEX Subbed To Xenco Midland.

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 09/05/2019

Checklist reviewed by:

Jessica Kramer

Date: 09/06/2019

Analytical Report 636326

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

12-SEP-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

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



12-SEP-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **636326**

PLU 423H Tank Battery

Project Address: Rural Eddy County

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) 636326. 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. 636326 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 636326****LT Environmental, Inc., Arvada, CO**

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH18	S	09-05-19 09:25	1 ft	636326-001
PH18A	S	09-05-19 09:45	8 ft	636326-002
PH18B	S	09-05-19 10:05	16 ft	636326-003
PH19	S	09-05-19 10:58	3 ft	636326-004
PH19A	S	09-05-19 11:45	16 ft	636326-005
PH20	S	09-05-19 13:20	1 ft	636326-006
PH20A	S	09-05-19 13:28	4 ft	636326-007
PH20B	S	09-05-19 14:20	16 ft	636326-008
PH21	S	09-05-19 15:05	1 ft	636326-009
PH21A	S	09-05-19 15:40	12 ft	636326-010

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU 423H Tank Battery**Project ID: 012917043
Work Order Number(s): 636326Report Date: 12-SEP-19
Date Received: 09/09/2019

Sample receipt non conformances and comments:None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3101027 BTEX by EPA 8021B

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

Lab Sample ID 636326-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).

Benzene recovered below QC limits in the Matrix Spike Duplicate. Ethylbenzene, Toluene, m,p-Xylenes,

o-Xylene recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.

Samples in the analytical batch are: 636326-001, -002, -003, -004, -005, -006, -007, -008, -009, -010.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 636326-001, -002, -003, -004, -005, -006, -007, -008, -009, -010

Certificate of Analysis Summary 636326



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Mon Sep-09-19 09:00 am

Report Date: 12-SEP-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	636326-001	636326-002	636326-003	636326-004	636326-005	636326-006
	<i>Field Id:</i>	PH18	PH18A	PH18B	PH19	PH19A	PH20
	<i>Depth:</i>	1- ft	8- ft	16- ft	3- ft	16- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-05-19 09:25	Sep-05-19 09:45	Sep-05-19 10:05	Sep-05-19 10:58	Sep-05-19 11:45	Sep-05-19 13:20
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Sep-10-19 11:15	Sep-10-19 11:15	Sep-10-19 11:15	Sep-10-19 11:15	Sep-10-19 11:15	Sep-10-19 11:15
	<i>Analyzed:</i>	** ** *	Sep-10-19 11:23	Sep-10-19 11:43	Sep-11-19 12:03	Sep-11-19 12:24	Sep-11-19 12:44
	<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	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00398 0.00398	<0.00399 0.00399	<0.00400 0.00400	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Sep-11-19 16:10	Sep-11-19 16:10	Sep-11-19 16:10	Sep-11-19 16:10	Sep-11-19 16:10	Sep-11-19 16:10
	<i>Analyzed:</i>	Sep-11-19 18:35	Sep-11-19 18:42	Sep-11-19 18:48	Sep-11-19 18:54	Sep-11-19 19:13	Sep-11-19 19:19
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8860 50.4	682 24.8	285 5.00	80.1 5.05	200 4.99	<4.96 4.96
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Sep-09-19 11:00	Sep-09-19 11:00	Sep-09-19 11:00	Sep-09-19 11:00	Sep-09-19 11:00	Sep-09-19 11:00
	<i>Analyzed:</i>	Sep-10-19 20:31	Sep-10-19 20:52	Sep-10-19 21:13	Sep-10-19 21:34	Sep-10-19 21:55	Sep-10-19 22:16
	<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)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
Total GRO-DRO		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
Total TPH		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0

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 636326



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043
Contact: Dan Moir
Project Location: Rural Eddy County

Date Received in Lab: Mon Sep-09-19 09:00 am
Report Date: 12-SEP-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	636326-007	636326-008	636326-009	636326-010		
	<i>Field Id:</i>	PH20A	PH20B	PH21	PH21A		
	<i>Depth:</i>	4- ft	16- ft	1- ft	12- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Sep-05-19 13:28	Sep-05-19 14:20	Sep-05-19 15:05	Sep-05-19 15:40		
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Sep-10-19 11:15	Sep-10-19 11:15	Sep-10-19 11:15	Sep-10-19 11:15		
	<i>Analyzed:</i>	Sep-11-19 01:04	Sep-11-19 01:24	Sep-11-19 01:44	Sep-11-19 02:04		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
m,p-Xylenes		<0.00402 0.00402	<0.00401 0.00401	<0.00399 0.00399	<0.00398 0.00398		
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Sep-11-19 16:10	Sep-11-19 16:10	Sep-11-19 16:10	Sep-11-19 16:10		
	<i>Analyzed:</i>	Sep-11-19 19:26	Sep-11-19 19:32	Sep-11-19 19:38	Sep-11-19 19:45		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		11.4 4.98	138 4.98	6.37 5.00	123 4.95		
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Sep-09-19 11:00	Sep-09-19 11:00	Sep-10-19 12:00	Sep-10-19 12:00		
	<i>Analyzed:</i>	Sep-10-19 22:37	Sep-10-19 22:58	Sep-11-19 08:06	Sep-11-19 08:27		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0		
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0		
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0		
Total GRO-DRO		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0		
Total TPH		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0		

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 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH18** Matrix: Soil Date Received: 09.09.19 09.00
 Lab Sample Id: 636326-001 Date Collected: 09.05.19 09.25 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 09.11.19 16.10 Basis: Wet Weight
 Seq Number: 3101194 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8860	50.4	mg/kg	09.11.19 18.35		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 09.09.19 11.00 Basis: Wet Weight
 Seq Number: 3101069 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.10.19 20.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.10.19 20.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.10.19 20.31	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.10.19 20.31	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.10.19 20.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	09.10.19 20.31	
o-Terphenyl	84-15-1	82	%	70-135	09.10.19 20.31	



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH18**
Lab Sample Id: 636326-001

Matrix: Soil
Date Collected: 09.05.19 09.25

Date Received: 09.09.19 09.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 09.10.19 11.15

Basis: Wet Weight

Seq Number: 3101027

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.10.19 11.03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.10.19 11.03	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.10.19 11.03	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.10.19 11.03	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.10.19 11.03	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.10.19 11.03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.10.19 11.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	09.10.19 11.03		
4-Bromofluorobenzene	460-00-4	114	%	70-130	09.10.19 11.03		



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH18A**
Lab Sample Id: 636326-002

Matrix: Soil
Date Collected: 09.05.19 09.45

Date Received: 09.09.19 09.00
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3101194

Date Prep: 09.11.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	682	24.8	mg/kg	09.11.19 18.42		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3101069

Date Prep: 09.09.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.10.19 20.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.10.19 20.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.10.19 20.52	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.10.19 20.52	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.10.19 20.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	09.10.19 20.52	
o-Terphenyl	84-15-1	77	%	70-135	09.10.19 20.52	



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH18A**
Lab Sample Id: 636326-002

Matrix: Soil
Date Collected: 09.05.19 09.45

Date Received: 09.09.19 09.00
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3101027

Prep Method: SW5030B

% Moisture:

Date Prep: 09.10.19 11.15

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.10.19 11.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.10.19 11.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.10.19 11.23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.10.19 11.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.10.19 11.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.10.19 11.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.10.19 11.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	09.10.19 11.23		
1,4-Difluorobenzene	540-36-3	111	%	70-130	09.10.19 11.23		



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH18B** Matrix: Soil Date Received: 09.09.19 09.00
 Lab Sample Id: 636326-003 Date Collected: 09.05.19 10.05 Sample Depth: 16 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 09.11.19 16.10 Basis: Wet Weight
 Seq Number: 3101194 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	285	5.00	mg/kg	09.11.19 18.48		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 09.09.19 11.00 Basis: Wet Weight
 Seq Number: 3101069 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.10.19 21.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.10.19 21.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.10.19 21.13	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.10.19 21.13	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.10.19 21.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	09.10.19 21.13	
o-Terphenyl	84-15-1	77	%	70-135	09.10.19 21.13	



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH18B**
Lab Sample Id: 636326-003

Matrix: Soil
Date Collected: 09.05.19 10.05

Date Received: 09.09.19 09.00
Sample Depth: 16 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3101027

Date Prep: 09.10.19 11.15

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.10.19 11.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.10.19 11.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.10.19 11.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.10.19 11.43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.10.19 11.43	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.10.19 11.43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.10.19 11.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	09.10.19 11.43		
1,4-Difluorobenzene	540-36-3	107	%	70-130	09.10.19 11.43		



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH19**
Lab Sample Id: 636326-004

Matrix: Soil
Date Collected: 09.05.19 10.58

Date Received: 09.09.19 09.00
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3101194

Date Prep: 09.11.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	80.1	5.05	mg/kg	09.11.19 18.54		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3101069

Date Prep: 09.09.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.10.19 21.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.10.19 21.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.10.19 21.34	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.10.19 21.34	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.10.19 21.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	09.10.19 21.34	
o-Terphenyl	84-15-1	77	%	70-135	09.10.19 21.34	



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH19**
Lab Sample Id: 636326-004

Matrix: Soil
Date Collected: 09.05.19 10.58

Date Received: 09.09.19 09.00
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 09.10.19 11.15

Basis: Wet Weight

Seq Number: 3101027

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.19 12.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.19 12.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.19 12.03	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.11.19 12.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.19 12.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.19 12.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.19 12.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	09.11.19 12.03		
1,4-Difluorobenzene	540-36-3	111	%	70-130	09.11.19 12.03		



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH19A**
Lab Sample Id: 636326-005

Matrix: Soil
Date Collected: 09.05.19 11.45

Date Received: 09.09.19 09.00
Sample Depth: 16 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3101194

Date Prep: 09.11.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	200	4.99	mg/kg	09.11.19 19.13		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3101069

Date Prep: 09.09.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.10.19 21.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.10.19 21.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.10.19 21.55	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.10.19 21.55	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.10.19 21.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	09.10.19 21.55	
o-Terphenyl	84-15-1	78	%	70-135	09.10.19 21.55	



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH19A**
Lab Sample Id: 636326-005

Matrix: Soil
Date Collected: 09.05.19 11.45

Date Received: 09.09.19 09.00
Sample Depth: 16 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 09.10.19 11.15

Basis: Wet Weight

Seq Number: 3101027

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.19 12.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.19 12.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.19 12.24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.11.19 12.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.19 12.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.19 12.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.19 12.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	09.11.19 12.24		
4-Bromofluorobenzene	460-00-4	110	%	70-130	09.11.19 12.24		



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH20**
Lab Sample Id: 636326-006

Matrix: Soil
Date Collected: 09.05.19 13.20

Date Received: 09.09.19 09.00
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3101194

Date Prep: 09.11.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	09.11.19 19.19	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3101069

Date Prep: 09.09.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.10.19 22.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.10.19 22.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.10.19 22.16	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.10.19 22.16	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.10.19 22.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	75	%	70-135	09.10.19 22.16	
o-Terphenyl	84-15-1	73	%	70-135	09.10.19 22.16	



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH20**
Lab Sample Id: 636326-006

Matrix: Soil
Date Collected: 09.05.19 13.20

Date Received: 09.09.19 09.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3101027

Prep Method: SW5030B

% Moisture:

Date Prep: 09.10.19 11.15

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.11.19 12.44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.11.19 12.44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.11.19 12.44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.11.19 12.44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.11.19 12.44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.11.19 12.44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.11.19 12.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	09.11.19 12.44		
4-Bromofluorobenzene	460-00-4	101	%	70-130	09.11.19 12.44		



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH20A** Matrix: Soil Date Received: 09.09.19 09.00
 Lab Sample Id: 636326-007 Date Collected: 09.05.19 13.28 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 09.11.19 16.10 Basis: Wet Weight
 Seq Number: 3101194 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.4	4.98	mg/kg	09.11.19 19.26		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 09.09.19 11.00 Basis: Wet Weight
 Seq Number: 3101069 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.10.19 22.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.10.19 22.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.10.19 22.37	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.10.19 22.37	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.10.19 22.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	09.10.19 22.37	
o-Terphenyl	84-15-1	84	%	70-135	09.10.19 22.37	



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH20A**
Lab Sample Id: 636326-007

Matrix: Soil
Date Collected: 09.05.19 13.28

Date Received: 09.09.19 09.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3101027

Prep Method: SW5030B

% Moisture:

Date Prep: 09.10.19 11.15

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.11.19 01.04	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.11.19 01.04	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.11.19 01.04	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.11.19 01.04	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.11.19 01.04	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.11.19 01.04	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.11.19 01.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	09.11.19 01.04		
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.11.19 01.04		



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH20B**
Lab Sample Id: 636326-008

Matrix: Soil
Date Collected: 09.05.19 14.20

Date Received: 09.09.19 09.00
Sample Depth: 16 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3101194

Date Prep: 09.11.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	138	4.98	mg/kg	09.11.19 19.32		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3101069

Date Prep: 09.09.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.10.19 22.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.10.19 22.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.10.19 22.58	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.10.19 22.58	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.10.19 22.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	09.10.19 22.58	
o-Terphenyl	84-15-1	76	%	70-135	09.10.19 22.58	



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH20B**
Lab Sample Id: 636326-008

Matrix: Soil
Date Collected: 09.05.19 14.20

Date Received: 09.09.19 09.00
Sample Depth: 16 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3101027

Prep Method: SW5030B

% Moisture:

Date Prep: 09.10.19 11.15

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.19 01.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.19 01.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.19 01.24	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.11.19 01.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.19 01.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.19 01.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.19 01.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	09.11.19 01.24		
4-Bromofluorobenzene	460-00-4	85	%	70-130	09.11.19 01.24		



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH21**
Lab Sample Id: 636326-009

Matrix: Soil
Date Collected: 09.05.19 15.05

Date Received: 09.09.19 09.00
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3101194

Date Prep: 09.11.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.37	5.00	mg/kg	09.11.19 19.38		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3101077

Date Prep: 09.10.19 12.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.11.19 08.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.11.19 08.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.11.19 08.06	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.11.19 08.06	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.11.19 08.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	09.11.19 08.06	
o-Terphenyl	84-15-1	90	%	70-135	09.11.19 08.06	



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH21**
Lab Sample Id: 636326-009

Matrix: Soil
Date Collected: 09.05.19 15.05

Date Received: 09.09.19 09.00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 09.10.19 11.15

Basis: Wet Weight

Seq Number: 3101027

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.19 01.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.19 01.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.19 01.44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.11.19 01.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.19 01.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.19 01.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.19 01.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	09.11.19 01.44		
1,4-Difluorobenzene	540-36-3	108	%	70-130	09.11.19 01.44		



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH21A**
Lab Sample Id: 636326-010

Matrix: Soil
Date Collected: 09.05.19 15.40

Date Received: 09.09.19 09.00
Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3101194

Date Prep: 09.11.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	123	4.95	mg/kg	09.11.19 19.45		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3101077

Date Prep: 09.10.19 12.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.11.19 08.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.11.19 08.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.11.19 08.27	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.11.19 08.27	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.11.19 08.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	09.11.19 08.27	
o-Terphenyl	84-15-1	82	%	70-135	09.11.19 08.27	



Certificate of Analytical Results 636326

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH21A**
Lab Sample Id: 636326-010

Matrix: Soil
Date Collected: 09.05.19 15.40

Date Received: 09.09.19 09.00
Sample Depth: 12 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3101027

Prep Method: SW5030B

% Moisture:

Date Prep: 09.10.19 11.15

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.11.19 02.04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.11.19 02.04	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.11.19 02.04	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.11.19 02.04	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.11.19 02.04	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.11.19 02.04	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.11.19 02.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	09.11.19 02.04		
1,4-Difluorobenzene	540-36-3	108	%	70-130	09.11.19 02.04		



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3101194

MB Sample Id: 7685997-1-BLK

Matrix: Solid

LCS Sample Id: 7685997-1-BKS

Prep Method: E300P

Date Prep: 09.11.19

LCSD Sample Id: 7685997-1-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	253	101	253	101	90-110	0	20	mg/kg	09.11.19 18:04	

Analytical Method: Chloride by EPA 300

Seq Number: 3101194

Parent Sample Id: 636324-014

Matrix: Soil

MS Sample Id: 636324-014 S

Prep Method: E300P

Date Prep: 09.11.19

MSD Sample Id: 636324-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.95	250	247	97	246	97	90-110	0	20	mg/kg	09.11.19 18:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3101194

Parent Sample Id: 636326-010

Matrix: Soil

MS Sample Id: 636326-010 S

Prep Method: E300P

Date Prep: 09.11.19

MSD Sample Id: 636326-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	123	248	366	98	365	98	90-110	0	20	mg/kg	09.11.19 19:51	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3101069

MB Sample Id: 7685787-1-BLK

Matrix: Solid

LCS Sample Id: 7685787-1-BKS

Prep Method: SW8015P

Date Prep: 09.09.19

LCSD Sample Id: 7685787-1-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	889	89	862	86	70-135	3	20	mg/kg	09.10.19 14:28	
Diesel Range Organics (DRO)	<25.0	1000	882	88	885	89	70-135	0	20	mg/kg	09.10.19 14:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		90		91		70-135	%	09.10.19 14:28
o-Terphenyl	95		89		93		70-135	%	09.10.19 14:28

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3101077

MB Sample Id: 7685875-1-BLK

Matrix: Solid

LCS Sample Id: 7685875-1-BKS

Prep Method: SW8015P

Date Prep: 09.10.19

LCSD Sample Id: 7685875-1-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	906	91	855	86	70-135	6	20	mg/kg	09.11.19 00:00	
Diesel Range Organics (DRO)	<25.0	1000	983	98	842	84	70-135	15	20	mg/kg	09.11.19 00:00	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	84		100		87		70-135	%	09.11.19 00:00			
o-Terphenyl	87		103		88		70-135	%	09.11.19 00:00			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3101069

Parent Sample Id: 636262-001

Matrix: Soil

MS Sample Id: 636262-001 S

Prep Method: SW8015P

Date Prep: 09.09.19

MSD Sample Id: 636262-001 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)	17.2	996	850	84	870	85	70-135	2	20	mg/kg	09.10.19 15:32	
Diesel Range Organics (DRO)	<24.9	996	853	86	835	84	70-135	2	20	mg/kg	09.10.19 15:32	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			83		82		70-135	%	09.10.19 15:32			
o-Terphenyl			86		81		70-135	%	09.10.19 15:32			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3101077

Parent Sample Id: 636321-001

Matrix: Soil

MS Sample Id: 636321-001 S

Prep Method: SW8015P

Date Prep: 09.10.19

MSD Sample Id: 636321-001 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	901	90	833	84	70-135	8	20	mg/kg	09.11.19 01:04	
Diesel Range Organics (DRO)	<24.9	997	977	98	901	90	70-135	8	20	mg/kg	09.11.19 01:04	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			99		92		70-135	%	09.11.19 01:04			
o-Terphenyl			99		98		70-135	%	09.11.19 01:04			

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.

PLU 423H Tank Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3101027

MB Sample Id: 7685877-1-BLK

Matrix: Solid

LCS Sample Id: 7685877-1-BKS

Prep Method: SW5030B

Date Prep: 09.10.19

LCSD Sample Id: 7685877-1-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	0.0887	89	0.0957	96	70-130	8	35	mg/kg	09.10.19 09:55	
Toluene	<0.00200	0.100	0.0918	92	0.0995	100	70-130	8	35	mg/kg	09.10.19 09:55	
Ethylbenzene	<0.00200	0.100	0.107	107	0.115	115	70-130	7	35	mg/kg	09.10.19 09:55	
m,p-Xylenes	<0.00400	0.200	0.221	111	0.234	117	70-130	6	35	mg/kg	09.10.19 09:55	
o-Xylene	<0.00200	0.100	0.107	107	0.115	115	70-130	7	35	mg/kg	09.10.19 09:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		93		101		70-130	%	09.10.19 09:55
4-Bromofluorobenzene	95		110		119		70-130	%	09.10.19 09:55

Analytical Method: BTEX by EPA 8021B

Seq Number: 3101027

Parent Sample Id: 636326-001

Matrix: Soil

MS Sample Id: 636326-001 S

Prep Method: SW5030B

Date Prep: 09.10.19

MSD Sample Id: 636326-001 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	0.133	133	0.0654	66	70-130	68	35	mg/kg	09.10.19 11:41	XF
Toluene	<0.00200	0.100	0.138	138	0.0703	71	70-130	65	35	mg/kg	09.10.19 11:41	XF
Ethylbenzene	<0.00200	0.100	0.163	163	0.0823	83	70-130	66	35	mg/kg	09.10.19 11:41	XF
m,p-Xylenes	<0.00401	0.200	0.337	169	0.169	85	70-130	66	35	mg/kg	09.10.19 11:41	XF
o-Xylene	<0.00200	0.100	0.156	156	0.0800	81	70-130	64	35	mg/kg	09.10.19 11:41	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		102		70-130	%	09.10.19 11:41
4-Bromofluorobenzene	124		118		70-130	%	09.10.19 11:41

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



Chain of Custody

Work Order No: LC30321e

Houston, TX (281) 240-4200 Dallas, TX (214) 802-0200 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1256 Carrollton, NM (432) 704-5440
 Phoenix, AZ (480) 365-0200 Atlanta, GA (770) 440-0500 Tempe, AZ (480) 600-2000 West Palm Beach, FL (561) 889-6701

WWW.XENCO.COM

Page 1 of 1

Project Manager: <u>Don Moir</u>		Bill to: (if different)	
Company Name: <u>LE Environmental</u>	Company Name: <u>Kyle Little</u>	Program: ☐ UST/ST ☐ PRP ☐ Brownfields ☐ RCRC ☐ Superfund ☐	
Address: <u>3300 North 45th</u>	Address: <u>3104 E. Greene St</u>	State of Project: ☐ Level II ☐ Level III ☐ PRP/UST ☐ TRRP ☐ Level IV ☐	
City, State ZIP: <u>Midland TX 79705</u>	City, State ZIP: <u>Carlsbad NM 88220</u>	Reporting Level II ☐ Level III ☐ PRP/UST ☐ TRRP ☐ Level IV ☐	
Phone: <u>432 236 8949</u>	Email: <u>abyers@leonardandmorell.com</u>	Deliverables: EDO ☐ ADAPT ☐ Other: ☐	

Project Name: <u>PLU 4234 Tank Battery</u>	Turn Around	ANALYSIS REQUEST	Preservative Codes
Project Number: <u>012917043</u>	Routing: ☒		
Project Location: <u>Rural Eddy County</u>	Routing: ☐		
Sample Name: <u>Anna Byers</u>	Routing: ☐		
PO #: <u>280-4466</u>	Quote #:		

SAMPLE RECEIPT		Temp Blank: ☒ No ☐ Yes	Wet Ice: ☒ No ☐ Yes
Temperature (°C): <u>5.8</u>	Received Intact: ☒ No ☐ Yes	Thermometer ID: <u>T-NM-007</u>	
Cooler Custody Seal: <u>Yes</u>	Cooler Custody Seal: <u>No</u>	Correction Factor: <u>-0.2</u>	
Sample Custody Seal: <u>Yes</u>	Sample Custody Seal: <u>No</u>	Total Containers: <u>10</u>	

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 801.5)	BTEX (EPA 802.1)	Chloride (EPA 800.0)	Preservative Codes	Sample Comments
PH18		5	9/5/19	0925	1'	1					
PH18A				0945	8'	1					
PH18B				1005	16'	1					
PH19				1058	3'	1					
PH19A				1145	16'	1					
PH20				1320	1'	1					
PH20A				1328	4'	1					
PH20B				1420	16'	1					
PH21				1505	1'	1					
PH21A				1546	12'	1					

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

Notice: Signatures 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 per each sample submitted to Xenco, but not analyzed. These terms will be reduced unless previously negotiated.

Relinquished by: (Signature) <u>Anna Byers</u>	Received by: (Signature) <u>[Signature]</u>	Date/Time: <u>09/04/19 9:00</u>	Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature) <u>[Signature]</u>	Date/Time: <u>09/04/19 9:00</u>
--	---	---------------------------------	---	---	---------------------------------



Inter-Office Shipment

Page 1 of 2

IOS Number **47653**

Date/Time: 09/09/19 12:06

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.:

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
636326-001	S	PH18	09/05/19 09:25	SW8021B	BTEX by EPA 8021B	09/13/19	09/19/19	JKR	BR4FBZ BZ BZME EBZ X	
636326-001	S	PH18	09/05/19 09:25	SW8015MOD_NM	TPH by SW8015 Mod	09/13/19	09/19/19	JKR	GRO-DRO PHCC10C28 PF	
636326-001	S	PH18	09/05/19 09:25	E300_CL	Chloride by EPA 300	09/13/19	03/03/20	JKR	CL	
636326-002	S	PH18A	09/05/19 09:45	SW8021B	BTEX by EPA 8021B	09/13/19	09/19/19	JKR	BR4FBZ BZ BZME EBZ X	
636326-002	S	PH18A	09/05/19 09:45	E300_CL	Chloride by EPA 300	09/13/19	03/03/20	JKR	CL	
636326-002	S	PH18A	09/05/19 09:45	SW8015MOD_NM	TPH by SW8015 Mod	09/13/19	09/19/19	JKR	GRO-DRO PHCC10C28 PF	
636326-003	S	PH18B	09/05/19 10:05	SW8021B	BTEX by EPA 8021B	09/13/19	09/19/19	JKR	BR4FBZ BZ BZME EBZ X	
636326-003	S	PH18B	09/05/19 10:05	E300_CL	Chloride by EPA 300	09/13/19	03/03/20	JKR	CL	
636326-003	S	PH18B	09/05/19 10:05	SW8015MOD_NM	TPH by SW8015 Mod	09/13/19	09/19/19	JKR	GRO-DRO PHCC10C28 PF	
636326-004	S	PH19	09/05/19 10:58	SW8021B	BTEX by EPA 8021B	09/13/19	09/19/19	JKR	BR4FBZ BZ BZME EBZ X	
636326-004	S	PH19	09/05/19 10:58	SW8015MOD_NM	TPH by SW8015 Mod	09/13/19	09/19/19	JKR	GRO-DRO PHCC10C28 PF	
636326-004	S	PH19	09/05/19 10:58	E300_CL	Chloride by EPA 300	09/13/19	03/03/20	JKR	CL	
636326-005	S	PH19A	09/05/19 11:45	SW8021B	BTEX by EPA 8021B	09/13/19	09/19/19	JKR	BR4FBZ BZ BZME EBZ X	
636326-005	S	PH19A	09/05/19 11:45	SW8015MOD_NM	TPH by SW8015 Mod	09/13/19	09/19/19	JKR	GRO-DRO PHCC10C28 PF	
636326-005	S	PH19A	09/05/19 11:45	E300_CL	Chloride by EPA 300	09/13/19	03/03/20	JKR	CL	
636326-006	S	PH20	09/05/19 13:20	SW8021B	BTEX by EPA 8021B	09/13/19	09/19/19	JKR	BR4FBZ BZ BZME EBZ X	
636326-006	S	PH20	09/05/19 13:20	E300_CL	Chloride by EPA 300	09/13/19	03/03/20	JKR	CL	
636326-006	S	PH20	09/05/19 13:20	SW8015MOD_NM	TPH by SW8015 Mod	09/13/19	09/19/19	JKR	GRO-DRO PHCC10C28 PF	
636326-007	S	PH20A	09/05/19 13:28	SW8021B	BTEX by EPA 8021B	09/13/19	09/19/19	JKR	BR4FBZ BZ BZME EBZ X	
636326-007	S	PH20A	09/05/19 13:28	E300_CL	Chloride by EPA 300	09/13/19	03/03/20	JKR	CL	
636326-007	S	PH20A	09/05/19 13:28	SW8015MOD_NM	TPH by SW8015 Mod	09/13/19	09/19/19	JKR	GRO-DRO PHCC10C28 PF	
636326-008	S	PH20B	09/05/19 14:20	E300_CL	Chloride by EPA 300	09/13/19	03/03/20	JKR	CL	
636326-008	S	PH20B	09/05/19 14:20	SW8021B	BTEX by EPA 8021B	09/13/19	09/19/19	JKR	BR4FBZ BZ BZME EBZ X	
636326-008	S	PH20B	09/05/19 14:20	SW8015MOD_NM	TPH by SW8015 Mod	09/13/19	09/19/19	JKR	GRO-DRO PHCC10C28 PF	
636326-009	S	PH21	09/05/19 15:05	SW8015MOD_NM	TPH by SW8015 Mod	09/13/19	09/19/19	JKR	GRO-DRO PHCC10C28 PF	



Inter-Office Shipment

Page 2 of 2

IOS Number **47653**

Date/Time: 09/09/19 12:06

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.:

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
636326-009	S	PH21	09/05/19 15:05	E300_CL	Chloride by EPA 300	09/13/19	03/03/20	JKR	CL	
636326-009	S	PH21	09/05/19 15:05	SW8021B	BTEX by EPA 8021B	09/13/19	09/19/19	JKR	BR4FBZ BZ BZME EBZ X	
636326-010	S	PH21A	09/05/19 15:40	SW8021B	BTEX by EPA 8021B	09/13/19	09/19/19	JKR	BR4FBZ BZ BZME EBZ X	
636326-010	S	PH21A	09/05/19 15:40	E300_CL	Chloride by EPA 300	09/13/19	03/03/20	JKR	CL	
636326-010	S	PH21A	09/05/19 15:40	SW8015MOD_NM	TPH by SW8015 Mod	09/13/19	09/19/19	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 09/09/2019

Received By:

Brianna Teel

Date Received: 09/10/2019 10:52

Cooler Temperature: 0.6



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 47653

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 09/09/2019 12:06 PM

Received By: Brianna Teel

Date Received: 09/10/2019 10:52 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.6
#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: 09/10/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

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

Work Order #: 636326

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)?	5.8	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	Yes	Subbed to Xenco Midland.
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 09/09/2019

Checklist reviewed by:

Jessica Kramer

Date: 09/09/2019

Analytical Report 636552

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423 H Tank Battery

012917043

16-SEP-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

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



16-SEP-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **636552**

PLU 423 H Tank Battery

Project Address: Rural Eddy County

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) 636552. 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. 636552 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 636552

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS32	S	09-10-19 09:45	6 ft	636552-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423 H Tank Battery

Project ID: 012917043

Work Order Number(s): 636552

Report Date: 16-SEP-19

Date Received: 09/11/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3101384 BTEX by EPA 8021B

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

Certificate of Analysis Summary 636552



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Wed Sep-11-19 10:55 am

Report Date: 16-SEP-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	636552-001					
	Field Id:	FS32					
	Depth:	6- ft					
	Matrix:	SOIL					
	Sampled:	Sep-10-19 09:45					
BTEX by EPA 8021B	Extracted:	Sep-11-19 12:00					
	Analyzed:	Sep-11-19 20:41					
	Units/RL:	mg/kg RL					
	Benzene	<0.00101 0.00101					
	Toluene	<0.00101 0.00101					
	Ethylbenzene	<0.00101 0.00101					
	m,p-Xylenes	<0.00202 0.00202					
	o-Xylene	<0.00101 0.00101					
	Total Xylenes	<0.00101 0.00101					
	Total BTEX	<0.00101 0.00101					
Chloride by EPA 300	Extracted:	Sep-11-19 12:50					
	Analyzed:	Sep-11-19 17:24					
	Units/RL:	mg/kg RL					
	Chloride	185 D 19.9					
TPH by SW8015 Mod	Extracted:	Sep-11-19 16:30					
	Analyzed:	Sep-12-19 03:03					
	Units/RL:	mg/kg RL					
	Gasoline Range Hydrocarbons (GRO)	<25.1 25.1					
	Diesel Range Organics (DRO)	<25.1 25.1					
	Motor Oil Range Hydrocarbons (MRO)	<25.1 25.1					
	Total GRO-DRO	<25.1 25.1					
	Total TPH	<25.1 25.1					

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 636552

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS32**
Lab Sample Id: 636552-001

Matrix: Soil
Date Collected: 09.10.19 09.45

Date Received: 09.11.19 10.55
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101247

Date Prep: 09.11.19 12.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	185	19.9	mg/kg	09.12.19 16.19	D	2

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101292

Date Prep: 09.11.19 16.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.12.19 03.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.12.19 03.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.12.19 03.03	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.12.19 03.03	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.12.19 03.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	09.12.19 03.03	
o-Terphenyl	84-15-1	70	%	70-135	09.12.19 03.03	



Certificate of Analytical Results 636552

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS32**
Lab Sample Id: 636552-001

Matrix: Soil
Date Collected: 09.10.19 09.45

Date Received: 09.11.19 10.55
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DTH

% Moisture:

Analyst: DTH

Date Prep: 09.11.19 12.00

Basis: Wet Weight

Seq Number: 3101384

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	09.11.19 20.41	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	09.11.19 20.41	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	09.11.19 20.41	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	09.11.19 20.41	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	09.11.19 20.41	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	09.11.19 20.41	U	1
Total BTEX		<0.00101	0.00101	mg/kg	09.11.19 20.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	09.11.19 20.41		
1,4-Difluorobenzene	540-36-3	111	%	70-130	09.11.19 20.41		



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.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3101247

MB Sample Id: 7685933-1-BLK

Matrix: Solid

LCS Sample Id: 7685933-1-BKS

Prep Method: E300P

Date Prep: 09.11.19

LCSD Sample Id: 7685933-1-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	256	102	255	102	90-110	0	20	mg/kg	09.11.19 09:33	

Analytical Method: Chloride by EPA 300

Seq Number: 3101247

Parent Sample Id: 636504-001

Matrix: Soil

MS Sample Id: 636504-001 S

Prep Method: E300P

Date Prep: 09.11.19

MSD Sample Id: 636504-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19000	3990	22200	80	22200	80	90-110	0	20	mg/kg	09.11.19 13:07	X

Analytical Method: Chloride by EPA 300

Seq Number: 3101247

Parent Sample Id: 636508-003

Matrix: Solid

MS Sample Id: 636508-003 S

Prep Method: E300P

Date Prep: 09.11.19

MSD Sample Id: 636508-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.6	200	219	104	236	112	90-110	7	20	mg/kg	09.11.19 15:01	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3101292

MB Sample Id: 7686107-1-BLK

Matrix: Solid

LCS Sample Id: 7686107-1-BKS

Prep Method: SW8015P

Date Prep: 09.11.19

LCSD Sample Id: 7686107-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<9.88	1000	907	91	912	91	70-135	1	35	mg/kg	09.11.19 21:56	
Diesel Range Organics (DRO)	<9.88	1000	845	85	870	87	70-135	3	35	mg/kg	09.11.19 21:56	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		128		127		70-135	%	09.11.19 21:56
o-Terphenyl	124		117		122		70-135	%	09.11.19 21:56

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.

PLU 423 H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3101292

Parent Sample Id: 636556-009

Matrix: Soil

MS Sample Id: 636556-009 S

Prep Method: SW8015P

Date Prep: 09.11.19

MSD Sample Id: 636556-009 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)	<9.92	1000	937	94	899	90	70-135	4	35	mg/kg	09.11.19 22:58	
Diesel Range Organics (DRO)	<9.92	1000	885	89	841	85	70-135	5	35	mg/kg	09.11.19 22:58	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	130		129		70-135	%	09.11.19 22:58
o-Terphenyl	123		114		70-135	%	09.11.19 22:58

Analytical Method: BTEX by EPA 8021B

Seq Number: 3101384

MB Sample Id: 7686177-1-BLK

Matrix: Solid

LCS Sample Id: 7686177-1-BKS

Prep Method: SW5030B

Date Prep: 09.11.19

LCSD Sample Id: 7686177-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0871	87	0.0876	88	70-130	1	35	mg/kg	09.11.19 11:28	
Toluene	<0.00100	0.100	0.0887	89	0.0877	88	70-130	1	35	mg/kg	09.11.19 11:28	
Ethylbenzene	<0.00100	0.100	0.108	108	0.109	109	71-129	1	35	mg/kg	09.11.19 11:28	
m,p-Xylenes	<0.00200	0.200	0.225	113	0.225	113	70-135	0	35	mg/kg	09.11.19 11:28	
o-Xylene	<0.00100	0.100	0.112	112	0.114	114	71-133	2	35	mg/kg	09.11.19 11:28	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		104		99		70-130	%	09.11.19 11:28
4-Bromofluorobenzene	100		119		113		70-130	%	09.11.19 11:28

Analytical Method: BTEX by EPA 8021B

Seq Number: 3101384

Parent Sample Id: 636506-002

Matrix: Soil

MS Sample Id: 636506-002 S

Prep Method: SW5030B

Date Prep: 09.11.19

MSD Sample Id: 636506-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0866	86	0.0853	84	70-130	2	35	mg/kg	09.11.19 13:46	
Toluene	<0.00101	0.101	0.0828	82	0.0863	85	70-130	4	35	mg/kg	09.11.19 13:46	
Ethylbenzene	<0.00101	0.101	0.0987	98	0.0882	87	71-129	11	35	mg/kg	09.11.19 13:46	
m,p-Xylenes	<0.00101	0.202	0.202	100	0.180	90	70-135	12	35	mg/kg	09.11.19 13:46	
o-Xylene	<0.00101	0.101	0.104	103	0.0924	91	71-133	12	35	mg/kg	09.11.19 13:46	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		113		70-130	%	09.11.19 13:46
4-Bromofluorobenzene	124		125		70-130	%	09.11.19 13:46

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: 1234567

Hudson, TX (281) 240-4200 Dallas, TX (972) 922-0300 San Antonio, TX (210) 606-0334
Midland, TX (432) 704-5640 El Paso, TX (915) 555-3443 Lubbock, TX (806) 754-1298 Crawford, NM (432) 704-5640
Phoenix, AZ (480) 385-1000 Atlanta, GA (770) 444-0000 Tampa, FL (813) 820-1000 West Palm Beach, FL (561) 409-07

www.williams.com

Page 2

Project Manager	Pan Mar	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88520
Phone	432 230 3814	Email:	obyes@ltem.com; dmair@ltem.com
Project Name:	PLU 412-4 To 4-8-2008		

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

ANALYSIS REQUEST										Preservative Codes	
Project Number:		012917043		Region:		☐		Turn Around		MnO ₂ , Me	
Project Location:		Rural Eddy County		Fruit:		5 day				MnO ₂ , H ₂	
Sampler's Name:		Anna Byers		Date Date:						H ₂ SO ₄ , H ₂	
PO #:		2EP-444		Quote #:						HCl - HL	
SAMPLE RECEIPT				Temp Blank:		☒ Yes ☐ No		Water Rec:		☒ Yes ☐ No	
Temperature (°C):		1.6		Thermometer ID:		TNM007					
Revised Inlet:		☒ Yes ☐ No		Correction Factor:		-0.2					
Cooler Custody Status:		☒ Yes ☐ No		Total Containers:		1					
Sample Custody Status:		☒ Yes ☐ No									
Sample Identification		Matrix:		Date Sampled		Time Sampled		Depth:		Number of Containers	
FS32		S		9/10/19		0945		6'		1	
TPH (EPA 8015) BTEX (EPA 8021) Chloride (EPA 300.0)											
TAT starts 240 days initiated by the lab, if received by 4:00pm											
Sample Comments											

Total 200.7 / 6010 200.8 / 6020:
Circle Method(s) and Metal(s) to be analyzed

BRORA 13pPM Texas 11 A Sb As Ba Bi B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K S Se Ag SiO₂ Na Sr Ti Sn U V Zn
 TGLP / SPLP 6010 BRORA Sb As Ba Bi B Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
 1631 / 245.1 / 7470 / 7471 Hg

the requirements of this document, and misrepresentation of samples constitutes a valid purchase order from client organization to Xacton, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xacton 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 Xacton. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xacton, but not analyzed. Travel fees will be enforced unless previously negotiated.

Reinquished by: (Signature)

Received by: Signature

Date/Time

Relinquished by: (Signature)

Reproduced by permission of the publisher.

Copyright Clearance Center, Inc.

June 1963

[Signature]

09/11/2019 10:25

[Signature]

[Signature]

09/11/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/11/2019 10:55:00 AM

Work Order #: 636552

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)?	1.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 09/11/2019

Checklist reviewed by:

Jessica Kramer

Date: 09/12/2019

Analytical Report 636893

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

16-SEP-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

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



16-SEP-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **636893**

PLU 423H Tank Battery

Project Address: Rural Eddy County

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) 636893. 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. 636893 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 636893****LT Environmental, Inc., Arvada, CO**

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS33	S	09-11-19 11:00	8.5 - 10 ft	636893-001
FS34	S	09-11-19 12:47	8.5 - 10 ft	636893-002
FS35	S	09-11-19 14:10	8.5 - 10 ft	636893-003
FS36	S	09-12-19 10:30	8.5 - 10.5 ft	636893-004
FS37	S	09-12-19 12:25	8 - 10 ft	636893-005
SW13	S	09-11-19 09:30	0.5 - 8 ft	636893-006
SW14	S	09-12-19 13:15	0.5 - 9 ft	636893-007
FS15A	S	09-12-19 08:45	10 - 14.5 ft	636893-008
FS16A	S	09-12-19 08:50	10 - 14 ft	636893-009



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043
Work Order Number(s): 636893

Report Date: 16-SEP-19
Date Received: 09/13/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3101467 BTEX by EPA 8021B

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

Batch: LBA-3101493 Chloride by EPA 300

Lab Sample ID 636893-001 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: 636893-001, -002, -003, -004, -005, -006, -007, -008, -009.

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

Batch: LBA-3101533 BTEX by EPA 8021B

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

Certificate of Analysis Summary 636893



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Fri Sep-13-19 02:53 pm

Report Date: 16-SEP-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	636893-001	636893-002	636893-003	636893-004	636893-005	636893-006
	Field Id:	FS33	FS34	FS35	FS36	FS37	SW13
	Depth:	8.5-10 ft	8.5-10 ft	8.5-10 ft	8.5-10.5 ft	8-10 ft	0.5-8 ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Sep-11-19 11:00	Sep-11-19 12:47	Sep-11-19 14:10	Sep-12-19 10:30	Sep-12-19 12:25	Sep-11-19 09:30
BTEX by EPA 8021B	Extracted:	Sep-14-19 15:09	Sep-13-19 15:00	Sep-13-19 15:00	Sep-13-19 15:00	Sep-13-19 15:00	Sep-14-19 15:09
	Analyzed:	Sep-14-19 18:26	Sep-13-19 20:52	Sep-13-19 21:12	Sep-13-19 21:32	Sep-13-19 21:52	Sep-14-19 20:05
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996
Toluene		<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996
Ethylbenzene		<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996
m,p-Xylenes		<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
o-Xylene		<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996
Total Xylenes		<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996
Total BTEX		<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996
Chloride by EPA 300	Extracted:	Sep-13-19 16:09	Sep-13-19 16:09	Sep-13-19 16:09	Sep-13-19 16:09	Sep-13-19 16:09	Sep-13-19 16:09
	Analyzed:	Sep-13-19 20:43	Sep-13-19 21:02	Sep-13-19 21:09	Sep-13-19 21:15	Sep-13-19 21:22	Sep-13-19 21:41
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		199 49.8	170 99.2	376 99.4	210 99.8	213 98.8	401 196
TPH by SW8015 Mod	Extracted:	Sep-13-19 16:00	Sep-13-19 16:00	Sep-13-19 16:00	Sep-13-19 16:00	Sep-13-19 16:00	Sep-13-19 16:00
	Analyzed:	Sep-13-19 20:32	Sep-13-19 20:52	Sep-13-19 21:13	Sep-13-19 21:54	Sep-13-19 22:15	Sep-13-19 22:36
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1
Diesel Range Organics (DRO)		<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	97.6 25.1
Motor Oil Range Hydrocarbons (MRO)		<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1
Total GRO-DRO		<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	97.6 25.1
Total TPH		<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	97.6 25.1

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 636893



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043
Contact: Dan Moir
Project Location: Rural Eddy County

Date Received in Lab: Fri Sep-13-19 02:53 pm
Report Date: 16-SEP-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	636893-007	636893-008	636893-009			
	<i>Field Id:</i>	SW14	FS15A	FS16A			
	<i>Depth:</i>	0.5-9 ft	10-14.5 ft	10-14 ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Sep-12-19 13:15	Sep-12-19 08:45	Sep-12-19 08:50			
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-13-19 15:00	Sep-13-19 15:00	Sep-14-19 15:09			
	<i>Analyzed:</i>	Sep-13-19 22:12	Sep-13-19 22:32	Sep-14-19 19:45			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00100 0.00100	<0.00101 0.00101	<0.000996 0.000996			
Toluene		<0.00100 0.00100	<0.00101 0.00101	<0.000996 0.000996			
Ethylbenzene		<0.00100 0.00100	<0.00101 0.00101	<0.000996 0.000996			
m,p-Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199			
o-Xylene		<0.00100 0.00100	<0.00101 0.00101	<0.000996 0.000996			
Total Xylenes		<0.00100 0.00100	<0.00101 0.00101	<0.000996 0.000996			
Total BTEX		<0.00100 0.00100	<0.00101 0.00101	<0.000996 0.000996			
Chloride by EPA 300	<i>Extracted:</i>	Sep-13-19 16:09	Sep-13-19 16:09	Sep-13-19 16:09			
	<i>Analyzed:</i>	Sep-13-19 21:48	Sep-13-19 21:54	Sep-13-19 22:01			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		349 198	386 19.9	407 19.9			
TPH by SW8015 Mod	<i>Extracted:</i>	Sep-13-19 16:00	Sep-13-19 16:00	Sep-13-19 16:00			
	<i>Analyzed:</i>	Sep-13-19 22:56	Sep-13-19 23:16	Sep-13-19 23:37			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<25.1 25.1	<25.1 25.1	<25.1 25.1			
Diesel Range Organics (DRO)		<25.1 25.1	<25.1 25.1	<25.1 25.1			
Motor Oil Range Hydrocarbons (MRO)		<25.1 25.1	<25.1 25.1	<25.1 25.1			
Total GRO-DRO		<25.1 25.1	<25.1 25.1	<25.1 25.1			
Total TPH		<25.1 25.1	<25.1 25.1	<25.1 25.1			

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 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS33**
Lab Sample Id: 636893-001

Matrix: Soil
Date Collected: 09.11.19 11.00

Date Received: 09.13.19 14.53
Sample Depth: 8.5 - 10 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101493

Date Prep: 09.13.19 16.09

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	199	49.8	mg/kg	09.13.19 20.43		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101548

Date Prep: 09.13.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.13.19 20.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.13.19 20.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.13.19 20.32	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.13.19 20.32	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.13.19 20.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	09.13.19 20.32	
o-Terphenyl	84-15-1	101	%	70-135	09.13.19 20.32	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS33**
Lab Sample Id: 636893-001

Matrix: Soil
Date Collected: 09.11.19 11.00

Date Received: 09.13.19 14.53
Sample Depth: 8.5 - 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: DTH

Date Prep: 09.14.19 15.09

Basis: Wet Weight

Seq Number: 3101533

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	09.14.19 18.26	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	09.14.19 18.26	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	09.14.19 18.26	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	09.14.19 18.26	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	09.14.19 18.26	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	09.14.19 18.26	U	1
Total BTEX		<0.00101	0.00101	mg/kg	09.14.19 18.26	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	09.14.19 18.26		
1,4-Difluorobenzene	540-36-3	124	%	70-130	09.14.19 18.26		



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS34**
Lab Sample Id: 636893-002

Matrix: Soil
Date Collected: 09.11.19 12.47

Date Received: 09.13.19 14.53
Sample Depth: 8.5 - 10 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101493

Date Prep: 09.13.19 16.09

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	170	99.2	mg/kg	09.13.19 21.02		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101548

Date Prep: 09.13.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.13.19 20.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.13.19 20.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.13.19 20.52	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.13.19 20.52	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.13.19 20.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	09.13.19 20.52	
o-Terphenyl	84-15-1	105	%	70-135	09.13.19 20.52	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS34**
Lab Sample Id: 636893-002

Matrix: Soil
Date Collected: 09.11.19 12.47

Date Received: 09.13.19 14.53
Sample Depth: 8.5 - 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: DTH

Date Prep: 09.13.19 15.00

Basis: Wet Weight

Seq Number: 3101467

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	09.13.19 20.52	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.13.19 20.52	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	09.13.19 20.52	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.13.19 20.52	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.13.19 20.52	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.13.19 20.52	U	1
Total BTEX		<0.00100	0.00100	mg/kg	09.13.19 20.52	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4		108	%	70-130	09.13.19 20.52	
1,4-Difluorobenzene	540-36-3		105	%	70-130	09.13.19 20.52	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS35** Matrix: Soil Date Received: 09.13.19 14.53
 Lab Sample Id: 636893-003 Date Collected: 09.11.19 14.10 Sample Depth: 8.5 - 10 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 09.13.19 16.09 Basis: Wet Weight
 Seq Number: 3101493

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	376	99.4	mg/kg	09.13.19 21.09		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 09.13.19 16.00 Basis: Wet Weight
 Seq Number: 3101548

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.13.19 21.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.13.19 21.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.13.19 21.13	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.13.19 21.13	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.13.19 21.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	09.13.19 21.13	
o-Terphenyl	84-15-1	100	%	70-135	09.13.19 21.13	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS35**
Lab Sample Id: 636893-003

Matrix: Soil
Date Collected: 09.11.19 14.10

Date Received: 09.13.19 14.53
Sample Depth: 8.5 - 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: DTH

Date Prep: 09.13.19 15.00

Basis: Wet Weight

Seq Number: 3101467

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	09.13.19 21.12	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	09.13.19 21.12	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	09.13.19 21.12	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	09.13.19 21.12	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	09.13.19 21.12	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	09.13.19 21.12	U	1
Total BTEX		<0.00101	0.00101	mg/kg	09.13.19 21.12	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102		%	70-130	09.13.19 21.12	
4-Bromofluorobenzene	460-00-4	109		%	70-130	09.13.19 21.12	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS36**
Lab Sample Id: 636893-004

Matrix: Soil
Date Collected: 09.12.19 10.30

Date Received: 09.13.19 14.53
Sample Depth: 8.5 - 10.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101493

Date Prep: 09.13.19 16.09

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	210	99.8	mg/kg	09.13.19 21.15		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101548

Date Prep: 09.13.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.13.19 21.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.13.19 21.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.13.19 21.54	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.13.19 21.54	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.13.19 21.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	09.13.19 21.54	
o-Terphenyl	84-15-1	96	%	70-135	09.13.19 21.54	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS36**
Lab Sample Id: 636893-004

Matrix: Soil
Date Collected: 09.12.19 10.30

Date Received: 09.13.19 14.53
Sample Depth: 8.5 - 10.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: DTH

Date Prep: 09.13.19 15.00

Basis: Wet Weight

Seq Number: 3101467

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	09.13.19 21.32	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	09.13.19 21.32	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	09.13.19 21.32	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	09.13.19 21.32	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	09.13.19 21.32	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	09.13.19 21.32	U	1
Total BTEX		<0.00101	0.00101	mg/kg	09.13.19 21.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	09.13.19 21.32		
4-Bromofluorobenzene	460-00-4	104	%	70-130	09.13.19 21.32		



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS37
Lab Sample Id: 636893-005

Matrix: Soil
Date Collected: 09.12.19 12.25

Date Received: 09.13.19 14.53
Sample Depth: 8 - 10 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101493

Date Prep: 09.13.19 16.09

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	213	98.8	mg/kg	09.13.19 21.22		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101548

Date Prep: 09.13.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.13.19 22.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.13.19 22.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.13.19 22.15	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.13.19 22.15	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.13.19 22.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	09.13.19 22.15	
o-Terphenyl	84-15-1	93	%	70-135	09.13.19 22.15	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS37**
Lab Sample Id: 636893-005

Matrix: Soil
Date Collected: 09.12.19 12.25

Date Received: 09.13.19 14.53
Sample Depth: 8 - 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: DTH

Date Prep: 09.13.19 15.00

Basis: Wet Weight

Seq Number: 3101467

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	09.13.19 21.52	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	09.13.19 21.52	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	09.13.19 21.52	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	09.13.19 21.52	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	09.13.19 21.52	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	09.13.19 21.52	U	1
Total BTEX		<0.00101	0.00101	mg/kg	09.13.19 21.52	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	09.13.19 21.52		
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.13.19 21.52		



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW13**
Lab Sample Id: 636893-006

Matrix: Soil
Date Collected: 09.11.19 09.30

Date Received: 09.13.19 14.53
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101493

Date Prep: 09.13.19 16.09

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	401	196	mg/kg	09.13.19 21.41		20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101548

Date Prep: 09.13.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.13.19 22.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	97.6	25.1	mg/kg	09.13.19 22.36		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.13.19 22.36	U	1
Total GRO-DRO	PHC628	97.6	25.1	mg/kg	09.13.19 22.36		1
Total TPH	PHC635	97.6	25.1	mg/kg	09.13.19 22.36		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	09.13.19 22.36	
o-Terphenyl	84-15-1	105	%	70-135	09.13.19 22.36	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW13**
Lab Sample Id: 636893-006

Matrix: Soil
Date Collected: 09.11.19 09.30

Date Received: 09.13.19 14.53
Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: DTH

Date Prep: 09.14.19 15.09

Basis: Wet Weight

Seq Number: 3101533

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	09.14.19 20.05	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	09.14.19 20.05	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	09.14.19 20.05	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	09.14.19 20.05	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	09.14.19 20.05	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	09.14.19 20.05	U	1
Total BTEX		<0.000996	0.000996	mg/kg	09.14.19 20.05	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111		%	70-130	09.14.19 20.05	
4-Bromofluorobenzene	460-00-4	110		%	70-130	09.14.19 20.05	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW14**
Lab Sample Id: 636893-007

Matrix: Soil
Date Collected: 09.12.19 13.15

Date Received: 09.13.19 14.53
Sample Depth: 0.5 - 9 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101493

Date Prep: 09.13.19 16.09

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	349	198	mg/kg	09.13.19 21.48		20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101548

Date Prep: 09.13.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.13.19 22.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.13.19 22.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.13.19 22.56	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.13.19 22.56	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.13.19 22.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	09.13.19 22.56	
o-Terphenyl	84-15-1	99	%	70-135	09.13.19 22.56	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW14**
Lab Sample Id: 636893-007

Matrix: Soil
Date Collected: 09.12.19 13.15

Date Received: 09.13.19 14.53
Sample Depth: 0.5 - 9 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: DTH

Date Prep: 09.13.19 15.00

Basis: Wet Weight

Seq Number: 3101467

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	09.13.19 22.12	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.13.19 22.12	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	09.13.19 22.12	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.13.19 22.12	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.13.19 22.12	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.13.19 22.12	U	1
Total BTEX		<0.00100	0.00100	mg/kg	09.13.19 22.12	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		104	%	70-130	09.13.19 22.12	
4-Bromofluorobenzene	460-00-4		109	%	70-130	09.13.19 22.12	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS15A**
Lab Sample Id: 636893-008

Matrix: Soil
Date Collected: 09.12.19 08.45

Date Received: 09.13.19 14.53
Sample Depth: 10 - 14.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101493

Date Prep: 09.13.19 16.09

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	386	19.9	mg/kg	09.13.19 21.54		2

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101548

Date Prep: 09.13.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.13.19 23.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.13.19 23.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.13.19 23.16	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.13.19 23.16	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.13.19 23.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	09.13.19 23.16	
o-Terphenyl	84-15-1	100	%	70-135	09.13.19 23.16	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS15A**
Lab Sample Id: 636893-008

Matrix: Soil
Date Collected: 09.12.19 08.45

Date Received: 09.13.19 14.53
Sample Depth: 10 - 14.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: DTH

Date Prep: 09.13.19 15.00

Basis: Wet Weight

Seq Number: 3101467

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	09.13.19 22.32	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	09.13.19 22.32	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	09.13.19 22.32	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	09.13.19 22.32	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	09.13.19 22.32	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	09.13.19 22.32	U	1
Total BTEX		<0.00101	0.00101	mg/kg	09.13.19 22.32	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101		%	70-130	09.13.19 22.32	
1,4-Difluorobenzene	540-36-3	104		%	70-130	09.13.19 22.32	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS16A**
Lab Sample Id: 636893-009

Matrix: Soil
Date Collected: 09.12.19 08.50

Date Received: 09.13.19 14.53
Sample Depth: 10 - 14 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101493

Date Prep: 09.13.19 16.09

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	407	19.9	mg/kg	09.13.19 22.01		2

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101548

Date Prep: 09.13.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.13.19 23.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.13.19 23.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.13.19 23.37	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.13.19 23.37	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.13.19 23.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	09.13.19 23.37	
o-Terphenyl	84-15-1	97	%	70-135	09.13.19 23.37	



Certificate of Analytical Results 636893

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS16A**
Lab Sample Id: 636893-009

Matrix: Soil
Date Collected: 09.12.19 08.50

Date Received: 09.13.19 14.53
Sample Depth: 10 - 14 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: DTH

Date Prep: 09.14.19 15.09

Basis: Wet Weight

Seq Number: 3101533

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	09.14.19 19.45	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	09.14.19 19.45	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	09.14.19 19.45	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	09.14.19 19.45	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	09.14.19 19.45	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	09.14.19 19.45	U	1
Total BTEX		<0.000996	0.000996	mg/kg	09.14.19 19.45	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	09.14.19 19.45		
1,4-Difluorobenzene	540-36-3	115	%	70-130	09.14.19 19.45		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3101493

MB Sample Id: 7686190-1-BLK

Matrix: Solid

LCS Sample Id: 7686190-1-BKS

Prep Method: E300P

Date Prep: 09.13.19

LCSD Sample Id: 7686190-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	256	102	90-110	0	20	mg/kg	09.13.19 19:19	

Analytical Method: Chloride by EPA 300

Seq Number: 3101493

Parent Sample Id: 636891-001

Matrix: Soil

MS Sample Id: 636891-001 S

Prep Method: E300P

Date Prep: 09.13.19

MSD Sample Id: 636891-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	44.8	996	1050	101	1090	105	90-110	4	20	mg/kg	09.13.19 19:38	

Analytical Method: Chloride by EPA 300

Seq Number: 3101493

Parent Sample Id: 636893-001

Matrix: Solid

MS Sample Id: 636893-001 S

Prep Method: E300P

Date Prep: 09.13.19

MSD Sample Id: 636893-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	199	994	1320	113	1350	116	90-110	2	20	mg/kg	09.13.19 20:49	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3101548

MB Sample Id: 7686198-1-BLK

Matrix: Solid

LCS Sample Id: 7686198-1-BKS

Prep Method: SW8015P

Date Prep: 09.13.19

LCSD Sample Id: 7686198-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<9.88	1000	923	92	936	94	70-135	1	35	mg/kg	09.13.19 11:19	
Diesel Range Organics (DRO)	<9.88	1000	851	85	897	90	70-135	5	35	mg/kg	09.13.19 11:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		120		124		70-135	%	09.13.19 11:19
o-Terphenyl	89		100		112		70-135	%	09.13.19 11:19

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3101548

Parent Sample Id: 636891-001

Matrix: Soil

MS Sample Id: 636891-001 S

Prep Method: SW8015P

Date Prep: 09.13.19

MSD Sample Id: 636891-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<9.93	1010	998	99	958	96	70-135	4	35	mg/kg	09.13.19 17:47	
Diesel Range Organics (DRO)	22.6	1010	918	89	824	80	70-135	11	35	mg/kg	09.13.19 17:47	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		126		70-135	%	09.13.19 17:47
o-Terphenyl	109		116		70-135	%	09.13.19 17:47

Analytical Method: BTEX by EPA 8021B

Seq Number: 3101467

MB Sample Id: 7686225-1-BLK

Matrix: Solid

LCS Sample Id: 7686225-1-BKS

Prep Method: SW5030B

Date Prep: 09.13.19

LCSD Sample Id: 7686225-1-BS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0883	88	0.0812	81	70-130	8	35	mg/kg	09.13.19 12:53	
Toluene	<0.00100	0.100	0.0912	91	0.0968	97	70-130	6	35	mg/kg	09.13.19 12:53	
Ethylbenzene	<0.00100	0.100	0.113	113	0.120	120	71-129	6	35	mg/kg	09.13.19 12:53	
m,p-Xylenes	<0.00200	0.200	0.230	115	0.247	124	70-135	7	35	mg/kg	09.13.19 12:53	
o-Xylene	<0.00100	0.100	0.115	115	0.124	124	71-133	8	35	mg/kg	09.13.19 12:53	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		108		112		70-130	%	09.13.19 12:53
4-Bromofluorobenzene	106		127		125		70-130	%	09.13.19 12:53

Analytical Method: BTEX by EPA 8021B

Seq Number: 3101533

MB Sample Id: 7686229-1-BLK

Matrix: Solid

LCS Sample Id: 7686229-1-BKS

Prep Method: SW5030B

Date Prep: 09.14.19

LCSD Sample Id: 7686229-1-BS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.101	101	0.103	103	70-130	2	35	mg/kg	09.14.19 17:27	
Toluene	<0.00100	0.100	0.106	106	0.0937	94	70-130	12	35	mg/kg	09.14.19 17:27	
Ethylbenzene	<0.00100	0.100	0.0960	96	0.0930	93	71-129	3	35	mg/kg	09.14.19 17:27	
m,p-Xylenes	<0.00200	0.200	0.211	106	0.202	101	70-135	4	35	mg/kg	09.14.19 17:27	
o-Xylene	<0.00100	0.100	0.0881	88	0.106	106	71-133	18	35	mg/kg	09.14.19 17:27	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		99		92		70-130	%	09.14.19 17:27
4-Bromofluorobenzene	89		108		102		70-130	%	09.14.19 17:27

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. = 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.

PLU 423H Tank Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3101467

Parent Sample Id: 636644-002

Matrix: Solid

MS Sample Id: 636644-002 S

Prep Method: SW5030B

Date Prep: 09.13.19

MSD Sample Id: 636644-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0819	82	0.0966	97	70-130	16	35	mg/kg	09.13.19 14:11	
Toluene	<0.00100	0.100	0.0827	83	0.0990	99	70-130	18	35	mg/kg	09.13.19 14:11	
Ethylbenzene	<0.00100	0.100	0.0902	90	0.109	109	71-129	19	35	mg/kg	09.13.19 14:11	
m,p-Xylenes	<0.00200	0.200	0.184	92	0.221	111	70-135	18	35	mg/kg	09.13.19 14:11	
o-Xylene	<0.00100	0.100	0.0916	92	0.110	110	71-133	18	35	mg/kg	09.13.19 14:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		109		70-130	%	09.13.19 14:11
4-Bromofluorobenzene	102		117		70-130	%	09.13.19 14:11

Analytical Method: BTEX by EPA 8021B

Seq Number: 3101533

Parent Sample Id: 636893-001

Matrix: Soil

MS Sample Id: 636893-001 S

Prep Method: SW5030B

Date Prep: 09.14.19

MSD Sample Id: 636893-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0966	96	0.0885	89	70-130	9	35	mg/kg	09.14.19 18:46	
Toluene	<0.00101	0.101	0.103	102	0.0970	97	70-130	6	35	mg/kg	09.14.19 18:46	
Ethylbenzene	<0.00101	0.101	0.116	115	0.109	109	71-129	6	35	mg/kg	09.14.19 18:46	
m,p-Xylenes	<0.00202	0.202	0.235	116	0.221	111	70-135	6	35	mg/kg	09.14.19 18:46	
o-Xylene	<0.00101	0.101	0.116	115	0.109	109	71-133	6	35	mg/kg	09.14.19 18:46	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	122		122		70-130	%	09.14.19 18:46
4-Bromofluorobenzene	119		119		70-130	%	09.14.19 18:46

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



Chain of Custody

Work Order No: 1636893

Houston, TX (281) 240-4200 Dallas, TX (214) 807-0300 San Antonio, TX (210) 506-3514
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1299 Carrollton, TX (972) 704-5440
 Phoenix, AZ (480) 265-0800 Atlanta, GA (770) 423-8800 Tampa, FL (813) 829-5000 West Palm Beach, FL (561) 889-6701

www.xenco.com

Page 1 of 1

Project Manager: Dan Moir		Bill to: (if address)	
Company Name: LT Environmental		Company Name: Kyle Liffell	
Address: 3300 N A St		Address: 3104 E. Greene St	
City, State, Zip: Midland TX 79705		City, State, Zip: Carlsbad NM 88220	
Phone: 432 236 3849		Email: abyers@ken.com + dmoir@ken.com	
Project Name: PLU 423H Tank Battery		Turn Around: Routine ☐ Expedite ☒	
Project Number: 012913043		Project Location: Rural Faddy County	
Sampler's Name: Anna Byers		Quote #: Due Date:	
PO #: 281-4466			

SAMPLE RECEIPT		Temp Blank: ☒ No ☐ Yes		Wet Ice: ☒ No ☐ Yes	
Temperature (°C): 4.6		Thermometer ID: T.N.M. 007		Correction Factor: -0.2	
Received Intact: ☒ No ☐ Yes		Cooler Custody Seals: Yes ☒ No ☐ N/A		Total Containers: 9	
Sample Custody Seals: Yes ☒ No ☐ N/A					

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
FS33		S	9/11/19	1100	8.5-10'	1	TPH (EPA 8015)		
FS34			9/11/19	1247	8.5-10'	1	BTEX (EPA 8021)		
FS35			9/11/19	1410	8.5-10'	1	Chloride (EPA 300.0)		
FS36			9/12/19	1030	8.5-10.5'	1			
FS37			9/12/19	1225	8.0-10'	1			
SW13			9/11/19	0930	0.5-8'	1			
SW14			9/12/19	1315	0.5-9'	1			
FS15A			9/12/19	0845	10-14.5'	1			
FS16A			9/12/19	0850	10-14'	1			

Total 200.7 / 6010 200.8 / 6020

Circle Method(s) and Matrix(s) to be analyzed:

BRORA 13PPM Toxics: 1 A Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na S P 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 / 246.1 / 7470 / 7471 - 11g

Notice: Signature of this document and relinquishment of sampling 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 damages 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
Anna Byers	AKL	14:53 9/13/19			

Analytical Report 637040

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

18-SEP-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

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



18-SEP-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **637040**

PLU 423H Tank Battery

Project Address: Rural Eddy County

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) 637040. 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. 637040 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 637040

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW15	S	09-16-19 12:40	0.5 - 9 ft	637040-001
FS38	S	09-16-19 15:00	10 ft	637040-002
FS39	S	09-16-19 15:10	10 ft	637040-003



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043
Work Order Number(s): 637040

Report Date: 18-SEP-19
Date Received: 09/17/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3101768 BTEX by EPA 8021B

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

Batch: LBA-3101789 Chloride by EPA 300

Lab Sample ID 637045-001 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: 637040-001, -002, -003.

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

Certificate of Analysis Summary 637040



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043
Contact: Dan Moir
Project Location: Rural Eddy County

Date Received in Lab: Tue Sep-17-19 08:05 am
Report Date: 18-SEP-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	637040-001	637040-002	637040-003			
	<i>Field Id:</i>	SW15	FS38	FS39			
	<i>Depth:</i>	0.5-9 ft	10- ft	10- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Sep-16-19 12:40	Sep-16-19 15:00	Sep-16-19 15:10			
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-17-19 11:00	Sep-17-19 11:00	Sep-17-19 11:00			
	<i>Analyzed:</i>	Sep-17-19 14:39	Sep-17-19 15:59	Sep-17-19 16:19			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101			
Toluene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101			
Ethylbenzene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101			
m,p-Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202			
o-Xylene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101			
Total Xylenes		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101			
Total BTEX		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101			
Chloride by EPA 300	<i>Extracted:</i>	Sep-17-19 15:00	Sep-17-19 15:00	Sep-17-19 15:00			
	<i>Analyzed:</i>	Sep-17-19 18:11	Sep-17-19 18:17	Sep-17-19 18:23			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		120 D 10.0	174 50.1	264 100			
TPH by SW8015 Mod	<i>Extracted:</i>	Sep-17-19 12:00	Sep-17-19 12:00	Sep-17-19 12:00			
	<i>Analyzed:</i>	Sep-17-19 15:24	Sep-17-19 16:26	Sep-17-19 16:47			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<25.0 25.0	<25.1 25.1	<24.9 24.9			
Diesel Range Organics (DRO)		<25.0 25.0	<25.1 25.1	<24.9 24.9			
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<25.1 25.1	<24.9 24.9			
Total GRO-DRO		<25.0 25.0	<25.1 25.1	<24.9 24.9			
Total TPH		<25.0 25.0	<25.1 25.1	<24.9 24.9			

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

Version: 1.0%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 637040

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW15**
Lab Sample Id: 637040-001

Matrix: Soil
Date Collected: 09.16.19 12.40

Date Received: 09.17.19 08.05
Sample Depth: 0.5 - 9 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101789

Date Prep: 09.17.19 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	120	10.0	mg/kg	09.18.19 10.18	D	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101755

Date Prep: 09.17.19 12.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.17.19 15.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.17.19 15.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.17.19 15.24	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.17.19 15.24	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.17.19 15.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	09.17.19 15.24	
o-Terphenyl	84-15-1	91	%	70-135	09.17.19 15.24	



Certificate of Analytical Results 637040

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW15**
Lab Sample Id: 637040-001

Matrix: Soil
Date Collected: 09.16.19 12.40

Date Received: 09.17.19 08.05
Sample Depth: 0.5 - 9 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DTH

% Moisture:

Analyst: DTH

Date Prep: 09.17.19 11.00

Basis: Wet Weight

Seq Number: 3101768

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	09.17.19 14.39	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.17.19 14.39	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	09.17.19 14.39	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.17.19 14.39	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.17.19 14.39	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.17.19 14.39	U	1
Total BTEX		<0.00100	0.00100	mg/kg	09.17.19 14.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	09.17.19 14.39		
1,4-Difluorobenzene	540-36-3	100	%	70-130	09.17.19 14.39		



Certificate of Analytical Results 637040

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS38**
Lab Sample Id: 637040-002

Matrix: Soil
Date Collected: 09.16.19 15.00

Date Received: 09.17.19 08.05
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101789

Date Prep: 09.17.19 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	174	50.1	mg/kg	09.17.19 18.17		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101755

Date Prep: 09.17.19 12.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.17.19 16.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.17.19 16.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.17.19 16.26	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.17.19 16.26	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.17.19 16.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	09.17.19 16.26	
o-Terphenyl	84-15-1	95	%	70-135	09.17.19 16.26	



Certificate of Analytical Results 637040

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS38**
Lab Sample Id: 637040-002

Matrix: Soil
Date Collected: 09.16.19 15.00

Date Received: 09.17.19 08.05
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: DTH

Analyst: DTH

Seq Number: 3101768

Date Prep: 09.17.19 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	09.17.19 15.59	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	09.17.19 15.59	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	09.17.19 15.59	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	09.17.19 15.59	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	09.17.19 15.59	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	09.17.19 15.59	U	1
Total BTEX		<0.00101	0.00101	mg/kg	09.17.19 15.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	09.17.19 15.59		
1,4-Difluorobenzene	540-36-3	108	%	70-130	09.17.19 15.59		



Certificate of Analytical Results 637040

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS39**
Lab Sample Id: 637040-003

Matrix: Soil
Date Collected: 09.16.19 15.10

Date Received: 09.17.19 08.05
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3101789

Date Prep: 09.17.19 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	264	100	mg/kg	09.17.19 18.23		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3101755

Date Prep: 09.17.19 12.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.17.19 16.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.17.19 16.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.17.19 16.47	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.17.19 16.47	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.17.19 16.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	09.17.19 16.47	
o-Terphenyl	84-15-1	103	%	70-135	09.17.19 16.47	



Certificate of Analytical Results 637040

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS39**
Lab Sample Id: 637040-003

Matrix: Soil
Date Collected: 09.16.19 15.10

Date Received: 09.17.19 08.05
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DTH

% Moisture:

Analyst: DTH

Date Prep: 09.17.19 11.00

Basis: Wet Weight

Seq Number: 3101768

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	09.17.19 16.19	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	09.17.19 16.19	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	09.17.19 16.19	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	09.17.19 16.19	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	09.17.19 16.19	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	09.17.19 16.19	U	1
Total BTEX		<0.00101	0.00101	mg/kg	09.17.19 16.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	09.17.19 16.19		
1,4-Difluorobenzene	540-36-3	106	%	70-130	09.17.19 16.19		



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3101789

MB Sample Id: 7686388-1-BLK

Matrix: Solid

LCS Sample Id: 7686388-1-BKS

Prep Method: E300P

Date Prep: 09.17.19

LCSD Sample Id: 7686388-1-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	232	93	243	97	90-110	5	20	mg/kg	09.18.19 09:53	

Analytical Method: Chloride by EPA 300

Seq Number: 3101789

Parent Sample Id: 637040-003

Matrix: Solid

MS Sample Id: 637040-003 S

Prep Method: E300P

Date Prep: 09.17.19

MSD Sample Id: 637040-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	264	2000	2500	112	2490	112	90-110	0	20	mg/kg	09.17.19 18:44	X

Analytical Method: Chloride by EPA 300

Seq Number: 3101789

Parent Sample Id: 637045-001

Matrix: Soil

MS Sample Id: 637045-001 S

Prep Method: E300P

Date Prep: 09.17.19

MSD Sample Id: 637045-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	97.8	201	334	118	352	127	90-110	5	20	mg/kg	09.17.19 15:57	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3101755

MB Sample Id: 7686378-1-BLK

Matrix: Solid

LCS Sample Id: 7686378-1-BKS

Prep Method: SW8015P

Date Prep: 09.17.19

LCSD Sample Id: 7686378-1-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	848	85	887	89	70-135	4	35	mg/kg	09.17.19 14:31	
Diesel Range Organics (DRO)	<50.0	1000	709	71	812	81	70-135	14	35	mg/kg	09.17.19 14:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		122		126		70-135	%	09.17.19 14:31
o-Terphenyl	89		104		99		70-135	%	09.17.19 14:31

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

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

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3101755

Parent Sample Id: 637040-001

Matrix: Soil

MS Sample Id: 637040-001 S

Prep Method: SW8015P

Date Prep: 09.17.19

MSD Sample Id: 637040-001 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)	<50.3	1010	889	88	905	91	70-135	2	35	mg/kg	09.17.19 15:44	
Diesel Range Organics (DRO)	<50.3	1010	844	84	708	71	70-135	18	35	mg/kg	09.17.19 15:44	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		128		70-135	%	09.17.19 15:44
o-Terphenyl	109		111		70-135	%	09.17.19 15:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3101768

MB Sample Id: 7686400-1-BLK

Matrix: Solid

LCS Sample Id: 7686400-1-BKS

Prep Method: SW5030B

Date Prep: 09.17.19

LCSD Sample Id: 7686400-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0975	98	0.0952	95	70-130	2	35	mg/kg	09.17.19 13:40	
Toluene	<0.00100	0.100	0.107	107	0.104	104	70-130	3	35	mg/kg	09.17.19 13:40	
Ethylbenzene	<0.00100	0.100	0.118	118	0.114	114	71-129	3	35	mg/kg	09.17.19 13:40	
m,p-Xylenes	<0.00200	0.200	0.240	120	0.232	116	70-135	3	35	mg/kg	09.17.19 13:40	
o-Xylene	<0.00100	0.100	0.117	117	0.112	112	71-133	4	35	mg/kg	09.17.19 13:40	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		102		100		70-130	%	09.17.19 13:40
4-Bromofluorobenzene	106		118		108		70-130	%	09.17.19 13:40

Analytical Method: BTEX by EPA 8021B

Seq Number: 3101768

Parent Sample Id: 637040-001

Matrix: Soil

MS Sample Id: 637040-001 S

Prep Method: SW5030B

Date Prep: 09.17.19

MSD Sample Id: 637040-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0920	92	0.0955	95	70-130	4	35	mg/kg	09.17.19 14:59	
Toluene	<0.00100	0.100	0.0926	93	0.0950	94	70-130	3	35	mg/kg	09.17.19 14:59	
Ethylbenzene	<0.00100	0.100	0.112	112	0.117	116	71-129	4	35	mg/kg	09.17.19 14:59	
m,p-Xylenes	<0.00201	0.201	0.228	113	0.237	117	70-135	4	35	mg/kg	09.17.19 14:59	
o-Xylene	<0.00100	0.100	0.116	116	0.121	120	71-133	4	35	mg/kg	09.17.19 14:59	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		105		70-130	%	09.17.19 14:59
4-Bromofluorobenzene	117		113		70-130	%	09.17.19 14:59

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:

137-040

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) 595-3443 Lubbock, TX (806) 794-1296 Creteil, NM (432) 704-5440

Phoenix, AZ (480) 365-0930 Atlanta, GA (770) 440-8800 Tampa, FL (813) 629-2000 West Palm Beach, FL (561) 540-6701

www.xencolab.com

Page 1 of 1

Project Manager:	Don Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental	Company Name:	XTO
Address:	3300 North A St	Address:	3104 E. Greene St
City, State ZIP:	Midland TX 79705	City, State ZIP:	Odessa NM 88620
Phone:	432 230 8349	Email:	abeyes@ltenv.com + dmoir@ltenv.com

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

Project Name:	PLU 404234 Tank Battery	Turn Around	
Project Number:	012917043	Routing	☐
Project Location:	Rural Eddy County	Rule:	3 day
Sampler's Name:	Anna Byers	Due Date:	
PO #: 22P-4466	Quote #:		

SAMPLE RECEIPT		Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☐ No ☒
Temperature (°C):	4.2	Thermometer ID:	TMM07		
Received Inlet:	Yes ☒ No ☐	Correction Factor:	-0.2		
Cooler Custody Seal:	Yes ☒ No ☐	Total Containers:	3		
Sample Custody Seal:	Yes ☒ No ☐				

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
SW15		S	9/16/19	1240	0.5-9'	1	PH (EPA 9015)		
FS38		S	9/16/19	1500	10'	1	BTEX (EPA 8011)		
FS39		S	9/16/19	1510	10'	1	Chloride (EPA 800.0)		

Total: 200.7 / 6010 200.8 / 6020:

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

BRCRA 13PPM Texas 11 A 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: BRCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Don Moir	9/17/19 08:05			



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/17/2019 08:05:00 AM

Work Order #: 637040

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 09/17/2019

Checklist reviewed by:

Date: 09/17/2019

Analytical Report 637562

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423 H Tank Battery

012917043

27-SEP-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-21), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

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



27-SEP-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **637562**

PLU 423 H Tank Battery

Project Address: Rural Eddy County

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) 637562. 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. 637562 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 637562****LT Environmental, Inc., Arvada, CO**

PLU 423 H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW16	S	09-19-19 10:00	0.5 - 10 ft	637562-001
SW17	S	09-19-19 10:05	0.5 - 10 ft	637562-002
SW18	S	09-19-19 10:10	0.5 - 8 ft	637562-003
SW19	S	09-19-19 12:30	0.5 - 8 ft	637562-004
SW20	S	09-19-19 12:35	0.5 - 8 ft	637562-005
SW21	S	09-19-19 12:40	0.5 - 8 ft	637562-006
SW22	S	09-19-19 12:45	0.5 - 8 ft	637562-007
SW23	S	09-19-19 12:50	0.5 - 6 ft	637562-008
SW24	S	09-19-19 14:00	0.5 - 8 ft	637562-009
SW25	S	09-19-19 14:05	0.5 - 10 ft	637562-010
SW26	S	09-19-19 14:10	0.5 - 10 ft	637562-011
SW27	S	09-19-19 14:15	0.5 - 10 ft	637562-012
FS40	S	09-19-19 13:00	6 - 7 ft	637562-013
FS41	S	09-19-19 13:05	8 ft	637562-014
FS42	S	09-19-19 13:10	6 - 7 ft	637562-015
FS43	S	09-19-19 13:15	8 ft	637562-016
FS44	S	09-19-19 13:30	8 ft	637562-017
FS45	S	09-19-19 13:35	6 - 8 ft	637562-018
FS46	S	09-19-19 13:40	6 - 7 ft	637562-019



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423 H Tank Battery

Project ID: 012917043
Work Order Number(s): 637562

Report Date: 27-SEP-19
Date Received: 09/20/2019

Sample receipt non conformance and comments:

None

Sample receipt non conformance and comments per sample:

None

Analytical non conformance and comments:

Batch: LBA-3102297 BTEX by EPA 8021B

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

Lab Sample ID 637562-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 637562-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 637562



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Fri Sep-20-19 09:55 am

Report Date: 27-SEP-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	637562-001	637562-002	637562-003	637562-004	637562-005	637562-006
	<i>Field Id:</i>	SW16	SW17	SW18	SW19	SW20	SW21
	<i>Depth:</i>	0.5-10 ft	0.5-10 ft	0.5-8 ft	0.5-8 ft	0.5-8 ft	0.5-8 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-19-19 10:00	Sep-19-19 10:05	Sep-19-19 10:10	Sep-19-19 12:30	Sep-19-19 12:35	Sep-19-19 12:40
BTEX by EPA 8021B SUB: T104704400-18-18	<i>Extracted:</i>	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45
	<i>Analyzed:</i>	Sep-24-19 03:48	Sep-24-19 04:08	Sep-24-19 04:28	Sep-24-19 04:48	Sep-24-19 05:08	Sep-24-19 05:28
	<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	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00200 0.00200	0.00286 0.00200	0.00405 0.00198	0.00580 0.00200	0.00362 0.00199	0.00587 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00396 0.00396	<0.00401 0.00401	<0.00398 0.00398	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	0.00286 0.00200	0.00405 0.00198	0.00580 0.00200	0.00362 0.00199	0.00587 0.00200
Chloride by EPA 300 SUB: T104704400-18-18	<i>Extracted:</i>	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30
	<i>Analyzed:</i>	Sep-23-19 19:49	Sep-23-19 19:57	Sep-23-19 20:04	Sep-23-19 20:12	Sep-23-19 20:34	Sep-23-19 20:42
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1220 25.0	554 4.99	3020 50.1	1180 50.4	155 49.7	2550 25.1
TPH by SW8015 Mod SUB: T104704400-18-18	<i>Extracted:</i>	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00
	<i>Analyzed:</i>	Sep-24-19 00:32	Sep-24-19 01:34	Sep-24-19 01:55	Sep-24-19 02:16	Sep-24-19 02:37	Sep-24-19 02:58
	<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	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Total GRO-DRO		<49.9 49.9	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Total TPH		<49.9 49.9	<49.9 49.9	<50.0 50.0	<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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 637562

LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043
Contact: Dan Moir
Project Location: Rural Eddy County

Date Received in Lab: Fri Sep-20-19 09:55 am
Report Date: 27-SEP-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	637562-007	637562-008	637562-009	637562-010	637562-011	637562-012
	<i>Field Id:</i>	SW22	SW23	SW24	SW25	SW26	SW27
	<i>Depth:</i>	0.5-8 ft	0.5-6 ft	0.5-8 ft	0.5-10 ft	0.5-10 ft	0.5-10 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-19-19 12:45	Sep-19-19 12:50	Sep-19-19 14:00	Sep-19-19 14:05	Sep-19-19 14:10	Sep-19-19 14:15
BTEX by EPA 8021B SUB: T104704400-18-18	<i>Extracted:</i>	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45
	<i>Analyzed:</i>	Sep-24-19 05:49	Sep-24-19 06:09	Sep-24-19 06:29	Sep-24-19 06:49	Sep-24-19 09:41	Sep-24-19 10:01
	<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	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
Toluene		0.00439 0.00199	0.00304 0.00202	0.00453 0.00202	0.00480 0.00199	0.00509 0.00199	0.00339 0.00200
Ethylbenzene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00398 0.00398	<0.00403 0.00403	<0.00404 0.00404	<0.00398 0.00398	<0.00398 0.00398	<0.00401 0.00401
o-Xylene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		0.00439 0.00199	0.00304 0.00202	0.00453 0.00202	0.00480 0.00199	0.00509 0.00199	0.00339 0.00200
Chloride by EPA 300 SUB: T104704400-18-18	<i>Extracted:</i>	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30
	<i>Analyzed:</i>	Sep-23-19 20:49	Sep-23-19 20:57	Sep-23-19 21:04	Sep-24-19 14:15	Sep-23-19 21:42	Sep-23-19 22:04
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		992 24.8	67.7 49.8	35.0 25.0	27.3 4.96	6290 100	2450 49.8
TPH by SW8015 Mod SUB: T104704400-18-18	<i>Extracted:</i>	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00
	<i>Analyzed:</i>	Sep-24-19 03:19	Sep-24-19 03:40	Sep-24-19 04:02	Sep-24-19 04:23	Sep-24-19 05:06	Sep-24-19 05:27
	<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	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8	<49.9 49.9
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8	<49.9 49.9
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8	<49.9 49.9

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

Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 637562



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Fri Sep-20-19 09:55 am

Report Date: 27-SEP-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	637562-013	637562-014	637562-015	637562-016	637562-017	637562-018
	<i>Field Id:</i>	FS40	FS41	FS42	FS43	FS44	FS45
	<i>Depth:</i>	6-7 ft	8- ft	6-7 ft	8- ft	8- ft	6-8 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-19-19 13:00	Sep-19-19 13:05	Sep-19-19 13:10	Sep-19-19 13:15	Sep-19-19 13:30	Sep-19-19 13:35
BTEX by EPA 8021B SUB: T104704400-18-18	<i>Extracted:</i>	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45	Sep-23-19 14:45
	<i>Analyzed:</i>	Sep-24-19 10:21	Sep-24-19 10:41	Sep-24-19 11:01	Sep-24-19 11:21	Sep-24-19 11:42	Sep-24-19 12:02
	<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	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Toluene		0.00315 0.00201	0.00483 0.00202	0.00394 0.00198	0.00371 0.00200	0.00502 0.00199	0.00482 0.00199
Ethylbenzene		<0.00201 0.00201	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00402 0.00402	<0.00403 0.00403	<0.00397 0.00397	<0.00399 0.00399	<0.00398 0.00398	<0.00398 0.00398
o-Xylene		<0.00201 0.00201	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Total Xylenes		<0.00201 0.00201	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Total BTEX		0.00315 0.00201	0.00483 0.00202	0.00394 0.00198	0.00371 0.00200	0.00502 0.00199	0.00482 0.00199
Chloride by EPA 300 SUB: T104704400-18-18	<i>Extracted:</i>	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30	Sep-23-19 15:30
	<i>Analyzed:</i>	Sep-23-19 22:11	Sep-23-19 22:19	Sep-23-19 22:26	Sep-23-19 22:34	Sep-23-19 22:41	Sep-23-19 22:49
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		262 4.97	468 24.8	180 49.7	1240 25.2	357 5.00	183 24.8
TPH by SW8015 Mod SUB: T104704400-18-18	<i>Extracted:</i>	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00	Sep-23-19 15:00
	<i>Analyzed:</i>	Sep-24-19 05:48	Sep-24-19 06:09	Sep-24-19 06:30	Sep-24-19 06:51	Sep-24-19 07:12	Sep-24-19 07:33
	<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	<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<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

Version: 1.9%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 637562



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Fri Sep-20-19 09:55 am

Report Date: 27-SEP-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	637562-019					
	Field Id:	FS46					
	Depth:	6-7 ft					
	Matrix:	SOIL					
	Sampled:	Sep-19-19 13:40					
BTEX by EPA 8021B SUB: T104704400-18-18	Extracted:	Sep-23-19 14:45					
	Analyzed:	Sep-24-19 12:22					
	Units/RL:	mg/kg RL					
Benzene		<0.00199 0.00199					
Toluene		0.00480 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		0.00480 0.00199					
Chloride by EPA 300 SUB: T104704400-18-18	Extracted:	Sep-23-19 16:00					
	Analyzed:	Sep-24-19 17:06					
	Units/RL:	mg/kg RL					
Chloride		384 50.0					
TPH by SW8015 Mod SUB: T104704400-18-18	Extracted:	Sep-23-19 15:00					
	Analyzed:	Sep-24-19 07:54					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8					
Diesel Range Organics (DRO)		<49.8 49.8					
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8					
Total GRO-DRO		<49.8 49.8					
Total TPH		<49.8 49.8					

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

Version: 1.0%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW16**
Lab Sample Id: 637562-001

Matrix: Soil
Date Collected: 09.19.19 10.00

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1220	25.0	mg/kg	09.23.19 19.49		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.24.19 00.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.24.19 00.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.24.19 00.32	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	09.24.19 00.32	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.24.19 00.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	09.24.19 00.32	
o-Terphenyl	84-15-1	109	%	70-135	09.24.19 00.32	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW16**
Lab Sample Id: 637562-001

Matrix: Soil
Date Collected: 09.19.19 10.00

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Date Prep: 09.23.19 14.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.24.19 03.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.24.19 03.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.24.19 03.48	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.24.19 03.48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.24.19 03.48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.24.19 03.48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.24.19 03.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	09.24.19 03.48		
1,4-Difluorobenzene	540-36-3	100	%	70-130	09.24.19 03.48		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW17**
Lab Sample Id: 637562-002

Matrix: Soil
Date Collected: 09.19.19 10.05

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	554	4.99	mg/kg	09.23.19 19.57		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.24.19 01.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.24.19 01.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.24.19 01.34	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	09.24.19 01.34	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.24.19 01.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	09.24.19 01.34	
o-Terphenyl	84-15-1	108	%	70-135	09.24.19 01.34	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW17**
Lab Sample Id: 637562-002

Matrix: Soil
Date Collected: 09.19.19 10.05

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Prep Method: SW5030B

% Moisture:

Date Prep: 09.23.19 14.45

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.24.19 04.08	U	1
Toluene	108-88-3	0.00286	0.00200	mg/kg	09.24.19 04.08		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.24.19 04.08	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.24.19 04.08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.24.19 04.08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.24.19 04.08	U	1
Total BTEX		0.00286	0.00200	mg/kg	09.24.19 04.08		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	09.24.19 04.08		
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.24.19 04.08		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW18**
Lab Sample Id: 637562-003

Matrix: Soil
Date Collected: 09.19.19 10.10

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3020	50.1	mg/kg	09.23.19 20.04		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.24.19 01.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.24.19 01.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.24.19 01.55	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.24.19 01.55	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.24.19 01.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.24.19 01.55	
o-Terphenyl	84-15-1	107	%	70-135	09.24.19 01.55	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW18**
Lab Sample Id: 637562-003

Matrix: Soil
Date Collected: 09.19.19 10.10

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Prep Method: SW5030B

% Moisture:

Date Prep: 09.23.19 14.45

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.24.19 04.28	U	1
Toluene	108-88-3	0.00405	0.00198	mg/kg	09.24.19 04.28		1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.24.19 04.28	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	09.24.19 04.28	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.24.19 04.28	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.24.19 04.28	U	1
Total BTEX		0.00405	0.00198	mg/kg	09.24.19 04.28		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	09.24.19 04.28		
4-Bromofluorobenzene	460-00-4	103	%	70-130	09.24.19 04.28		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW19**
Lab Sample Id: 637562-004

Matrix: Soil
Date Collected: 09.19.19 12.30

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1180	50.4	mg/kg	09.23.19 20.12		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.24.19 02.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.24.19 02.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.24.19 02.16	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	09.24.19 02.16	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.24.19 02.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	09.24.19 02.16	
o-Terphenyl	84-15-1	102	%	70-135	09.24.19 02.16	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW19**
Lab Sample Id: 637562-004

Matrix: Soil
Date Collected: 09.19.19 12.30

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Date Prep: 09.23.19 14.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.24.19 04.48	U	1
Toluene	108-88-3	0.00580	0.00200	mg/kg	09.24.19 04.48		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.24.19 04.48	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.24.19 04.48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.24.19 04.48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.24.19 04.48	U	1
Total BTEX		0.00580	0.00200	mg/kg	09.24.19 04.48		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.24.19 04.48		
4-Bromofluorobenzene	460-00-4	111	%	70-130	09.24.19 04.48		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW20**
Lab Sample Id: 637562-005

Matrix: Soil
Date Collected: 09.19.19 12.35

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	155	49.7	mg/kg	09.23.19 20.34		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	09.24.19 02.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	09.24.19 02.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	09.24.19 02.37	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	09.24.19 02.37	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	09.24.19 02.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	09.24.19 02.37	
o-Terphenyl	84-15-1	104	%	70-135	09.24.19 02.37	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW20**
Lab Sample Id: 637562-005

Matrix: Soil
Date Collected: 09.19.19 12.35

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Prep Method: SW5030B

% Moisture:

Date Prep: 09.23.19 14.45

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.24.19 05.08	U	1
Toluene	108-88-3	0.00362	0.00199	mg/kg	09.24.19 05.08		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.24.19 05.08	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.24.19 05.08	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.24.19 05.08	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.24.19 05.08	U	1
Total BTEX		0.00362	0.00199	mg/kg	09.24.19 05.08		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	09.24.19 05.08		
4-Bromofluorobenzene	460-00-4	101	%	70-130	09.24.19 05.08		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW21**
Lab Sample Id: 637562-006

Matrix: Soil
Date Collected: 09.19.19 12.40

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2550	25.1	mg/kg	09.23.19 20.42		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.24.19 02.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.24.19 02.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.24.19 02.58	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.24.19 02.58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.24.19 02.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	09.24.19 02.58	
o-Terphenyl	84-15-1	111	%	70-135	09.24.19 02.58	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW21**
Lab Sample Id: 637562-006

Matrix: Soil
Date Collected: 09.19.19 12.40

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Date Prep: 09.23.19 14.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.24.19 05.28	U	1
Toluene	108-88-3	0.00587	0.00200	mg/kg	09.24.19 05.28		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.24.19 05.28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.24.19 05.28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.24.19 05.28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.24.19 05.28	U	1
Total BTEX		0.00587	0.00200	mg/kg	09.24.19 05.28		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.24.19 05.28		
4-Bromofluorobenzene	460-00-4	103	%	70-130	09.24.19 05.28		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW22**
 Lab Sample Id: 637562-007

Matrix: Soil
 Date Collected: 09.19.19 12.45

Date Received: 09.20.19 09.55
 Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	992	24.8	mg/kg	09.23.19 20.49		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.24.19 03.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.24.19 03.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.24.19 03.19	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.24.19 03.19	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.24.19 03.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	09.24.19 03.19	
o-Terphenyl	84-15-1	124	%	70-135	09.24.19 03.19	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW22**
Lab Sample Id: 637562-007

Matrix: Soil
Date Collected: 09.19.19 12.45

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Prep Method: SW5030B

% Moisture:

Date Prep: 09.23.19 14.45

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.24.19 05.49	U	1
Toluene	108-88-3	0.00439	0.00199	mg/kg	09.24.19 05.49		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.24.19 05.49	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.24.19 05.49	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.24.19 05.49	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.24.19 05.49	U	1
Total BTEX		0.00439	0.00199	mg/kg	09.24.19 05.49		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	09.24.19 05.49		
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.24.19 05.49		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW23**
Lab Sample Id: 637562-008

Matrix: Soil
Date Collected: 09.19.19 12.50

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	67.7	49.8	mg/kg	09.23.19 20.57		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.24.19 03.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.24.19 03.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.24.19 03.40	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	09.24.19 03.40	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.24.19 03.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	09.24.19 03.40	
o-Terphenyl	84-15-1	96	%	70-135	09.24.19 03.40	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW23**
Lab Sample Id: 637562-008

Matrix: Soil
Date Collected: 09.19.19 12.50

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Date Prep: 09.23.19 14.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.24.19 06.09	U	1
Toluene	108-88-3	0.00304	0.00202	mg/kg	09.24.19 06.09		1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.24.19 06.09	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.24.19 06.09	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.24.19 06.09	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.24.19 06.09	U	1
Total BTEX		0.00304	0.00202	mg/kg	09.24.19 06.09		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	09.24.19 06.09		
1,4-Difluorobenzene	540-36-3	97	%	70-130	09.24.19 06.09		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW24**
Lab Sample Id: 637562-009

Matrix: Soil
Date Collected: 09.19.19 14.00

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	35.0	25.0	mg/kg	09.23.19 21.04		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.24.19 04.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.24.19 04.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.24.19 04.02	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.24.19 04.02	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.24.19 04.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	09.24.19 04.02	
o-Terphenyl	84-15-1	112	%	70-135	09.24.19 04.02	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW24**
Lab Sample Id: 637562-009

Matrix: Soil
Date Collected: 09.19.19 14.00

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Prep Method: SW5030B

% Moisture:

Date Prep: 09.23.19 14.45

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.24.19 06.29	U	1
Toluene	108-88-3	0.00453	0.00202	mg/kg	09.24.19 06.29		1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.24.19 06.29	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	09.24.19 06.29	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.24.19 06.29	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.24.19 06.29	U	1
Total BTEX		0.00453	0.00202	mg/kg	09.24.19 06.29		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	09.24.19 06.29		
4-Bromofluorobenzene	460-00-4	96	%	70-130	09.24.19 06.29		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW25**
Lab Sample Id: 637562-010

Matrix: Soil
Date Collected: 09.19.19 14.05

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.3	4.96	mg/kg	09.24.19 14.15		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.24.19 04.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.24.19 04.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.24.19 04.23	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.24.19 04.23	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.24.19 04.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	09.24.19 04.23	
o-Terphenyl	84-15-1	112	%	70-135	09.24.19 04.23	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW25**
Lab Sample Id: 637562-010

Matrix: Soil
Date Collected: 09.19.19 14.05

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 09.23.19 14.45

Basis: Wet Weight

Seq Number: 3102297

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.24.19 06.49	U	1
Toluene	108-88-3	0.00480	0.00199	mg/kg	09.24.19 06.49		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.24.19 06.49	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.24.19 06.49	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.24.19 06.49	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.24.19 06.49	U	1
Total BTEX		0.00480	0.00199	mg/kg	09.24.19 06.49		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	09.24.19 06.49		
1,4-Difluorobenzene	540-36-3	99	%	70-130	09.24.19 06.49		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW26**
Lab Sample Id: 637562-011

Matrix: Soil
Date Collected: 09.19.19 14.10

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6290	100	mg/kg	09.23.19 21.42		20

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	09.24.19 05.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	09.24.19 05.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	09.24.19 05.06	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	09.24.19 05.06	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	09.24.19 05.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	09.24.19 05.06	
o-Terphenyl	84-15-1	123	%	70-135	09.24.19 05.06	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW26**
Lab Sample Id: 637562-011

Matrix: Soil
Date Collected: 09.19.19 14.10

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Prep Method: SW5030B

% Moisture:

Date Prep: 09.23.19 14.45

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.24.19 09.41	U	1
Toluene	108-88-3	0.00509	0.00199	mg/kg	09.24.19 09.41		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.24.19 09.41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.24.19 09.41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.24.19 09.41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.24.19 09.41	U	1
Total BTEX		0.00509	0.00199	mg/kg	09.24.19 09.41		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	09.24.19 09.41		
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.24.19 09.41		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW27**
Lab Sample Id: 637562-012

Matrix: Soil
Date Collected: 09.19.19 14.15

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2450	49.8	mg/kg	09.23.19 22.04		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.24.19 05.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.24.19 05.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.24.19 05.27	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	09.24.19 05.27	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.24.19 05.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	09.24.19 05.27	
o-Terphenyl	84-15-1	129	%	70-135	09.24.19 05.27	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW27**
Lab Sample Id: 637562-012

Matrix: Soil
Date Collected: 09.19.19 14.15

Date Received: 09.20.19 09.55
Sample Depth: 0.5 - 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Date Prep: 09.23.19 14.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.24.19 10.01	U	1
Toluene	108-88-3	0.00339	0.00200	mg/kg	09.24.19 10.01		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.24.19 10.01	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.24.19 10.01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.24.19 10.01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.24.19 10.01	U	1
Total BTEX		0.00339	0.00200	mg/kg	09.24.19 10.01		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	09.24.19 10.01		
1,4-Difluorobenzene	540-36-3	102	%	70-130	09.24.19 10.01		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS40**
Lab Sample Id: 637562-013

Matrix: Soil
Date Collected: 09.19.19 13.00

Date Received: 09.20.19 09.55
Sample Depth: 6 - 7 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	262	4.97	mg/kg	09.23.19 22.11		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.24.19 05.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.24.19 05.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.24.19 05.48	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.24.19 05.48	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.24.19 05.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	09.24.19 05.48	
o-Terphenyl	84-15-1	124	%	70-135	09.24.19 05.48	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS40**
Lab Sample Id: 637562-013

Matrix: Soil
Date Collected: 09.19.19 13.00

Date Received: 09.20.19 09.55
Sample Depth: 6 - 7 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Prep Method: SW5030B

% Moisture:

Date Prep: 09.23.19 14.45

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.24.19 10.21	U	1
Toluene	108-88-3	0.00315	0.00201	mg/kg	09.24.19 10.21		1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.24.19 10.21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.24.19 10.21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.24.19 10.21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.24.19 10.21	U	1
Total BTEX		0.00315	0.00201	mg/kg	09.24.19 10.21		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	09.24.19 10.21		
4-Bromofluorobenzene	460-00-4	117	%	70-130	09.24.19 10.21		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS41**
Lab Sample Id: 637562-014

Matrix: Soil
Date Collected: 09.19.19 13.05

Date Received: 09.20.19 09.55
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	468	24.8	mg/kg	09.23.19 22.19		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.24.19 06.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.24.19 06.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.24.19 06.09	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	09.24.19 06.09	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.24.19 06.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	09.24.19 06.09	
o-Terphenyl	84-15-1	108	%	70-135	09.24.19 06.09	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS41**
Lab Sample Id: 637562-014

Matrix: Soil
Date Collected: 09.19.19 13.05

Date Received: 09.20.19 09.55
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Date Prep: 09.23.19 14.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.24.19 10.41	U	1
Toluene	108-88-3	0.00483	0.00202	mg/kg	09.24.19 10.41		1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.24.19 10.41	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.24.19 10.41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.24.19 10.41	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.24.19 10.41	U	1
Total BTEX		0.00483	0.00202	mg/kg	09.24.19 10.41		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	09.24.19 10.41		
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.24.19 10.41		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS42**
Lab Sample Id: 637562-015

Matrix: Soil
Date Collected: 09.19.19 13.10

Date Received: 09.20.19 09.55
Sample Depth: 6 - 7 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	180	49.7	mg/kg	09.23.19 22.26		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.24.19 06.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.24.19 06.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.24.19 06.30	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.24.19 06.30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.24.19 06.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	09.24.19 06.30	
o-Terphenyl	84-15-1	113	%	70-135	09.24.19 06.30	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS42**
Lab Sample Id: 637562-015

Matrix: Soil
Date Collected: 09.19.19 13.10

Date Received: 09.20.19 09.55
Sample Depth: 6 - 7 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Prep Method: SW5030B

% Moisture:

Date Prep: 09.23.19 14.45

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.24.19 11.01	U	1
Toluene	108-88-3	0.00394	0.00198	mg/kg	09.24.19 11.01		1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.24.19 11.01	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.24.19 11.01	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.24.19 11.01	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.24.19 11.01	U	1
Total BTEX		0.00394	0.00198	mg/kg	09.24.19 11.01		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	09.24.19 11.01		
1,4-Difluorobenzene	540-36-3	102	%	70-130	09.24.19 11.01		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS43**
Lab Sample Id: 637562-016

Matrix: Soil
Date Collected: 09.19.19 13.15

Date Received: 09.20.19 09.55
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1240	25.2	mg/kg	09.23.19 22.34		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.24.19 06.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.24.19 06.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.24.19 06.51	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	09.24.19 06.51	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.24.19 06.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	09.24.19 06.51	
o-Terphenyl	84-15-1	112	%	70-135	09.24.19 06.51	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS43**
Lab Sample Id: 637562-016

Matrix: Soil
Date Collected: 09.19.19 13.15

Date Received: 09.20.19 09.55
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Date Prep: 09.23.19 14.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.24.19 11.21	U	1
Toluene	108-88-3	0.00371	0.00200	mg/kg	09.24.19 11.21		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.24.19 11.21	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.24.19 11.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.24.19 11.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.24.19 11.21	U	1
Total BTEX		0.00371	0.00200	mg/kg	09.24.19 11.21		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	09.24.19 11.21		
4-Bromofluorobenzene	460-00-4	101	%	70-130	09.24.19 11.21		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS44**
Lab Sample Id: 637562-017

Matrix: Soil
Date Collected: 09.19.19 13.30

Date Received: 09.20.19 09.55
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	357	5.00	mg/kg	09.23.19 22.41		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.24.19 07.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.24.19 07.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.24.19 07.12	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.24.19 07.12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.24.19 07.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.24.19 07.12	
o-Terphenyl	84-15-1	110	%	70-135	09.24.19 07.12	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS44**
Lab Sample Id: 637562-017

Matrix: Soil
Date Collected: 09.19.19 13.30

Date Received: 09.20.19 09.55
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Prep Method: SW5030B

% Moisture:

Date Prep: 09.23.19 14.45

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.24.19 11.42	U	1
Toluene	108-88-3	0.00502	0.00199	mg/kg	09.24.19 11.42		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.24.19 11.42	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.24.19 11.42	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.24.19 11.42	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.24.19 11.42	U	1
Total BTEX		0.00502	0.00199	mg/kg	09.24.19 11.42		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	09.24.19 11.42		
4-Bromofluorobenzene	460-00-4	99	%	70-130	09.24.19 11.42		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS45**
Lab Sample Id: 637562-018

Matrix: Soil
Date Collected: 09.19.19 13.35

Date Received: 09.20.19 09.55
Sample Depth: 6 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102268

Date Prep: 09.23.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	183	24.8	mg/kg	09.23.19 22.49		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.24.19 07.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.24.19 07.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.24.19 07.33	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.24.19 07.33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.24.19 07.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	09.24.19 07.33	
o-Terphenyl	84-15-1	120	%	70-135	09.24.19 07.33	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS45**
Lab Sample Id: 637562-018

Matrix: Soil
Date Collected: 09.19.19 13.35

Date Received: 09.20.19 09.55
Sample Depth: 6 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Date Prep: 09.23.19 14.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.24.19 12.02	U	1
Toluene	108-88-3	0.00482	0.00199	mg/kg	09.24.19 12.02		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.24.19 12.02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.24.19 12.02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.24.19 12.02	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.24.19 12.02	U	1
Total BTEX		0.00482	0.00199	mg/kg	09.24.19 12.02		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	09.24.19 12.02		
1,4-Difluorobenzene	540-36-3	105	%	70-130	09.24.19 12.02		



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS46**
Lab Sample Id: 637562-019

Matrix: Soil
Date Collected: 09.19.19 13.40

Date Received: 09.20.19 09.55
Sample Depth: 6 - 7 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102358

Date Prep: 09.23.19 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	384	50.0	mg/kg	09.24.19 17.06		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	09.24.19 07.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	09.24.19 07.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	09.24.19 07.54	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	09.24.19 07.54	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	09.24.19 07.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	09.24.19 07.54	
o-Terphenyl	84-15-1	108	%	70-135	09.24.19 07.54	



Certificate of Analytical Results 637562

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS46**
Lab Sample Id: 637562-019

Matrix: Soil
Date Collected: 09.19.19 13.40

Date Received: 09.20.19 09.55
Sample Depth: 6 - 7 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102297

Date Prep: 09.23.19 14.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.24.19 12.22	U	1
Toluene	108-88-3	0.00480	0.00199	mg/kg	09.24.19 12.22		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.24.19 12.22	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.24.19 12.22	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.24.19 12.22	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.24.19 12.22	U	1
Total BTEX		0.00480	0.00199	mg/kg	09.24.19 12.22		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	09.24.19 12.22		
1,4-Difluorobenzene	540-36-3	105	%	70-130	09.24.19 12.22		



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.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3102268

MB Sample Id: 7686744-1-BLK

Matrix: Solid

LCS Sample Id: 7686744-1-BKS

Prep Method: E300P

Date Prep: 09.23.19

LCSD Sample Id: 7686744-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	261	104	260	104	90-110	0	20	mg/kg	09.23.19 19:12	

Analytical Method: Chloride by EPA 300

Seq Number: 3102358

MB Sample Id: 7686737-1-BLK

Matrix: Solid

LCS Sample Id: 7686737-1-BKS

Prep Method: E300P

Date Prep: 09.23.19

LCSD Sample Id: 7686737-1-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	264	106	265	106	90-110	0	20	mg/kg	09.24.19 16:34	

Analytical Method: Chloride by EPA 300

Seq Number: 3102268

Parent Sample Id: 637757-004

Matrix: Soil

MS Sample Id: 637757-004 S

Prep Method: E300P

Date Prep: 09.23.19

MSD Sample Id: 637757-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	58.3	252	319	103	315	102	90-110	1	20	mg/kg	09.23.19 19:42	

Analytical Method: Chloride by EPA 300

Seq Number: 3102268

Parent Sample Id: 637757-005

Matrix: Soil

MS Sample Id: 637757-005 S

Prep Method: E300P

Date Prep: 09.23.19

MSD Sample Id: 637757-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	81.3	249	332	101	332	101	90-110	0	20	mg/kg	09.23.19 21:19	

Analytical Method: Chloride by EPA 300

Seq Number: 3102358

Parent Sample Id: 637573-001

Matrix: Soil

MS Sample Id: 637573-001 S

Prep Method: E300P

Date Prep: 09.23.19

MSD Sample Id: 637573-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4.60	248	256	101	254	101	90-110	1	20	mg/kg	09.24.19 16:53	

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

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

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.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3102358

Parent Sample Id: 637573-008

Matrix: Soil

MS Sample Id: 637573-008 S

Prep Method: E300P

Date Prep: 09.23.19

MSD Sample Id: 637573-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	18.8	248	281	106	279	105	90-110	1	20	mg/kg	09.24.19 18:23	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3102309

MB Sample Id: 7686733-1-BLK

Matrix: Solid

LCS Sample Id: 7686733-1-BKS

Prep Method: SW8015P

Date Prep: 09.23.19

LCSD Sample Id: 7686733-1-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	1030	103	1140	114	70-135	10	20	mg/kg	09.23.19 23:50	
Diesel Range Organics (DRO)	47.8	1000	958	96	1070	107	70-135	11	20	mg/kg	09.23.19 23:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		120		133		70-135	%	09.23.19 23:50
o-Terphenyl	110		114		127		70-135	%	09.23.19 23:50

Analytical Method: TPH by SW8015 Mod

Seq Number: 3102309

Parent Sample Id: 637562-001

Matrix: Soil

MS Sample Id: 637562-001 S

Prep Method: SW8015P

Date Prep: 09.23.19

MSD Sample Id: 637562-001 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	1180	118	1040	104	70-135	13	20	mg/kg	09.24.19 00:52	
Diesel Range Organics (DRO)	35.0	999	1160	113	985	95	70-135	16	20	mg/kg	09.24.19 00:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		111		70-135	%	09.24.19 00:52
o-Terphenyl	126		106		70-135	%	09.24.19 00:52

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.

PLU 423 H Tank Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3102297

MB Sample Id: 7686712-1-BLK

Matrix: Solid

LCS Sample Id: 7686712-1-BKS

Prep Method: SW5030B

Date Prep: 09.23.19

LCSD Sample Id: 7686712-1-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	0.105	105	0.102	102	70-130	3	35	mg/kg	09.24.19 01:48	
Toluene	<0.00200	0.100	0.0981	98	0.0957	96	70-130	2	35	mg/kg	09.24.19 01:48	
Ethylbenzene	<0.00200	0.100	0.103	103	0.100	100	70-130	3	35	mg/kg	09.24.19 01:48	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.196	98	70-130	2	35	mg/kg	09.24.19 01:48	
o-Xylene	<0.00200	0.100	0.103	103	0.102	102	70-130	1	35	mg/kg	09.24.19 01:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		101		103		70-130	%	09.24.19 01:48
4-Bromofluorobenzene	92		104		109		70-130	%	09.24.19 01:48

Analytical Method: BTEX by EPA 8021B

Seq Number: 3102297

Parent Sample Id: 637562-001

Matrix: Soil

MS Sample Id: 637562-001 S

Prep Method: SW5030B

Date Prep: 09.23.19

MSD Sample Id: 637562-001 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	0.0849	85	0.0688	69	70-130	21	35	mg/kg	09.24.19 02:28	X
Toluene	<0.00200	0.0998	0.0842	84	0.0682	68	70-130	21	35	mg/kg	09.24.19 02:28	X
Ethylbenzene	<0.00200	0.0998	0.0823	82	0.0656	66	70-130	23	35	mg/kg	09.24.19 02:28	X
m,p-Xylenes	<0.00399	0.200	0.158	79	0.127	64	70-130	22	35	mg/kg	09.24.19 02:28	X
o-Xylene	<0.00200	0.0998	0.0809	81	0.0652	65	70-130	21	35	mg/kg	09.24.19 02:28	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		104		70-130	%	09.24.19 02:28
4-Bromofluorobenzene	109		104		70-130	%	09.24.19 02:28

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



Chain of Custody

Work Order No: 16375622

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 609-3534

Midland, TX (432) 704-5440 El Paso, TX (957) 685-3443 Lubbock, TX (806) 784-1058 Crawford, NM (432) 704-5440
Phoenix, AZ (480) 386-0900 Atlanta, GA (770) 430-8800 Tallahassee, FL (904) 620-3000 West Palm Beach, FL (561) 669-6701

www.xenonco.com

Page 1 of 2

Project Manager:	DAN MOIR	Client Name:	KYLE LITRELL
Company Name:	LT ENVIRONMENTAL	Company Name:	XTO ENERGY
Address:	3800 NORTH A ST	Address:	3104 E. GREENE ST
City, State ZIP:	MIDLAND TX 79705	City, State ZIP:	CARLSBAD NM 88120
Phone:	432 234 3849	Email:	abeyers@xenonco.com dmoir@ltenv.com

Program: UST/PT ☐ PRP ☐ Brownfields ☐ RCRC ☐ Superfund ☐
State of Project:
Reporting Level: I ☐ Level II ☐ Level III ☐ PRT/UST ☐ TRRP ☐ Level IV ☐
Deliverables: ERO ☐ ADAPT ☐ Other:

Project Name:	PLU 4123H TANK BATTERY	Turn Amount:	
Project Number:	012917043	Routing:	☐
Project Location:	RURAL EDDY COUNTY	Route:	5 day
Sample Name:	ANNA BYERS	Due Date:	
PO #:	220-44046	Quote #:	

SAMPLE RECEIPT		Temp Blank:	☒ Yes ☐ No	Wet Test:	☒ Yes ☐ No
Temperature (°F):	82	Thermometer ID:	TN007		
Received Impact:	☒ Yes ☐ No	Correction Factor:	-0.2		
Cooler Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	19		
Sample Custody Seals:	Yes ☒ No ☐ N/A				

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
SW16		S	9/19/19	1000	0.5-10'	1	TPH (EPA 8015) BTEX (EPA 8021) Chloride (EPA 800.0)	MOCH: Mo NONE: NO HNO3: HN H2SO4: H2 HCL: HL MACH: MA Zn Acetate: ZACH: ZN	Composite
SW17		S		1005	0.5-10'	1			
SW18		S		1010	0.5-8'	1			
SW19		S		1230	0.5-8'	1			
SW20		S		1235	0.5-8'	1			
SW21		S		1240	0.5-8'	1			
SW22		S		1245	0.5-8'	1			
SW23		S		1250	0.5-6'	1			
SW24		S		1400	0.5-8'	1			
SW25		S		1405	0.5-10'	1			

Total	200.7 / 6010	200.8 / 6020:	BRORA, 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SnO2 Na Sr Ti Sn U V Zn
Circle Method(s) and Matrix(s) to be analyzed:	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

Notes: Signature of this document and relinquishment of sample constitutes a valid purchase order from client company to Xenonco. Its analysis and substantiation. It assigns standard terms and conditions of service. Xenonco 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 Xenonco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5.00 per each sample submitted to Xenonco, 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
Anna Byers	Carol	9/20/19 09:55			



Chain of Custody

Work Order No: 637502

Houston, TX (281) 240-4200 Dallas, TX (214) 902-7000 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 784-1200
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 445-8000 Tampa, FL (813) 620-2000
 Miami, FL (305) 588-6701

WWW.XENCO.COM

Page 2 of 2

Project Manager:	DAN MOIR	Bill to (if different):	KYLE LITRELL
Company Name:	LT ENVIRONMENTAL	Company Name:	XTD ENERGY
Address:	3300 NORTH A ST	Address:	3104 E. GREENE ST
City, State ZIP:	MIDLAND TX 79705	City, State ZIP:	CARLSBAD NM 88220
Phone:	432 236 3849	Email:	abyers@xenco.com

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RCRC ☐ Superfund ☐
State of Project:
Reporting Level: I ☐ Level II ☐ Level III ☐ PST/UST ☐ THRP ☐ Level IV ☐
Deliverables: ESD ☐ ADAPT ☐ Other: ☐

ANALYSIS REQUEST

Project Name:	PLU 4234 TAWA BATTERY	Turn Account:	
Project Number:	012917043	Rebate:	☐
Project Location:	BUENA VISTA COUNTY	Push:	5 DAY
Sampler's Name:	ANNA BYERS	Run Date:	
PO #: 229-4466	Quote #		

SAMPLE RECEIPT	Temp Blank:	Yes	No	W/ Ice:	Yes	No
Temperature (°C):	Received Intact:	Yes	No	W/ Ice:	Yes	No
Cooler Capacity Status:	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 Requested	Preservative Codes	Sample Comments
SW26			9/19/19	1410	0.5-10'	1	TPH (EPA 8015)		
SW27				1415	0.5-10'	1	BTEX (EPA 8021)		
FS40				1300	6-7'	1	Chpide (EPA 8020)		
FS41				1305	8'	1			
FS42				1310	6-7'	1			
FS43				1315	8'	1			
FS44				1330	8'	1			
FS45				1335	6-8'	1			
FS46				1340	6-7'	1			

Total 200.7 / 6010 200.8 / 6020:

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

BRCA: 13PPM Texas 11 A Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 TCLP / SPLP 6010: BRCA: Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
 1631 / 245.1 / 7470 / 7471: Hg

Under direction of this document and responsibility of samples constitutes a valid purchase order from client (contingent 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) (unless the client agrees to assume responsibility beyond the cost of service. 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 authorized unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Carol	9/20/19 09:55			

Revised Data Entry Form 2015.7



Inter-Office Shipment

Page 1 of 3

IOS Number **48470**

Date/Time: 09/20/19 13:12

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.: 776300846223

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
637562-001	S	SW16	09/19/19 10:00	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-001	S	SW16	09/19/19 10:00	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-001	S	SW16	09/19/19 10:00	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-002	S	SW17	09/19/19 10:05	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-002	S	SW17	09/19/19 10:05	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-002	S	SW17	09/19/19 10:05	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-003	S	SW18	09/19/19 10:10	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-003	S	SW18	09/19/19 10:10	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-003	S	SW18	09/19/19 10:10	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-004	S	SW19	09/19/19 12:30	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-004	S	SW19	09/19/19 12:30	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-004	S	SW19	09/19/19 12:30	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-005	S	SW20	09/19/19 12:35	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-005	S	SW20	09/19/19 12:35	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-005	S	SW20	09/19/19 12:35	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-006	S	SW21	09/19/19 12:40	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-006	S	SW21	09/19/19 12:40	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-006	S	SW21	09/19/19 12:40	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-007	S	SW22	09/19/19 12:45	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-007	S	SW22	09/19/19 12:45	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-007	S	SW22	09/19/19 12:45	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-008	S	SW23	09/19/19 12:50	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-008	S	SW23	09/19/19 12:50	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-008	S	SW23	09/19/19 12:50	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-009	S	SW24	09/19/19 14:00	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	



Inter-Office Shipment

Page 2 of 3

IOS Number **48470**

Date/Time: 09/20/19 13:12

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.: 776300846223

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
637562-009	S	SW24	09/19/19 14:00	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-009	S	SW24	09/19/19 14:00	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-010	S	SW25	09/19/19 14:05	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-010	S	SW25	09/19/19 14:05	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-010	S	SW25	09/19/19 14:05	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-011	S	SW26	09/19/19 14:10	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-011	S	SW26	09/19/19 14:10	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-011	S	SW26	09/19/19 14:10	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-012	S	SW27	09/19/19 14:15	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-012	S	SW27	09/19/19 14:15	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-012	S	SW27	09/19/19 14:15	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-013	S	FS40	09/19/19 13:00	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-013	S	FS40	09/19/19 13:00	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-013	S	FS40	09/19/19 13:00	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-014	S	FS41	09/19/19 13:05	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-014	S	FS41	09/19/19 13:05	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-014	S	FS41	09/19/19 13:05	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-015	S	FS42	09/19/19 13:10	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-015	S	FS42	09/19/19 13:10	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-015	S	FS42	09/19/19 13:10	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-016	S	FS43	09/19/19 13:15	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-016	S	FS43	09/19/19 13:15	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-016	S	FS43	09/19/19 13:15	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-017	S	FS44	09/19/19 13:30	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-017	S	FS44	09/19/19 13:30	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:



Inter-Office Shipment

Page 3 of 3

IOS Number **48470**

Date/Time: 09/20/19 13:12

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.: 776300846223

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
637562-017	S	FS44	09/19/19 13:30	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-018	S	FS45	09/19/19 13:35	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-018	S	FS45	09/19/19 13:35	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-018	S	FS45	09/19/19 13:35	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	
637562-019	S	FS46	09/19/19 13:40	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/03/19	JKR	GRO-DRO PHCC10C28 PF	
637562-019	S	FS46	09/19/19 13:40	SW8021B	BTEX by EPA 8021B	09/26/19	10/03/19	JKR	BR4FBZ BZ BZME EBZ X	
637562-019	S	FS46	09/19/19 13:40	E300_CL	Chloride by EPA 300	09/26/19	03/17/20	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By:

Received By:

Date Relinquished:

Elizabeth McClellan

Date Received:

Brianna Teel

09/20/2019

Cooler Temperature:

09/23/2019 08:09

0.4



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 48470

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 09/20/2019 01:12 PM

Received By: Brianna Teel

Date Received: 09/23/2019 08:09 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.4
#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: 09/23/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/20/2019 09:55:00 AM

Work Order #: 637562

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.2	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	Yes	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: 09/20/2019

Checklist reviewed by:

Jessica Kramer

Date: 09/23/2019

Analytical Report 637566

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423 H Tank Battery

012917043

26-SEP-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-21), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

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



26-SEP-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **637566**

PLU 423 H Tank Battery

Project Address: Rural Eddy County

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) 637566. 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. 637566 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 637566

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH22	S	09-18-19 09:10	6 ft	637566-001
PH22A	S	09-18-19 09:55	14 ft	637566-002



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423 H Tank Battery

Project ID: 012917043

Work Order Number(s): 637566

Report Date: 26-SEP-19

Date Received: 09/20/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3102256 BTEX by EPA 8021B

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

Certificate of Analysis Summary 637566



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location: Rural Eddy County

Date Received in Lab: Fri Sep-20-19 09:55 am

Report Date: 26-SEP-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	637566-001	637566-002				
	Field Id:	PH22	PH22A				
	Depth:	6- ft	14- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Sep-18-19 09:10	Sep-18-19 09:55				
BTEX by EPA 8021B SUB: T104704400-18-18	Extracted:	Sep-23-19 14:30	Sep-23-19 14:30				
	Analyzed:	Sep-23-19 18:30	Sep-23-19 18:50				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00200 0.00200	<0.00201 0.00201				
Toluene		<0.00200 0.00200	<0.00201 0.00201				
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201				
m,p-Xylenes		<0.00400 0.00400	<0.00402 0.00402				
o-Xylene		<0.00200 0.00200	<0.00201 0.00201				
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201				
Total BTEX		<0.00200 0.00200	<0.00201 0.00201				
Chloride by EPA 300 SUB: T104704400-18-18	Extracted:	Sep-23-19 16:00	Sep-23-19 16:00				
	Analyzed:	Sep-24-19 17:12	Sep-24-19 17:19				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		12500 101	890 4.96				
TPH by SW8015 Mod SUB: T104704400-18-18	Extracted:	Sep-23-19 15:00	Sep-23-19 14:00				
	Analyzed:	Sep-24-19 08:15	Sep-23-19 17:12				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0				
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0				
Total GRO-DRO		<50.0 50.0	<50.0 50.0				
Total TPH		<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 Analytical Results 637566

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH22**
Lab Sample Id: 637566-001

Matrix: Soil
Date Collected: 09.18.19 09.10

Date Received: 09.20.19 09.55
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102358

Date Prep: 09.23.19 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12500	101	mg/kg	09.24.19 17.12		20

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102309

Date Prep: 09.23.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.24.19 08.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.24.19 08.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.24.19 08.15	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.24.19 08.15	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.24.19 08.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.24.19 08.15	
o-Terphenyl	84-15-1	112	%	70-135	09.24.19 08.15	



Certificate of Analytical Results 637566

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH22**
Lab Sample Id: 637566-001

Matrix: Soil
Date Collected: 09.18.19 09.10

Date Received: 09.20.19 09.55
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 09.23.19 14.30

Basis: Wet Weight

Seq Number: 3102256

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.23.19 18.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.23.19 18.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.23.19 18.30	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.23.19 18.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.23.19 18.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.23.19 18.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.23.19 18.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	09.23.19 18.30		
1,4-Difluorobenzene	540-36-3	100	%	70-130	09.23.19 18.30		



Certificate of Analytical Results 637566

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH22A**
Lab Sample Id: 637566-002

Matrix: Soil
Date Collected: 09.18.19 09.55

Date Received: 09.20.19 09.55
Sample Depth: 14 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3102358

Date Prep: 09.23.19 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	890	4.96	mg/kg	09.24.19 17.19		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: DVM

Seq Number: 3102310

Date Prep: 09.23.19 14.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.23.19 17.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.23.19 17.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.23.19 17.12	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.23.19 17.12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.23.19 17.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	09.23.19 17.12	
o-Terphenyl	84-15-1	123	%	70-135	09.23.19 17.12	



Certificate of Analytical Results 637566

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **PH22A**
Lab Sample Id: 637566-002

Matrix: Soil
Date Collected: 09.18.19 09.55

Date Received: 09.20.19 09.55
Sample Depth: 14 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3102256

Date Prep: 09.23.19 14.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.23.19 18.50	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.23.19 18.50	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.23.19 18.50	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.23.19 18.50	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.23.19 18.50	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.23.19 18.50	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.23.19 18.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	09.23.19 18.50		
1,4-Difluorobenzene	540-36-3	98	%	70-130	09.23.19 18.50		



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.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3102358

MB Sample Id: 7686737-1-BLK

Matrix: Solid

LCS Sample Id: 7686737-1-BKS

Prep Method: E300P

Date Prep: 09.23.19

LCSD Sample Id: 7686737-1-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	264	106	265	106	90-110	0	20	mg/kg	09.24.19 16:34	

Analytical Method: Chloride by EPA 300

Seq Number: 3102358

Parent Sample Id: 637573-001

Matrix: Soil

MS Sample Id: 637573-001 S

Prep Method: E300P

Date Prep: 09.23.19

MSD Sample Id: 637573-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4.60	248	256	101	254	101	90-110	1	20	mg/kg	09.24.19 16:53	

Analytical Method: Chloride by EPA 300

Seq Number: 3102358

Parent Sample Id: 637573-008

Matrix: Soil

MS Sample Id: 637573-008 S

Prep Method: E300P

Date Prep: 09.23.19

MSD Sample Id: 637573-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	18.8	248	281	106	279	105	90-110	1	20	mg/kg	09.24.19 18:23	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3102310

MB Sample Id: 7686732-1-BLK

Matrix: Solid

LCS Sample Id: 7686732-1-BKS

Prep Method: SW8015P

Date Prep: 09.23.19

LCSD Sample Id: 7686732-1-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	1110	111	1160	116	70-135	4	20	mg/kg	09.23.19 14:23	
Diesel Range Organics (DRO)	<15.0	1000	1100	110	1110	111	70-135	1	20	mg/kg	09.23.19 14:23	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		131		132		70-135	%	09.23.19 14:23
o-Terphenyl	118		128		124		70-135	%	09.23.19 14:23

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.

PLU 423 H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3102309

MB Sample Id: 7686733-1-BLK

Matrix: Solid

LCS Sample Id: 7686733-1-BKS

Prep Method: SW8015P

Date Prep: 09.23.19

LCSD Sample Id: 7686733-1-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	1030	103	1140	114	70-135	10	20	mg/kg	09.23.19 23:50	
Diesel Range Organics (DRO)	47.8	1000	958	96	1070	107	70-135	11	20	mg/kg	09.23.19 23:50	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	111		120		133		70-135	%	09.23.19 23:50			
o-Terphenyl	110		114		127		70-135	%	09.23.19 23:50			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3102310

Parent Sample Id: 637501-001

Matrix: Soil

MS Sample Id: 637501-001 S

Prep Method: SW8015P

Date Prep: 09.23.19

MSD Sample Id: 637501-001 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	1160	116	1180	118	70-135	2	20	mg/kg	09.23.19 15:26	
Diesel Range Organics (DRO)	438	999	1440	100	1450	102	70-135	1	20	mg/kg	09.23.19 15:26	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			124		126		70-135	%	09.23.19 15:26			
o-Terphenyl			116		120		70-135	%	09.23.19 15:26			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3102309

Parent Sample Id: 637562-001

Matrix: Soil

MS Sample Id: 637562-001 S

Prep Method: SW8015P

Date Prep: 09.23.19

MSD Sample Id: 637562-001 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	1180	118	1040	104	70-135	13	20	mg/kg	09.24.19 00:52	
Diesel Range Organics (DRO)	35.0	999	1160	113	985	95	70-135	16	20	mg/kg	09.24.19 00:52	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			123		111		70-135	%	09.24.19 00:52			
o-Terphenyl			126		106		70-135	%	09.24.19 00:52			

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.

PLU 423 H Tank Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3102256

MB Sample Id: 7686708-1-BLK

Matrix: Solid

LCS Sample Id: 7686708-1-BKS

Prep Method: SW5030B

Date Prep: 09.23.19

LCSD Sample Id: 7686708-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.111	111	0.0921	92	70-130	19	35	mg/kg	09.24.19 09:21	
Toluene	<0.00200	0.100	0.107	107	0.0845	85	70-130	23	35	mg/kg	09.24.19 09:21	
Ethylbenzene	<0.00200	0.100	0.115	115	0.0855	86	70-130	29	35	mg/kg	09.24.19 09:21	
m,p-Xylenes	<0.00400	0.200	0.225	113	0.166	83	70-130	30	35	mg/kg	09.24.19 09:21	
o-Xylene	<0.00200	0.100	0.114	114	0.0868	87	70-130	27	35	mg/kg	09.24.19 09:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		102		100		70-130	%	09.24.19 09:21
4-Bromofluorobenzene	93		108		104		70-130	%	09.24.19 09:21

Analytical Method: BTEX by EPA 8021B

Seq Number: 3102256

Parent Sample Id: 637499-001

Matrix: Soil

MS Sample Id: 637499-001 S

Prep Method: SW5030B

Date Prep: 09.23.19

MSD Sample Id: 637499-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.107	107	0.0975	98	70-130	9	35	mg/kg	09.23.19 15:50	
Toluene	<0.00200	0.100	0.104	104	0.0934	94	70-130	11	35	mg/kg	09.23.19 15:50	
Ethylbenzene	<0.00200	0.100	0.108	108	0.0947	95	70-130	13	35	mg/kg	09.23.19 15:50	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.184	92	70-130	13	35	mg/kg	09.23.19 15:50	
o-Xylene	<0.00200	0.100	0.105	105	0.0930	93	70-130	12	35	mg/kg	09.23.19 15:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	09.23.19 15:50
4-Bromofluorobenzene	109		104		70-130	%	09.23.19 15:50

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: 1937506

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0000 San Antonio, TX (210) 606-3034
 Midland, TX (432) 704-5440 El Paso, TX (915) 565-3443 Lubbock, TX (806) 794-1200 Crystal Lake, IL (815) 704-5440
 Phoenix, AZ (480) 555-0900 Atlanta, GA (770) 433-8400 Tallahassee, FL (904) 625-4000 Wood Dale, IL (630) 669-6701

www.xencolabs.com Page 1 of 1

Project Manager: DAN MOIR		Bill to: (if different)		KYLE LITTLE	
Company Name: LT ENVIRONMENTAL		Company Name: XTD ENERGY			
Address: 3300 NORTH A ST		Address: 3104 E. GREENE ST			
City, State ZIP: MIDLAND TX 79705		City, State ZIP: CARLSBAD NM 88126			
Phone: 432 236 3849		Email: dmoyers@xencolabs.com + danmoir@xencolabs.com			
Project Name: PLU 423H TANK BATTERY		Turn Around			
Project Number: 012917015		Residue: ☐			
Project Location: RUPEL EDDY COUNTY		Run: 5 day			
Sample Name: ANNA BYERS		Due Date:			
PO #: 200-4466		Quote #:			
SAMPLE RECEIPT		Temp Blank: ☒ Yes ☐ No		Wat Inc: ☒ Yes ☐ No	
Temperature (°C): 0.2		Thermometer ID: TMM007			
Revised Initial: ☒ Yes ☐ No		Correction Factor: -0.2			
Cooler Custody Seal: ☒ Yes ☐ No		Total Containers: 2			
Sample Custody Seal: ☒ Yes ☐ No					
Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth
PH22		S	9/18/19	0910	6'
PH22A		S	9/18/19	0955	14'
Number of Containers					
TPH (EPA 8015)					
BTEX (EPA 8021)					
Chloride (EPA 300.0)					
ANALYSIS REQUEST					
Preservative Codes					
MICH: Me					
Name: NO					
HNO3: HN					
H2SO4: H2					
HCL: HL					
MICH: Na					
Zn Acetate+ MeCl: Zn					
TAT starts the day reported by the lab. If received by 4:00pm					
Sample Comments					
discrete					
discrete					
Total 200.7 / 6010 200.8 / 6020:					
Circle Method(s) and Metal(s) to be analyzed: TCLP / SPLP 6010: SRCRA Sb As Ba Be B Cd Cr Co Cu Pb Mn Mo Ni K Se Ag Sn U Zn					
8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Sn U Zn					
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 indicated.					
Relinquished by: (Signature)		Received by: (Signature)		Date/Time	
Anna Byers		Cox		9/24/19 09:55	
Relinquished by: (Signature)		Received by: (Signature)		Date/Time	



Inter-Office Shipment

Page 1 of 1

IOS Number **48472**

Date/Time: 09/20/19 13:19

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.: 776300846223

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
637566-001	S	PH22	09/18/19 09:10	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/02/19	JKR	GRO-DRO PHCC10C28 PF	
637566-001	S	PH22	09/18/19 09:10	SW8021B	BTEX by EPA 8021B	09/26/19	10/02/19	JKR	BR4FBZ BZ BZME EBZ X	
637566-001	S	PH22	09/18/19 09:10	E300_CL	Chloride by EPA 300	09/26/19	03/16/20	JKR	CL	
637566-002	S	PH22A	09/18/19 09:55	SW8021B	BTEX by EPA 8021B	09/26/19	10/02/19	JKR	BR4FBZ BZ BZME EBZ X	
637566-002	S	PH22A	09/18/19 09:55	E300_CL	Chloride by EPA 300	09/26/19	03/16/20	JKR	CL	
637566-002	S	PH22A	09/18/19 09:55	SW8015MOD_NM	TPH by SW8015 Mod	09/26/19	10/02/19	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 09/20/2019

Received By:

Brianna Teel

Date Received: 09/23/2019 08:09

Cooler Temperature: 0.4



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 48472

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 09/20/2019 01:19 PM

Received By: Brianna Teel

Date Received: 09/23/2019 08:09 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.4
#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: 09/23/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/20/2019 09:55:00 AM

Work Order #: 637566

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.2	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	Yes	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: 09/20/2019

Checklist reviewed by:

Jessica Kramer

Date: 09/23/2019

Analytical Report 651004

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423h Tank Battery

012917043

03-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)



03-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651004**

PLU 423h Tank Battery

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) 651004. 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. 651004 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 651004****LT Environmental, Inc., Arvada, CO**

PLU 423h Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS47	S	01-29-20 12:20	4.5 ft	651004-001
FS48	S	01-29-20 12:40	4.5 ft	651004-002
FS49	S	01-29-20 13:20	4.5 ft	651004-003
FS50	S	01-29-20 14:20	4.5 ft	651004-004
FS51	S	01-29-20 14:50	4.5 ft	651004-005
FS52	S	01-30-20 12:45	4.5 ft	651004-006
FS53	S	01-30-20 13:05	4.5 ft	651004-007
FS54	S	01-30-20 13:10	4.5 ft	651004-008



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423h Tank Battery

Project ID: 012917043

Work Order Number(s): 651004

Report Date: 03-FEB-20

Date Received: 01/31/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115239 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651004



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423h Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Jan-31-20 12:40 pm

Report Date: 03-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	651004-001	651004-002	651004-003	651004-004	651004-005	651004-006
	Field Id:	FS47	FS48	FS49	FS50	FS51	FS52
	Depth:	4.5- ft	4.5- ft	4.5- ft	4.5- ft	4.5- ft	4.5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jan-29-20 12:20	Jan-29-20 12:40	Jan-29-20 13:20	Jan-29-20 14:20	Jan-29-20 14:50	Jan-30-20 12:45
BTEX by EPA 8021B	Extracted:	Jan-31-20 14:00	Jan-31-20 14:00	Jan-31-20 14:00	Jan-31-20 14:00	Jan-31-20 14:00	Jan-31-20 14:00
	Analyzed:	Jan-31-20 18:51	Jan-31-20 19:11	Jan-31-20 19:31	Jan-31-20 19:52	Jan-31-20 20:12	Jan-31-20 20:32
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00398 0.00398	<0.00400 0.00400	<0.00395 0.00395	<0.00397 0.00397	<0.00400 0.00400	<0.00395 0.00395
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Chloride by EPA 300	Extracted:	Jan-31-20 14:30	Jan-31-20 14:30	Jan-31-20 14:30	Jan-31-20 14:30	Jan-31-20 14:30	Jan-31-20 14:30
	Analyzed:	Jan-31-20 14:53	Jan-31-20 15:11	Jan-31-20 15:17	Jan-31-20 15:23	Jan-31-20 15:29	Jan-31-20 15:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8630 49.4	8790 49.9	210 49.7	6450 49.6	134 49.8	635 49.9
TPH by SW8015 Mod	Extracted:	Jan-31-20 13:00	Jan-31-20 13:00	Jan-31-20 13:00	Jan-31-20 13:00	Jan-31-20 13:00	Jan-31-20 13:00
	Analyzed:	Jan-31-20 14:28	Feb-03-20 11:01	Jan-31-20 15:08	Jan-31-20 15:08	Jan-31-20 15:28	Jan-31-20 15:28
	Units/RL:	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	<49.8 49.8	<49.7 49.7	<49.9 49.9	<49.9 49.9	<50.1 50.1
Diesel Range Organics (DRO)		<50.0 50.0	<49.8 49.8	<49.7 49.7	<49.9 49.9	<49.9 49.9	<50.1 50.1
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<49.7 49.7	<49.9 49.9	<49.9 49.9	<50.1 50.1
Total GRO-DRO		<50.0 50.0	<49.8 49.8	<49.7 49.7	<49.9 49.9	<49.9 49.9	<50.1 50.1
Total TPH		<50.0 50.0	<49.8 49.8	<49.7 49.7	<49.9 49.9	<49.9 49.9	<50.1 50.1

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

Version: 1.9%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 651004



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423h Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Jan-31-20 12:40 pm

Report Date: 03-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	651004-007	651004-008				
	Field Id:	FS53	FS54				
	Depth:	4.5- ft	4.5- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jan-30-20 13:05	Jan-30-20 13:10				
BTEX by EPA 8021B	Extracted:	Jan-31-20 14:00	Jan-31-20 14:00				
	Analyzed:	Jan-31-20 20:53	Jan-31-20 21:13				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00200 0.00200	<0.00200 0.00200				
	Toluene	<0.00200 0.00200	<0.00200 0.00200				
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200				
m,p-Xylenes		<0.00399 0.00399	<0.00399 0.00399				
o-Xylene		<0.00200 0.00200	<0.00200 0.00200				
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200				
Total BTEX		<0.00200 0.00200	<0.00200 0.00200				
Chloride by EPA 300	Extracted:	Jan-31-20 14:30	Jan-31-20 14:30				
	Analyzed:	Jan-31-20 15:54	Jan-31-20 16:00				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	25.4 10.0	806 49.5				
TPH by SW8015 Mod	Extracted:	Jan-31-20 13:00	Jan-31-20 13:00				
	Analyzed:	Jan-31-20 15:48	Jan-31-20 15:48				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<49.9 49.9	<49.9 49.9				
	Diesel Range Organics (DRO)	<49.9 49.9	<49.9 49.9				
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.9 49.9				
Total GRO-DRO		<49.9 49.9	<49.9 49.9				
Total TPH		<49.9 49.9	<49.9 49.9				

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

Version: 1.0%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS47**
Lab Sample Id: 651004-001

Matrix: Soil
Date Collected: 01.29.20 12.20

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115258

Date Prep: 01.31.20 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8630	49.4	mg/kg	01.31.20 14.53		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115277

Date Prep: 01.31.20 13.00

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	01.31.20 14.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.31.20 14.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.31.20 14.28	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.31.20 14.28	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.31.20 14.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	01.31.20 14.28	
o-Terphenyl	84-15-1	115	%	70-135	01.31.20 14.28	



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS47**
Lab Sample Id: 651004-001

Matrix: Soil
Date Collected: 01.29.20 12.20

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.31.20 14.00

Basis: Wet Weight

Seq Number: 3115239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.31.20 18.51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.31.20 18.51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.31.20 18.51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.31.20 18.51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.31.20 18.51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.31.20 18.51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.31.20 18.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	01.31.20 18.51		
4-Bromofluorobenzene	460-00-4	96	%	70-130	01.31.20 18.51		



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS48** Matrix: Soil Date Received: 01.31.20 12.40
 Lab Sample Id: 651004-002 Date Collected: 01.29.20 12.40 Sample Depth: 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 01.31.20 14.30 Basis: Wet Weight
 Seq Number: 3115258

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8790	49.9	mg/kg	01.31.20 15.11		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 01.31.20 13.00 Basis: Wet Weight
 Seq Number: 3115277

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.03.20 11.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.03.20 11.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.03.20 11.01	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.03.20 11.01	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.03.20 11.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	02.03.20 11.01	
o-Terphenyl	84-15-1	90	%	70-135	02.03.20 11.01	



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS48**
Lab Sample Id: 651004-002

Matrix: Soil
Date Collected: 01.29.20 12.40

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.31.20 14.00

Basis: Wet Weight

Seq Number: 3115239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.31.20 19.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.31.20 19.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.31.20 19.11	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.31.20 19.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.31.20 19.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.31.20 19.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.31.20 19.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	01.31.20 19.11		
4-Bromofluorobenzene	460-00-4	94	%	70-130	01.31.20 19.11		



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS49**
Lab Sample Id: 651004-003

Matrix: Soil
Date Collected: 01.29.20 13.20

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115258

Date Prep: 01.31.20 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	210	49.7	mg/kg	01.31.20 15.17		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115277

Date Prep: 01.31.20 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.7	49.7	mg/kg	01.31.20 15.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.7	49.7	mg/kg	01.31.20 15.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.7	49.7	mg/kg	01.31.20 15.08	U	1
Total GRO-DRO	PHC628	<49.7	49.7	mg/kg	01.31.20 15.08	U	1
Total TPH	PHC635	<49.7	49.7	mg/kg	01.31.20 15.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	01.31.20 15.08	
o-Terphenyl	84-15-1	111	%	70-135	01.31.20 15.08	



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS49**
Lab Sample Id: 651004-003

Matrix: Soil
Date Collected: 01.29.20 13.20

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.31.20 14.00

Basis: Wet Weight

Seq Number: 3115239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.31.20 19.31	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.31.20 19.31	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.31.20 19.31	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	01.31.20 19.31	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.31.20 19.31	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.31.20 19.31	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.31.20 19.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	01.31.20 19.31		
4-Bromofluorobenzene	460-00-4	95	%	70-130	01.31.20 19.31		



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS50** Matrix: Soil Date Received: 01.31.20 12.40
 Lab Sample Id: 651004-004 Date Collected: 01.29.20 14.20 Sample Depth: 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 01.31.20 14.30 Basis: Wet Weight
 Seq Number: 3115258

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6450	49.6	mg/kg	01.31.20 15.23		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 01.31.20 13.00 Basis: Wet Weight
 Seq Number: 3115277

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.31.20 15.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.31.20 15.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.31.20 15.08	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	01.31.20 15.08	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.31.20 15.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	130	%	70-135	01.31.20 15.08	
o-Terphenyl	84-15-1	120	%	70-135	01.31.20 15.08	



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS50**
Lab Sample Id: 651004-004

Matrix: Soil
Date Collected: 01.29.20 14.20

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.31.20 14.00

Basis: Wet Weight

Seq Number: 3115239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.31.20 19.52	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.31.20 19.52	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.31.20 19.52	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	01.31.20 19.52	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.31.20 19.52	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.31.20 19.52	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.31.20 19.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	01.31.20 19.52		
1,4-Difluorobenzene	540-36-3	105	%	70-130	01.31.20 19.52		



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS51**
Lab Sample Id: 651004-005

Matrix: Soil
Date Collected: 01.29.20 14.50

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115258

Date Prep: 01.31.20 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	134	49.8	mg/kg	01.31.20 15.29		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115277

Date Prep: 01.31.20 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.31.20 15.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.31.20 15.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.31.20 15.28	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	01.31.20 15.28	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.31.20 15.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	01.31.20 15.28	
o-Terphenyl	84-15-1	107	%	70-135	01.31.20 15.28	



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS51**
Lab Sample Id: 651004-005

Matrix: Soil
Date Collected: 01.29.20 14.50

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.31.20 14.00

Basis: Wet Weight

Seq Number: 3115239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.31.20 20.12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.31.20 20.12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.31.20 20.12	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.31.20 20.12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.31.20 20.12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.31.20 20.12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.31.20 20.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	01.31.20 20.12		
4-Bromofluorobenzene	460-00-4	97	%	70-130	01.31.20 20.12		



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: FS52
Lab Sample Id: 651004-006

Matrix: Soil
Date Collected: 01.30.20 12.45

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115258

Date Prep: 01.31.20 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	635	49.9	mg/kg	01.31.20 15.48		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115277

Date Prep: 01.31.20 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.31.20 15.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.31.20 15.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.31.20 15.28	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.31.20 15.28	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.31.20 15.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	131	%	70-135	01.31.20 15.28	
o-Terphenyl	84-15-1	120	%	70-135	01.31.20 15.28	



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: FS52
Lab Sample Id: 651004-006

Matrix: Soil
Date Collected: 01.30.20 12.45

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.31.20 14.00

Basis: Wet Weight

Seq Number: 3115239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.31.20 20.32	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.31.20 20.32	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.31.20 20.32	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	01.31.20 20.32	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.31.20 20.32	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.31.20 20.32	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.31.20 20.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	01.31.20 20.32		
4-Bromofluorobenzene	460-00-4	98	%	70-130	01.31.20 20.32		



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: FS53
Lab Sample Id: 651004-007

Matrix: Soil
Date Collected: 01.30.20 13.05

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115258

Date Prep: 01.31.20 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.4	10.0	mg/kg	01.31.20 15.54		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115277

Date Prep: 01.31.20 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.31.20 15.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.31.20 15.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.31.20 15.48	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	01.31.20 15.48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.31.20 15.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	01.31.20 15.48	
o-Terphenyl	84-15-1	105	%	70-135	01.31.20 15.48	



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: FS53
Lab Sample Id: 651004-007

Matrix: Soil
Date Collected: 01.30.20 13.05

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.31.20 14.00

Basis: Wet Weight

Seq Number: 3115239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.31.20 20.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.31.20 20.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.31.20 20.53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.31.20 20.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.31.20 20.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.31.20 20.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.31.20 20.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	01.31.20 20.53		
4-Bromofluorobenzene	460-00-4	98	%	70-130	01.31.20 20.53		



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS54**
Lab Sample Id: 651004-008

Matrix: Soil
Date Collected: 01.30.20 13.10

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115258

Date Prep: 01.31.20 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	806	49.5	mg/kg	01.31.20 16.00		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115277

Date Prep: 01.31.20 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.31.20 15.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.31.20 15.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.31.20 15.48	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	01.31.20 15.48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.31.20 15.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	133	%	70-135	01.31.20 15.48	
o-Terphenyl	84-15-1	124	%	70-135	01.31.20 15.48	



Certificate of Analytical Results 651004

LT Environmental, Inc., Arvada, CO

PLU 423h Tank Battery

Sample Id: **FS54**
Lab Sample Id: 651004-008

Matrix: Soil
Date Collected: 01.30.20 13.10

Date Received: 01.31.20 12.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.31.20 14.00

Basis: Wet Weight

Seq Number: 3115239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.31.20 21.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.31.20 21.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.31.20 21.13	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.31.20 21.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.31.20 21.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.31.20 21.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.31.20 21.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	01.31.20 21.13		
4-Bromofluorobenzene	460-00-4	101	%	70-130	01.31.20 21.13		



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.

PLU 423h Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3115258

MB Sample Id: 7695744-1-BLK

Matrix: Solid

LCS Sample Id: 7695744-1-BKS

Prep Method: E300P

Date Prep: 01.31.20

LCSD Sample Id: 7695744-1-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	256	102	256	102	90-110	0	20	mg/kg	01.31.20 14:41	

Analytical Method: Chloride by EPA 300

Seq Number: 3115258

Parent Sample Id: 651004-001

Matrix: Soil

MS Sample Id: 651004-001 S

Prep Method: E300P

Date Prep: 01.31.20

MSD Sample Id: 651004-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8630	201	8840	104	8830	100	90-110	0	20	mg/kg	01.31.20 14:59	

Analytical Method: Chloride by EPA 300

Seq Number: 3115258

Parent Sample Id: 651010-001

Matrix: Soil

MS Sample Id: 651010-001 S

Prep Method: E300P

Date Prep: 01.31.20

MSD Sample Id: 651010-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	357	199	560	102	561	102	90-110	0	20	mg/kg	01.31.20 16:24	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115277

MB Sample Id: 7695696-1-BLK

Matrix: Solid

LCS Sample Id: 7695696-1-BKS

Prep Method: SW8015P

Date Prep: 01.31.20

LCSD Sample Id: 7695696-1-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	929	93	1050	105	70-135	12	35	mg/kg	01.31.20 13:12	
Diesel Range Organics (DRO)	<50.0	1000	760	76	848	85	70-135	11	35	mg/kg	01.31.20 13:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		112		124		70-135	%	01.31.20 13:12
o-Terphenyl	111		104		106		70-135	%	01.31.20 13:12

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115277

Matrix: Solid

MB Sample Id: 7695696-1-BLK

Prep Method: SW8015P

Date Prep: 01.31.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.31.20 12:52	

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.

PLU 423h Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115277

Parent Sample Id: 651004-001

Matrix: Soil

MS Sample Id: 651004-001 S

Prep Method: SW8015P

Date Prep: 01.31.20

MSD Sample Id: 651004-001 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)	<49.8	995	1170	118	980	98	70-135	18	35	mg/kg	02.03.20 11:01	
Diesel Range Organics (DRO)	<49.8	995	1100	111	796	80	70-135	32	35	mg/kg	02.03.20 11:01	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		125		70-135	%	02.03.20 11:01
o-Terphenyl	107		117		70-135	%	02.03.20 11:01

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115239

MB Sample Id: 7695738-1-BLK

Matrix: Solid

LCS Sample Id: 7695738-1-BKS

Prep Method: SW5030B

Date Prep: 01.31.20

LCSD Sample Id: 7695738-1-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	0.119	119	0.120	120	70-130	1	35	mg/kg	01.31.20 13:09	
Toluene	<0.00200	0.100	0.110	110	0.112	112	70-130	2	35	mg/kg	01.31.20 13:09	
Ethylbenzene	<0.00200	0.100	0.107	107	0.109	109	71-129	2	35	mg/kg	01.31.20 13:09	
m,p-Xylenes	<0.00400	0.200	0.210	105	0.214	107	70-135	2	35	mg/kg	01.31.20 13:09	
o-Xylene	<0.00200	0.100	0.105	105	0.107	107	71-133	2	35	mg/kg	01.31.20 13:09	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		109		70-130	%	01.31.20 13:09
4-Bromofluorobenzene	96		93		92		70-130	%	01.31.20 13:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115239

Parent Sample Id: 650797-067

Matrix: Soil

MS Sample Id: 650797-067 S

Prep Method: SW5030B

Date Prep: 01.31.20

MSD Sample Id: 650797-067 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	0.122	122	0.106	106	70-130	14	35	mg/kg	01.31.20 14:10	
Toluene	<0.00199	0.0996	0.113	113	0.102	102	70-130	10	35	mg/kg	01.31.20 14:10	
Ethylbenzene	<0.00199	0.0996	0.110	110	0.102	102	71-129	8	35	mg/kg	01.31.20 14:10	
m,p-Xylenes	0.00142	0.199	0.215	107	0.200	99	70-135	7	35	mg/kg	01.31.20 14:10	
o-Xylene	<0.00199	0.0996	0.107	107	0.0993	99	71-133	7	35	mg/kg	01.31.20 14:10	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		106		70-130	%	01.31.20 14:10
4-Bromofluorobenzene	95		96		70-130	%	01.31.20 14:10

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: 651004

Houston, TX (281) 240-4200 Dallas, TX (214) 502-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432-704-5440) EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1298
 Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 820-2000

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental, Inc., Perrin 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:	slco@leiv.com, dmoir@leiv.com, acrole@leiv.com

Program: ☒ UST/ST ☐ PRP ☐ Brownfields ☐ ZRC ☐ Superfund ☐	
State of Project: ☐ Level I ☐ Level II ☐ Level III ☐ ST/UST ☐ PRP ☐ Level IV ☐	
Reporting Level II	☐
Deliverables: EDO ☐ ADAPT ☐ Other: ☐	

ANALYSIS REQUEST

Work Order Notes

Project Name:	PEU 4123H Tank Battery	Turn Around	
Project Number:	012917043	Routine	☐
P.O. Number:		Rush:	☒
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT		Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):	3.0	Thermometer ID:	TMM007		
Received Initial:	☒ Yes ☐ No	Correction Factor:	-0.2		
Cooler Custody Seals:	☒ Yes ☐ No	Total Containers:	8		
Sample Custody Seals:	☒ Yes ☐ No				

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Num	TPH (	BTEX	Chloro												Sample Comments
F547	S	1/24/20	12:20	4.5'	1	X	X	X												
F548			12:40																	
F549			13:20																	
F550			14:20																	
F551			14:50																	
F552		1/30/20	12:45																	
F553			13:05																	
F554			13:40																	
See 6																				

Total 200.7 / 6010 200.8 / 6020:

8RCRA 13PPM Texas 11 A 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

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 1631 / 245.1 / 7470 / 7471 : Hg

Note: 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
<i>Spencer</i>	<i>Spencer</i>	1/31/20 12:40	<i>Spencer</i>	<i>Spencer</i>	1/31/20 12:50

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.31.2020 12.40.00 PM

Work Order #: 651004

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T NM 007

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	No
#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#:

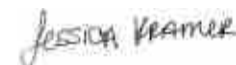
Checklist completed by:



Martha Castro

Date: 01.31.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.03.2020

Analytical Report 651008

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H tank Battery

012917043

03-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)



03-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651008**

PLU 423H tank Battery

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) 651008. 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. 651008 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 651008

LT Environmental, Inc., Arvada, CO

PLU 423H tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW29	S	01-29-20 13:55	0 - .4.5 ft	651008-001
SW31	S	01-30-20 13:20	0 - .4.5 ft	651008-002



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H tank Battery

Project ID: 012917043

Work Order Number(s): 651008

Report Date: 03-FEB-20

Date Received: 01/31/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115239 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651008



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Jan-31-20 12:40 pm

Report Date: 03-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	651008-001	651008-002				
	Field Id:	SW29	SW31				
	Depth:	0-.4.5 ft	0-.4.5 ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jan-29-20 13:55	Jan-30-20 13:20				
BTEX by EPA 8021B	Extracted:	Jan-31-20 14:00	Jan-31-20 14:00				
	Analyzed:	Jan-31-20 21:34	Jan-31-20 21:54				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00200 0.00200	<0.00200 0.00200				
Toluene		<0.00200 0.00200	<0.00200 0.00200				
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200				
m,p-Xylenes		<0.00399 0.00399	<0.00400 0.00400				
o-Xylene		<0.00200 0.00200	<0.00200 0.00200				
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200				
Total BTEX		<0.00200 0.00200	<0.00200 0.00200				
Chloride by EPA 300	Extracted:	Jan-31-20 14:30	Jan-31-20 14:30				
	Analyzed:	Jan-31-20 16:06	Jan-31-20 16:12				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		24.4 9.94	70.2 9.98				
TPH by SW8015 Mod	Extracted:	Jan-31-20 13:00	Jan-31-20 13:00				
	Analyzed:	Jan-31-20 16:08	Jan-31-20 16:08				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.3 50.3				
Diesel Range Organics (DRO)		<50.2 50.2	<50.3 50.3				
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.3 50.3				
Total GRO-DRO		<50.2 50.2	<50.3 50.3				
Total TPH		<50.2 50.2	<50.3 50.3				

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 651008

LT Environmental, Inc., Arvada, CO

PLU 423H tank Battery

Sample Id: **SW29**
Lab Sample Id: 651008-001

Matrix: Soil
Date Collected: 01.29.20 13.55

Date Received: 01.31.20 12.40
Sample Depth: 0 - .45 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115258

Date Prep: 01.31.20 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.4	9.94	mg/kg	01.31.20 16.06		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115277

Date Prep: 01.31.20 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.31.20 16.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.31.20 16.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.31.20 16.08	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.31.20 16.08	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.31.20 16.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	01.31.20 16.08	
o-Terphenyl	84-15-1	106	%	70-135	01.31.20 16.08	



Certificate of Analytical Results 651008

LT Environmental, Inc., Arvada, CO

PLU 423H tank Battery

Sample Id: **SW29**
Lab Sample Id: 651008-001

Matrix: Soil
Date Collected: 01.29.20 13.55

Date Received: 01.31.20 12.40
Sample Depth: 0 - .45 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.31.20 14.00

Basis: Wet Weight

Seq Number: 3115239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.31.20 21.34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.31.20 21.34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.31.20 21.34	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.31.20 21.34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.31.20 21.34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.31.20 21.34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.31.20 21.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	01.31.20 21.34		
4-Bromofluorobenzene	460-00-4	97	%	70-130	01.31.20 21.34		



Certificate of Analytical Results 651008

LT Environmental, Inc., Arvada, CO

PLU 423H tank Battery

Sample Id: **SW31** Matrix: Soil Date Received: 01.31.20 12.40
 Lab Sample Id: 651008-002 Date Collected: 01.30.20 13.20 Sample Depth: 0 - .45 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 01.31.20 14.30 Basis: Wet Weight
 Seq Number: 3115258

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	70.2	9.98	mg/kg	01.31.20 16.12		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 01.31.20 13.00 Basis: Wet Weight
 Seq Number: 3115277

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.31.20 16.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.31.20 16.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.31.20 16.08	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.31.20 16.08	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.31.20 16.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	134	%	70-135	01.31.20 16.08	
o-Terphenyl	84-15-1	126	%	70-135	01.31.20 16.08	



Certificate of Analytical Results 651008

LT Environmental, Inc., Arvada, CO

PLU 423H tank Battery

Sample Id: **SW31**
Lab Sample Id: 651008-002

Matrix: Soil
Date Collected: 01.30.20 13.20

Date Received: 01.31.20 12.40
Sample Depth: 0 - .45 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.31.20 14.00

Basis: Wet Weight

Seq Number: 3115239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.31.20 21.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.31.20 21.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.31.20 21.54	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.31.20 21.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.31.20 21.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.31.20 21.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.31.20 21.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	01.31.20 21.54		
4-Bromofluorobenzene	460-00-4	98	%	70-130	01.31.20 21.54		



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.

PLU 423H tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3115258

MB Sample Id: 7695744-1-BLK

Matrix: Solid

LCS Sample Id: 7695744-1-BKS

Prep Method: E300P

Date Prep: 01.31.20

LCSD Sample Id: 7695744-1-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	256	102	256	102	90-110	0	20	mg/kg	01.31.20 14:41	

Analytical Method: Chloride by EPA 300

Seq Number: 3115258

Parent Sample Id: 651004-001

Matrix: Soil

MS Sample Id: 651004-001 S

Prep Method: E300P

Date Prep: 01.31.20

MSD Sample Id: 651004-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8630	201	8840	104	8830	100	90-110	0	20	mg/kg	01.31.20 14:59	

Analytical Method: Chloride by EPA 300

Seq Number: 3115258

Parent Sample Id: 651010-001

Matrix: Soil

MS Sample Id: 651010-001 S

Prep Method: E300P

Date Prep: 01.31.20

MSD Sample Id: 651010-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	357	199	560	102	561	102	90-110	0	20	mg/kg	01.31.20 16:24	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115277

MB Sample Id: 7695696-1-BLK

Matrix: Solid

LCS Sample Id: 7695696-1-BKS

Prep Method: SW8015P

Date Prep: 01.31.20

LCSD Sample Id: 7695696-1-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	929	93	1050	105	70-135	12	35	mg/kg	01.31.20 13:12	
Diesel Range Organics (DRO)	<50.0	1000	760	76	848	85	70-135	11	35	mg/kg	01.31.20 13:12	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		112		124		70-135	%	01.31.20 13:12
o-Terphenyl	111		104		106		70-135	%	01.31.20 13:12

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115277

Matrix: Solid

MB Sample Id: 7695696-1-BLK

Prep Method: SW8015P

Date Prep: 01.31.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.31.20 12:52	

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.

PLU 423H tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115277

Parent Sample Id: 651004-001

Matrix: Soil

MS Sample Id: 651004-001 S

Prep Method: SW8015P

Date Prep: 01.31.20

MSD Sample Id: 651004-001 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)	<49.8	995	1170	118	980	98	70-135	18	35	mg/kg	02.03.20 11:01	
Diesel Range Organics (DRO)	<49.8	995	1100	111	796	80	70-135	32	35	mg/kg	02.03.20 11:01	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		125		70-135	%	02.03.20 11:01
o-Terphenyl	107		117		70-135	%	02.03.20 11:01

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115239

MB Sample Id: 7695738-1-BLK

Matrix: Solid

LCS Sample Id: 7695738-1-BKS

Prep Method: SW5030B

Date Prep: 01.31.20

LCSD Sample Id: 7695738-1-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	0.119	119	0.120	120	70-130	1	35	mg/kg	01.31.20 13:09	
Toluene	<0.00200	0.100	0.110	110	0.112	112	70-130	2	35	mg/kg	01.31.20 13:09	
Ethylbenzene	<0.00200	0.100	0.107	107	0.109	109	71-129	2	35	mg/kg	01.31.20 13:09	
m,p-Xylenes	<0.00400	0.200	0.210	105	0.214	107	70-135	2	35	mg/kg	01.31.20 13:09	
o-Xylene	<0.00200	0.100	0.105	105	0.107	107	71-133	2	35	mg/kg	01.31.20 13:09	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		109		70-130	%	01.31.20 13:09
4-Bromofluorobenzene	96		93		92		70-130	%	01.31.20 13:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115239

Parent Sample Id: 650797-067

Matrix: Soil

MS Sample Id: 650797-067 S

Prep Method: SW5030B

Date Prep: 01.31.20

MSD Sample Id: 650797-067 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	0.122	122	0.106	106	70-130	14	35	mg/kg	01.31.20 14:10	
Toluene	<0.00199	0.0996	0.113	113	0.102	102	70-130	10	35	mg/kg	01.31.20 14:10	
Ethylbenzene	<0.00199	0.0996	0.110	110	0.102	102	71-129	8	35	mg/kg	01.31.20 14:10	
m,p-Xylenes	0.00142	0.199	0.215	107	0.200	99	70-135	7	35	mg/kg	01.31.20 14:10	
o-Xylene	<0.00199	0.0996	0.107	107	0.0993	99	71-133	7	35	mg/kg	01.31.20 14:10	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		106		70-130	%	01.31.20 14:10
4-Bromofluorobenzene	95		96		70-130	%	01.31.20 14:10

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



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) 794-1298
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-448-8900) Tampa, FL (813-620-2000)

Chain of Custody

Work Order No:

651008

www.xenco.com

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrell
Company Name:	LT Environmental, 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:	slm@xenco.com, dlmoir@xenco.com, acole@xenco.com
Project Name:	PLU 433H Tank Battery	Tum Around	
Project Number:	012917043	Routine	☐
P.O. Number:		Rush: 24H	
Sampler's Name:	Spencer Lo	Due Date:	

ANALYSIS REQUEST

Work Order Notes

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

SAMPLE RECEIPT	Temp Blank:	☒ Yes	☐ No	Wet Ice:	☒ Yes	☐ No
	Temperature (°C):	3.0		Thermometer ID:	TNMB007	
	Received In tact:	☒ Yes	☐ No	Correction Factor:	-0.2	
	Cooler Custody Seals:	☒ Yes	☐ No	N/A		
Sample Custody Seals:	☒ Yes	☐ No	N/A	Total Containers:	2	

99 PM

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA 8015)	BTEX (EPA 8015)	Chloride (EPA 8015)											Sample Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Sw 29	S	1-29-20	1355	0-4.5'	1	X	X	X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

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

TCLP / 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

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
<i>for lo</i>	<i>for lo</i>	1/31/20 1440	<i>for lo</i>	<i>for lo</i>	1/31/20 1530

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.31.2020 12.40.00 PM

Work Order #: 651008

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T NM 007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	No
#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?	No
#17 Subcontract of sample(s)?	Yes
#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#:

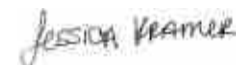
Checklist completed by:



Martha Castro

Date: 01.31.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.03.2020

Analytical Report 651326

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423 H Tank Battery

012917043

05-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)



05-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651326**

PLU 423 H Tank Battery

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) 651326. 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. 651326 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 651326

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW32	S	01-31-20 14:20	0 - 4.5 ft	651326-001
SW36	S	01-31-20 14:35	0 - 4.5 ft	651326-002
SW38	S	02-03-20 14:30	0 - 4.5 ft	651326-003



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423 H Tank Battery

Project ID: 012917043
Work Order Number(s): 651326

Report Date: 05-FEB-20
Date Received: 02/04/2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115570 BTEX by EPA 8021B

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



Certificate of Analysis Summary 651326

LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Feb-04-20 02:11 pm

Report Date: 05-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	651326-001	651326-002	651326-003			
	<i>Field Id:</i>	SW32	SW36	SW38			
	<i>Depth:</i>	0-4.5 ft	0-4.5 ft	0-4.5 ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Jan-31-20 14:20	Jan-31-20 14:35	Feb-03-20 14:30			
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-04-20 16:00	Feb-04-20 16:00	Feb-04-20 16:00			
	<i>Analyzed:</i>	Feb-04-20 21:34	Feb-04-20 21:54	Feb-04-20 22:15			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202			
Toluene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202			
Ethylbenzene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202			
m,p-Xylenes		<0.00403 0.00403	<0.00402 0.00402	<0.00403 0.00403			
o-Xylene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202			
Total Xylenes		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202			
Total BTEX		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202			
Chloride by EPA 300	<i>Extracted:</i>	Feb-04-20 18:12	Feb-04-20 18:12	Feb-04-20 18:12			
	<i>Analyzed:</i>	Feb-04-20 22:20	Feb-04-20 22:26	Feb-04-20 22:31			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		263 50.4	247 49.7	17.8 9.98			
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-04-20 17:30	Feb-04-20 17:30	Feb-04-20 17:30			
	<i>Analyzed:</i>	Feb-04-20 23:56	Feb-04-20 23:56	Feb-05-20 00:15			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<50.3 50.3	<49.9 49.9			
Diesel Range Organics (DRO)		<50.1 50.1	<50.3 50.3	<49.9 49.9			
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.3 50.3	<49.9 49.9			
Total GRO-DRO		<50.1 50.1	<50.3 50.3	<49.9 49.9			
Total TPH		<50.1 50.1	<50.3 50.3	<49.9 49.9			

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 651326

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW32**
 Lab Sample Id: 651326-001

Matrix: Soil
 Date Collected: 01.31.20 14.20

Date Received: 02.04.20 14.11
 Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115630

Date Prep: 02.04.20 18.12

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	263	50.4	mg/kg	02.04.20 22.20		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115606

Date Prep: 02.04.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.04.20 23.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.04.20 23.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.04.20 23.56	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.04.20 23.56	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.04.20 23.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	02.04.20 23.56	
o-Terphenyl	84-15-1	115	%	70-135	02.04.20 23.56	



Certificate of Analytical Results 651326

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW32**
Lab Sample Id: 651326-001

Matrix: Soil
Date Collected: 01.31.20 14.20

Date Received: 02.04.20 14.11
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.04.20 16.00

Basis: Wet Weight

Seq Number: 3115570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.04.20 21.34	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.04.20 21.34	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.04.20 21.34	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.04.20 21.34	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.04.20 21.34	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.04.20 21.34	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.04.20 21.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.04.20 21.34		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.04.20 21.34		



Certificate of Analytical Results 651326

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW36** Matrix: Soil Date Received: 02.04.20 14.11
 Lab Sample Id: 651326-002 Date Collected: 01.31.20 14.35 Sample Depth: 0 - 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.04.20 18.12 Basis: Wet Weight
 Seq Number: 3115630

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	247	49.7	mg/kg	02.04.20 22.26		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.04.20 17.30 Basis: Wet Weight
 Seq Number: 3115606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.04.20 23.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.04.20 23.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.04.20 23.56	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.04.20 23.56	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.04.20 23.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.04.20 23.56	
o-Terphenyl	84-15-1	99	%	70-135	02.04.20 23.56	



Certificate of Analytical Results 651326

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW36**
Lab Sample Id: 651326-002

Matrix: Soil
Date Collected: 01.31.20 14.35

Date Received: 02.04.20 14.11
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.04.20 16.00

Basis: Wet Weight

Seq Number: 3115570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.04.20 21.54	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.04.20 21.54	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.04.20 21.54	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.04.20 21.54	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.04.20 21.54	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.04.20 21.54	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.04.20 21.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.04.20 21.54		
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.04.20 21.54		



Certificate of Analytical Results 651326

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW38**
Lab Sample Id: 651326-003

Matrix: Soil
Date Collected: 02.03.20 14.30

Date Received: 02.04.20 14.11
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115630

Date Prep: 02.04.20 18.12

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.8	9.98	mg/kg	02.04.20 22.31		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115606

Date Prep: 02.04.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.05.20 00.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.05.20 00.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.05.20 00.15	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	02.05.20 00.15	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.05.20 00.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	02.05.20 00.15	
o-Terphenyl	84-15-1	102	%	70-135	02.05.20 00.15	



Certificate of Analytical Results 651326

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW38**
Lab Sample Id: 651326-003

Matrix: Soil
Date Collected: 02.03.20 14.30

Date Received: 02.04.20 14.11
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.04.20 16.00

Basis: Wet Weight

Seq Number: 3115570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.04.20 22.15	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.04.20 22.15	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.04.20 22.15	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.04.20 22.15	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.04.20 22.15	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.04.20 22.15	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.04.20 22.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.04.20 22.15		
1,4-Difluorobenzene	540-36-3	108	%	70-130	02.04.20 22.15		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3115630

MB Sample Id: 7695976-1-BLK

Matrix: Solid

LCS Sample Id: 7695976-1-BKS

Prep Method: E300P

Date Prep: 02.04.20

LCSD Sample Id: 7695976-1-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	258	103	258	103	90-110	0	20	mg/kg	02.04.20 20:11	

Analytical Method: Chloride by EPA 300

Seq Number: 3115630

Parent Sample Id: 651314-001

Matrix: Soil

MS Sample Id: 651314-001 S

Prep Method: E300P

Date Prep: 02.04.20

MSD Sample Id: 651314-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	284	201	498	106	494	104	90-110	1	20	mg/kg	02.04.20 20:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3115630

Parent Sample Id: 651319-005

Matrix: Soil

MS Sample Id: 651319-005 S

Prep Method: E300P

Date Prep: 02.04.20

MSD Sample Id: 651319-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	267	200	477	105	480	107	90-110	1	20	mg/kg	02.04.20 21:43	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115606

MB Sample Id: 7696012-1-BLK

Matrix: Solid

LCS Sample Id: 7696012-1-BKS

Prep Method: SW8015P

Date Prep: 02.04.20

LCSD Sample Id: 7696012-1-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	1170	117	1030	103	70-135	13	35	mg/kg	02.04.20 21:58	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	1040	104	70-135	4	35	mg/kg	02.04.20 21:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		131		112		70-135	%	02.04.20 21:58
o-Terphenyl	95		122		103		70-135	%	02.04.20 21:58

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115606

Matrix: Solid

MB Sample Id: 7696012-1-BLK

Prep Method: SW8015P

Date Prep: 02.04.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.04.20 21:39	

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.

PLU 423 H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115606

Parent Sample Id: 651159-008

Matrix: Soil

MS Sample Id: 651159-008 S

Prep Method: SW8015P

Date Prep: 02.04.20

MSD Sample Id: 651159-008 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)	<50.2	1000	1180	118	1160	116	70-135	2	35	mg/kg	02.04.20 22:18	
Diesel Range Organics (DRO)	<50.2	1000	1180	118	1180	118	70-135	0	35	mg/kg	02.04.20 22:18	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		128		70-135	%	02.04.20 22:18
o-Terphenyl	115		113		70-135	%	02.04.20 22:18

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115570

MB Sample Id: 7695936-1-BLK

Matrix: Solid

LCS Sample Id: 7695936-1-BKS

Prep Method: SW5030B

Date Prep: 02.04.20

LCSD Sample Id: 7695936-1-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	0.112	112	0.122	122	70-130	9	35	mg/kg	02.04.20 14:46	
Toluene	<0.00200	0.100	0.102	102	0.109	109	70-130	7	35	mg/kg	02.04.20 14:46	
Ethylbenzene	<0.00200	0.100	0.0986	99	0.104	104	71-129	5	35	mg/kg	02.04.20 14:46	
m,p-Xylenes	<0.00400	0.200	0.193	97	0.202	101	70-135	5	35	mg/kg	02.04.20 14:46	
o-Xylene	<0.00200	0.100	0.0968	97	0.102	102	71-133	5	35	mg/kg	02.04.20 14:46	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		108		109		70-130	%	02.04.20 14:46
4-Bromofluorobenzene	92		92		93		70-130	%	02.04.20 14:46

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115570

Parent Sample Id: 651256-013

Matrix: Soil

MS Sample Id: 651256-013 S

Prep Method: SW5030B

Date Prep: 02.04.20

MSD Sample Id: 651256-013 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	0.123	123	0.127	127	70-130	3	35	mg/kg	02.04.20 15:26	
Toluene	<0.00200	0.100	0.116	116	0.113	113	70-130	3	35	mg/kg	02.04.20 15:26	
Ethylbenzene	<0.00200	0.100	0.106	106	0.103	103	71-129	3	35	mg/kg	02.04.20 15:26	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.203	102	70-135	3	35	mg/kg	02.04.20 15:26	
o-Xylene	<0.00200	0.100	0.106	106	0.103	103	71-133	3	35	mg/kg	02.04.20 15:26	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		70-130	%	02.04.20 15:26
4-Bromofluorobenzene	93		93		70-130	%	02.04.20 15:26

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

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

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: 10513210

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3534
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 784-1295
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 889-7950

Page 1 of 1

Project Manager	Dan Moir	Bill to: (if different)	Kyle Litrell
Company Name	LT Environmental, 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	slm@ltenv.com dmoir@ltenv.com kyle@xtoenergy.com

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

Project Name:	FLV 4247 front battery	Turn Around
Project Number:	012917043	Routine ☐
P.O. Number:		Rush: ☒
Sampler's Name:	Spencer Lo	Due Date:

[illegible]

SAMPLE RECEIPT		Temp Blank:	☒ Yes	No	Wet Ice:	☒ Yes	No
Temperature (°C)		4.4					
Received Initial:		Yes No			Thermometer ID		
Cooler Custody Seals:		Yes ☒ No			T - NM-003		
Sample Custody Seals:		Yes ☒ No			Correction Factor:	-02	
		Yes ☒ No			Total Containers:	3	

TAT starts the day received by the	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA)	BTEX (EPA)	Chloride	Sample Comments
SW32	S	1-11-20	1420	0-4.5'	1	X	X	X	
SW36	S	1-30-20	1435	0-4.5'	1	X	X	X	
SW38	S	2-1-20	1430	0-4.5'	1	X	X	X	
Fence									

Total	200.7 / 6010	200.8 / 6020:
-------	--------------	---------------

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Ee Pb Mg Mn Ni

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 1631 / 245.1 / 7470 / 7471 : Hg

signature of this document, the relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and sub-contractors. 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.

Received by: (Signature)		Relinquished by: (Signature)
Date/Time		Relinquished by: (Signature)
Received by: (Signature)		Relinquished by: (Signature)
Date/Time		Relinquished by: (Signature)

[illegible][illegible]

Analytical Report 651331

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423 H Tank Battery

012917043

05-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)



05-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651331**

PLU 423 H Tank Battery

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) 651331. 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. 651331 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 651331

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS55	S	01-31-20 14:45	4.5 ft	651331-001
FS56	S	02-03-20 14:00	4.5 ft	651331-002
FS57	S	02-03-20 14:10	4.5 ft	651331-003



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423 H Tank Battery

Project ID: 012917043

Work Order Number(s): 651331

Report Date: 05-FEB-20

Date Received: 02/04/2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115570 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651331



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Feb-04-20 02:11 pm

Report Date: 05-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	651331-001	651331-002	651331-003			
	<i>Field Id:</i>	FS55	FS56	FS57			
	<i>Depth:</i>	4.5- ft	4.5- ft	4.5- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Jan-31-20 14:45	Feb-03-20 14:00	Feb-03-20 14:10			
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-04-20 16:00	Feb-04-20 16:00	Feb-04-20 16:00			
	<i>Analyzed:</i>	Feb-04-20 22:35	Feb-04-20 22:55	Feb-04-20 23:16			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201			
Toluene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201			
Ethylbenzene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201			
m,p-Xylenes		<0.00397 0.00397	<0.00401 0.00401	<0.00402 0.00402			
o-Xylene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201			
Total Xylenes		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201			
Total BTEX		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201			
Chloride by EPA 300	<i>Extracted:</i>	Feb-04-20 18:15	Feb-04-20 18:15	Feb-04-20 18:15			
	<i>Analyzed:</i>	Feb-05-20 09:08	Feb-05-20 09:24	Feb-05-20 09:30			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		227 49.6	646 49.6	103 9.94			
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-04-20 17:30	Feb-04-20 17:30	Feb-04-20 17:30			
	<i>Analyzed:</i>	Feb-05-20 00:35	Feb-05-20 00:35	Feb-05-20 00:54			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<49.8 49.8	<49.8 49.8			
Diesel Range Organics (DRO)		<49.8 49.8	<49.8 49.8	<49.8 49.8			
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<49.8 49.8	<49.8 49.8			
Total GRO-DRO		<49.8 49.8	<49.8 49.8	<49.8 49.8			
Total TPH		<49.8 49.8	<49.8 49.8	<49.8 49.8			

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 651331

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: FS55
Lab Sample Id: 651331-001

Matrix: Soil
Date Collected: 01.31.20 14.45

Date Received: 02.04.20 14.11
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115603

Date Prep: 02.04.20 18.15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	227	49.6	mg/kg	02.05.20 09.08		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115606

Date Prep: 02.04.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.05.20 00.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.05.20 00.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.05.20 00.35	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.05.20 00.35	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.05.20 00.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	02.05.20 00.35	
o-Terphenyl	84-15-1	102	%	70-135	02.05.20 00.35	



Certificate of Analytical Results 651331

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: FS55
Lab Sample Id: 651331-001

Matrix: Soil
Date Collected: 01.31.20 14.45

Date Received: 02.04.20 14.11
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.04.20 16.00

Basis: Wet Weight

Seq Number: 3115570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.04.20 22.35	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.04.20 22.35	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.04.20 22.35	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.04.20 22.35	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.04.20 22.35	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.04.20 22.35	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.04.20 22.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	02.04.20 22.35		
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.04.20 22.35		



Certificate of Analytical Results 651331

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS56** Matrix: Soil Date Received: 02.04.20 14.11
 Lab Sample Id: 651331-002 Date Collected: 02.03.20 14.00 Sample Depth: 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.04.20 18.15 Basis: Wet Weight
 Seq Number: 3115603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	646	49.6	mg/kg	02.05.20 09.24		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.04.20 17.30 Basis: Wet Weight
 Seq Number: 3115606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.05.20 00.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.05.20 00.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.05.20 00.35	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.05.20 00.35	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.05.20 00.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	02.05.20 00.35	
o-Terphenyl	84-15-1	116	%	70-135	02.05.20 00.35	



Certificate of Analytical Results 651331

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS56**
Lab Sample Id: 651331-002

Matrix: Soil
Date Collected: 02.03.20 14.00

Date Received: 02.04.20 14.11
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.04.20 16.00

Basis: Wet Weight

Seq Number: 3115570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.04.20 22.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.04.20 22.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.04.20 22.55	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.04.20 22.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.04.20 22.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.04.20 22.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.04.20 22.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.04.20 22.55		
4-Bromofluorobenzene	460-00-4	100	%	70-130	02.04.20 22.55		



Certificate of Analytical Results 651331

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: FS57 Matrix: Soil Date Received: 02.04.20 14.11
 Lab Sample Id: 651331-003 Date Collected: 02.03.20 14.10 Sample Depth: 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.04.20 18.15 Basis: Wet Weight
 Seq Number: 3115603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	103	9.94	mg/kg	02.05.20 09.30		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.04.20 17.30 Basis: Wet Weight
 Seq Number: 3115606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.05.20 00.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.05.20 00.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.05.20 00.54	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.05.20 00.54	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.05.20 00.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.05.20 00.54	
o-Terphenyl	84-15-1	102	%	70-135	02.05.20 00.54	



Certificate of Analytical Results 651331

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: FS57
Lab Sample Id: 651331-003

Matrix: Soil
Date Collected: 02.03.20 14.10

Date Received: 02.04.20 14.11
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.04.20 16.00

Basis: Wet Weight

Seq Number: 3115570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.04.20 23.16	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.04.20 23.16	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.04.20 23.16	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.04.20 23.16	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.04.20 23.16	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.04.20 23.16	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.04.20 23.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.04.20 23.16		
1,4-Difluorobenzene	540-36-3	106	%	70-130	02.04.20 23.16		



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.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3115603

MB Sample Id: 7695977-1-BLK

Matrix: Solid

LCS Sample Id: 7695977-1-BKS

Prep Method: E300P

Date Prep: 02.04.20

LCSD Sample Id: 7695977-1-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	259	104	260	104	90-110	0	20	mg/kg	02.05.20 08:57	

Analytical Method: Chloride by EPA 300

Seq Number: 3115603

Parent Sample Id: 651159-008

Matrix: Soil

MS Sample Id: 651159-008 S

Prep Method: E300P

Date Prep: 02.04.20

MSD Sample Id: 651159-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1820	200	2010	95	2030	104	90-110	1	20	mg/kg	02.05.20 10:29	

Analytical Method: Chloride by EPA 300

Seq Number: 3115603

Parent Sample Id: 651331-001

Matrix: Soil

MS Sample Id: 651331-001 S

Prep Method: E300P

Date Prep: 02.04.20

MSD Sample Id: 651331-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	227	199	434	104	440	107	90-110	1	20	mg/kg	02.05.20 09:13	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115606

MB Sample Id: 7696012-1-BLK

Matrix: Solid

LCS Sample Id: 7696012-1-BKS

Prep Method: SW8015P

Date Prep: 02.04.20

LCSD Sample Id: 7696012-1-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	1170	117	1030	103	70-135	13	35	mg/kg	02.04.20 21:58	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	1040	104	70-135	4	35	mg/kg	02.04.20 21:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		131		112		70-135	%	02.04.20 21:58
o-Terphenyl	95		122		103		70-135	%	02.04.20 21:58

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115606

Matrix: Solid

MB Sample Id: 7696012-1-BLK

Prep Method: SW8015P

Date Prep: 02.04.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.04.20 21:39	

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.

PLU 423 H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115606

Parent Sample Id: 651159-008

Matrix: Soil

MS Sample Id: 651159-008 S

Prep Method: SW8015P

Date Prep: 02.04.20

MSD Sample Id: 651159-008 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)	<50.2	1000	1180	118	1160	116	70-135	2	35	mg/kg	02.04.20 22:18	
Diesel Range Organics (DRO)	<50.2	1000	1180	118	1180	118	70-135	0	35	mg/kg	02.04.20 22:18	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		128		70-135	%	02.04.20 22:18
o-Terphenyl	115		113		70-135	%	02.04.20 22:18

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115570

MB Sample Id: 7695936-1-BLK

Matrix: Solid

LCS Sample Id: 7695936-1-BKS

Prep Method: SW5030B

Date Prep: 02.04.20

LCSD Sample Id: 7695936-1-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	0.112	112	0.122	122	70-130	9	35	mg/kg	02.04.20 14:46	
Toluene	<0.00200	0.100	0.102	102	0.109	109	70-130	7	35	mg/kg	02.04.20 14:46	
Ethylbenzene	<0.00200	0.100	0.0986	99	0.104	104	71-129	5	35	mg/kg	02.04.20 14:46	
m,p-Xylenes	<0.00400	0.200	0.193	97	0.202	101	70-135	5	35	mg/kg	02.04.20 14:46	
o-Xylene	<0.00200	0.100	0.0968	97	0.102	102	71-133	5	35	mg/kg	02.04.20 14:46	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		108		109		70-130	%	02.04.20 14:46
4-Bromofluorobenzene	92		92		93		70-130	%	02.04.20 14:46

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115570

Parent Sample Id: 651256-013

Matrix: Soil

MS Sample Id: 651256-013 S

Prep Method: SW5030B

Date Prep: 02.04.20

MSD Sample Id: 651256-013 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	0.123	123	0.127	127	70-130	3	35	mg/kg	02.04.20 15:26	
Toluene	<0.00200	0.100	0.116	116	0.113	113	70-130	3	35	mg/kg	02.04.20 15:26	
Ethylbenzene	<0.00200	0.100	0.106	106	0.103	103	71-129	3	35	mg/kg	02.04.20 15:26	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.203	102	70-135	3	35	mg/kg	02.04.20 15:26	
o-Xylene	<0.00200	0.100	0.106	106	0.103	103	71-133	3	35	mg/kg	02.04.20 15:26	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		70-130	%	02.04.20 15:26
4-Bromofluorobenzene	93		93		70-130	%	02.04.20 15:26

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

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

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



Houston, TX (261) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5444) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-6800) Tampa, FL (813)

Chain of Custody

Work Order No: 651331 am 24

Project Manager:		Dan Moir	Bill 10: (if different)	Kyle Litvrell
Company Name:		LT Environmental, 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:	Carsbad, NM 88220
Phone:		(432) 236-3849	Email:	sliv@ltenv.com, dmoir@ltenv.com, acollins@ltenv.com

Work Order Comments				
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐ State of Project: _____ Reporting Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other: _____				

Project Name:	PLU 423H Tank Battery	Turn Around
Project Number:	012917043	Routine ☐
P.O. Number:		Rush: 24H
Sampler's Name:	Spencer Lo	Due Date:
		ANALYSIS REQUEST
		Work Order Notes

SAMPLE RECEIPT				Temp Blank:	☒ Yes	No	Well Ice:	☒ Yes	No
Temperature ("C):				4.4					
Received Intact:				Yes No					
Cooler Custody Seals:				Yes No N/A					
Sample Custody Seals:				Yes No N/A					
				Total Containers:					
				3					

Thermometer ID: T-2007

Correction Factor: -0.2

PA 8015)

PA 0=8021)

(EPA 300.0)

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E)	BTEX (E)	Chloride	Sample Comments
FS55	S	1-3-20	1445	4.5'	1	X	X	X	
FS56	S	1-3-20	1400	4.5'	1	X	X	X	
FS57	S	2-3-20	1410	4.3'	1	X	X	X	

Total	200.7 / 6010	200.8 / 6020:	
8RCrA	13PPM	Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
TCCLP / SPLP 6010	8RCrA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	1631 / 245.1 / 7470 / 7471

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. 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 contractor's control. 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 enforceable unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	2/4/20 14:11			

Analytical Report 651528

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

07-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)



07-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651528**

PLU 423H Tank Battery

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) 651528. 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. 651528 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 651528

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS 58	S	02-04-20 15:35	4.5 ft	651528-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043
Work Order Number(s): 651528

Report Date: 07-FEB-20
Date Received: 02/06/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115845 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651528



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Feb-06-20 08:50 am

Report Date: 07-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	651528-001					
	Field Id:	FS 58					
	Depth:	4.5- ft					
	Matrix:	SOIL					
	Sampled:	Feb-04-20 15:35					
BTEX by EPA 8021B	Extracted:	Feb-06-20 10:37					
	Analyzed:	Feb-06-20 13:26					
	Units/RL:	mg/kg RL					
Benzene		<0.00200 0.00200					
Toluene		<0.00200 0.00200					
Ethylbenzene		<0.00200 0.00200					
m,p-Xylenes		<0.00401 0.00401					
o-Xylene		<0.00200 0.00200					
Total Xylenes		<0.00200 0.00200					
Total BTEX		<0.00200 0.00200					
Chloride by EPA 300	Extracted:	Feb-06-20 10:50					
	Analyzed:	Feb-06-20 12:04					
	Units/RL:	mg/kg RL					
Chloride		370 50.4					
TPH by SW8015 Mod	Extracted:	Feb-06-20 10:30					
	Analyzed:	Feb-06-20 12:15					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3					
Diesel Range Organics (DRO)		<50.3 50.3					
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3					
Total GRO-DRO		<50.3 50.3					
Total TPH		<50.3 50.3					

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 651528

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS 58**
Lab Sample Id: 651528-001

Matrix: Soil
Date Collected: 02.04.20 15.35

Date Received: 02.06.20 08.50
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115840

Date Prep: 02.06.20 10.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	370	50.4	mg/kg	02.06.20 12.04		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115827

Date Prep: 02.06.20 10.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.06.20 12.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.06.20 12.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.06.20 12.15	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.06.20 12.15	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.06.20 12.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	02.06.20 12.15	
o-Terphenyl	84-15-1	107	%	70-135	02.06.20 12.15	



Certificate of Analytical Results 651528

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS 58**
Lab Sample Id: 651528-001

Matrix: Soil
Date Collected: 02.04.20 15.35

Date Received: 02.06.20 08.50
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.06.20 10.37

Basis: Wet Weight

Seq Number: 3115845

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.06.20 13.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.06.20 13.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.06.20 13.26	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.06.20 13.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.06.20 13.26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.06.20 13.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.06.20 13.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.06.20 13.26		
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.06.20 13.26		



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.
PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3115840

MB Sample Id: 7696132-1-BLK

Matrix: Solid

LCS Sample Id: 7696132-1-BKS

Prep Method: E300P

Date Prep: 02.06.20

LCSD Sample Id: 7696132-1-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	258	103	258	103	90-110	0	20	mg/kg	02.06.20 11:53	

Analytical Method: Chloride by EPA 300

Seq Number: 3115840

Parent Sample Id: 651528-001

Matrix: Soil

MS Sample Id: 651528-001 S

Prep Method: E300P

Date Prep: 02.06.20

MSD Sample Id: 651528-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	370	201	580	104	588	108	90-110	1	20	mg/kg	02.06.20 12:09	

Analytical Method: Chloride by EPA 300

Seq Number: 3115840

Parent Sample Id: 651533-007

Matrix: Soil

MS Sample Id: 651533-007 S

Prep Method: E300P

Date Prep: 02.06.20

MSD Sample Id: 651533-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6740	996	8010	128	8000	127	90-110	0	20	mg/kg	02.06.20 14:01	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115827

MB Sample Id: 7696122-1-BLK

Matrix: Solid

LCS Sample Id: 7696122-1-BKS

Prep Method: SW8015P

Date Prep: 02.06.20

LCSD Sample Id: 7696122-1-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	1150	115	1030	103	70-135	11	35	mg/kg	02.06.20 11:56	
Diesel Range Organics (DRO)	<50.0	1000	1170	117	1040	104	70-135	12	35	mg/kg	02.06.20 11:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		127		111		70-135	%	02.06.20 11:56
o-Terphenyl	93		115		104		70-135	%	02.06.20 11:56

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115827

Matrix: Solid

MB Sample Id: 7696122-1-BLK

Prep Method: SW8015P

Date Prep: 02.06.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.06.20 11:37	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115827

Parent Sample Id: 651528-001

Matrix: Soil

MS Sample Id: 651528-001 S

Prep Method: SW8015P

Date Prep: 02.06.20

MSD Sample Id: 651528-001 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)	<50.2	1000	1110	111	1130	113	70-135	2	35	mg/kg	02.06.20 12:15	
Diesel Range Organics (DRO)	<50.2	1000	1130	113	1180	118	70-135	4	35	mg/kg	02.06.20 12:15	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		124		70-135	%	02.06.20 12:15
o-Terphenyl	111		113		70-135	%	02.06.20 12:15

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115845

MB Sample Id: 7696134-1-BLK

Matrix: Solid

LCS Sample Id: 7696134-1-BKS

Prep Method: SW5030B

Date Prep: 02.06.20

LCSD Sample Id: 7696134-1-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	0.0915	92	70-130	17	35	mg/kg	02.06.20 11:44	
Toluene	<0.00200	0.100	0.105	105	0.0845	85	70-130	22	35	mg/kg	02.06.20 11:44	
Ethylbenzene	<0.00200	0.100	0.0992	99	0.0744	74	71-129	29	35	mg/kg	02.06.20 11:44	
m,p-Xylenes	<0.00400	0.200	0.204	102	0.151	76	70-135	30	35	mg/kg	02.06.20 11:44	
o-Xylene	<0.00200	0.100	0.103	103	0.0783	78	71-133	27	35	mg/kg	02.06.20 11:44	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		104		102		70-130	%	02.06.20 11:44
4-Bromofluorobenzene	96		97		96		70-130	%	02.06.20 11:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115845

Parent Sample Id: 651528-001

Matrix: Soil

MS Sample Id: 651528-001 S

Prep Method: SW5030B

Date Prep: 02.06.20

MSD Sample Id: 651528-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.121	122	0.103	103	70-130	16	35	mg/kg	02.06.20 12:25	
Toluene	<0.00198	0.0990	0.117	118	0.0984	98	70-130	17	35	mg/kg	02.06.20 12:25	
Ethylbenzene	<0.00198	0.0990	0.112	113	0.0945	95	71-129	17	35	mg/kg	02.06.20 12:25	
m,p-Xylenes	<0.00396	0.198	0.231	117	0.194	97	70-135	17	35	mg/kg	02.06.20 12:25	
o-Xylene	<0.00198	0.0990	0.115	116	0.0969	97	71-133	17	35	mg/kg	02.06.20 12:25	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	02.06.20 12:25
4-Bromofluorobenzene	98		99		70-130	%	02.06.20 12:25

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

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

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



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) 985-3443 Lubbock, TX (806) 794-1296
 Hobbs, NM (575-382-7550) Phoenix, AZ (480-365-0900) Atlanta, GA (770-448-8800) Tampa, FL (813-620-2000)

Chain of Custody

Work Order No:

1051528

www.xenco.com

Page 1 of 1

Object Manager:	Dan Moir	Bill to: (if different):	Kyle Litrell
Company Name:	LT Environmental, 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:	Carsbad, NM 88220
Phone:	(432) 236-3849	Email:	slit@xenco.com, dmair@xenco.com, acoll@xenco.com

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

ANALYSIS REQUEST

Work Order Notes

Project Name:	PLU 4234 Tank Battery	Turn Around	☐
Project Number:	012917043	Routine	☐
P.O. Number:		Rush:	2/4
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):	0.0	Thermometer ID		
Received In tact:	Yes ☒ No ☐	Correction Factor:	+0.00	
Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:	1	
Sample Custody Seals:	Yes ☒ No ☐			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth
F558	S	2/4/20	1535	4.5'

Number of Containers	1
TPH (EPA 8015)	☒
BTEX (EPA 0-8021)	☒
Chloride (EPA 300.0)	☒

Sample Comments

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

Total 200.7 / 6010 200.8 / 6020: BRCRA 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
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: BRCRA: Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471: Hg

cc: 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
<i>[Signature]</i>	<i>[Signature]</i>	2/6/20 16:10	<i>[Signature]</i>	<i>[Signature]</i>	02/06/20 08:50

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.06.2020 08.50.00 AM

Work Order #: 651528

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)?	.6
#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#:

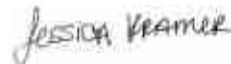
Checklist completed by:



Elizabeth McClellan

Date: 02.06.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.07.2020

Analytical Report 651530

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423 H Tank Battery

012917043

07-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)



07-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651530**

PLU 423 H Tank Battery

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) 651530. 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. 651530 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 651530

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW 37	S	02-04-20 13:45	0 - 4.5 ft	651530-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423 H Tank Battery

Project ID: 012917043

Work Order Number(s): 651530

Report Date: 07-FEB-20

Date Received: 02/06/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115845 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651530



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Feb-06-20 08:50 am

Report Date: 07-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	651530-001					
	Field Id:	SW 37					
	Depth:	0-4.5 ft					
	Matrix:	SOIL					
	Sampled:	Feb-04-20 13:45					
BTEX by EPA 8021B	Extracted:	Feb-06-20 10:37					
	Analyzed:	Feb-06-20 13:46					
	Units/RL:	mg/kg RL					
Benzene		<0.00201 0.00201					
Toluene		<0.00201 0.00201					
Ethylbenzene		<0.00201 0.00201					
m,p-Xylenes		<0.00402 0.00402					
o-Xylene		<0.00201 0.00201					
Total Xylenes		<0.00201 0.00201					
Total BTEX		<0.00201 0.00201					
Chloride by EPA 300	Extracted:	Feb-06-20 10:50					
	Analyzed:	Feb-06-20 12:20					
	Units/RL:	mg/kg RL					
Chloride		282 10.1					
TPH by SW8015 Mod	Extracted:	Feb-06-20 10:30					
	Analyzed:	Feb-06-20 12:35					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1					
Diesel Range Organics (DRO)		<50.1 50.1					
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1					
Total GRO-DRO		<50.1 50.1					
Total TPH		<50.1 50.1					

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 651530

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW 37**
Lab Sample Id: 651530-001

Matrix: Soil
Date Collected: 02.04.20 13.45

Date Received: 02.06.20 08.50
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115840

Date Prep: 02.06.20 10.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	282	10.1	mg/kg	02.06.20 12.20		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115827

Date Prep: 02.06.20 10.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.06.20 12.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.06.20 12.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.06.20 12.35	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.06.20 12.35	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.06.20 12.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.06.20 12.35	
o-Terphenyl	84-15-1	94	%	70-135	02.06.20 12.35	



Certificate of Analytical Results 651530

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW 37**
Lab Sample Id: 651530-001

Matrix: Soil
Date Collected: 02.04.20 13.45

Date Received: 02.06.20 08.50
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.06.20 10.37

Basis: Wet Weight

Seq Number: 3115845

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.06.20 13.46	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.06.20 13.46	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.06.20 13.46	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.06.20 13.46	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.06.20 13.46	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.06.20 13.46	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.06.20 13.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.06.20 13.46		
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.06.20 13.46		



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.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3115840

MB Sample Id: 7696132-1-BLK

Matrix: Solid

LCS Sample Id: 7696132-1-BKS

Prep Method: E300P

Date Prep: 02.06.20

LCSD Sample Id: 7696132-1-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	258	103	258	103	90-110	0	20	mg/kg	02.06.20 11:53	

Analytical Method: Chloride by EPA 300

Seq Number: 3115840

Parent Sample Id: 651528-001

Matrix: Soil

MS Sample Id: 651528-001 S

Prep Method: E300P

Date Prep: 02.06.20

MSD Sample Id: 651528-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	370	201	580	104	588	108	90-110	1	20	mg/kg	02.06.20 12:09	

Analytical Method: Chloride by EPA 300

Seq Number: 3115840

Parent Sample Id: 651533-007

Matrix: Soil

MS Sample Id: 651533-007 S

Prep Method: E300P

Date Prep: 02.06.20

MSD Sample Id: 651533-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6740	996	8010	128	8000	127	90-110	0	20	mg/kg	02.06.20 14:01	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115827

MB Sample Id: 7696122-1-BLK

Matrix: Solid

LCS Sample Id: 7696122-1-BKS

Prep Method: SW8015P

Date Prep: 02.06.20

LCSD Sample Id: 7696122-1-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	1150	115	1030	103	70-135	11	35	mg/kg	02.06.20 11:56	
Diesel Range Organics (DRO)	<50.0	1000	1170	117	1040	104	70-135	12	35	mg/kg	02.06.20 11:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		127		111		70-135	%	02.06.20 11:56
o-Terphenyl	93		115		104		70-135	%	02.06.20 11:56

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115827

Matrix: Solid

MB Sample Id: 7696122-1-BLK

Prep Method: SW8015P

Date Prep: 02.06.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.06.20 11:37	

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.

PLU 423 H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115827

Parent Sample Id: 651528-001

Matrix: Soil

MS Sample Id: 651528-001 S

Prep Method: SW8015P

Date Prep: 02.06.20

MSD Sample Id: 651528-001 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)	<50.2	1000	1110	111	1130	113	70-135	2	35	mg/kg	02.06.20 12:15	
Diesel Range Organics (DRO)	<50.2	1000	1130	113	1180	118	70-135	4	35	mg/kg	02.06.20 12:15	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		124		70-135	%	02.06.20 12:15
o-Terphenyl	111		113		70-135	%	02.06.20 12:15

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115845

MB Sample Id: 7696134-1-BLK

Matrix: Solid

LCS Sample Id: 7696134-1-BKS

Prep Method: SW5030B

Date Prep: 02.06.20

LCSD Sample Id: 7696134-1-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	0.0915	92	70-130	17	35	mg/kg	02.06.20 11:44	
Toluene	<0.00200	0.100	0.105	105	0.0845	85	70-130	22	35	mg/kg	02.06.20 11:44	
Ethylbenzene	<0.00200	0.100	0.0992	99	0.0744	74	71-129	29	35	mg/kg	02.06.20 11:44	
m,p-Xylenes	<0.00400	0.200	0.204	102	0.151	76	70-135	30	35	mg/kg	02.06.20 11:44	
o-Xylene	<0.00200	0.100	0.103	103	0.0783	78	71-133	27	35	mg/kg	02.06.20 11:44	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		104		102		70-130	%	02.06.20 11:44
4-Bromofluorobenzene	96		97		96		70-130	%	02.06.20 11:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115845

Parent Sample Id: 651528-001

Matrix: Soil

MS Sample Id: 651528-001 S

Prep Method: SW5030B

Date Prep: 02.06.20

MSD Sample Id: 651528-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.121	122	0.103	103	70-130	16	35	mg/kg	02.06.20 12:25	
Toluene	<0.00198	0.0990	0.117	118	0.0984	98	70-130	17	35	mg/kg	02.06.20 12:25	
Ethylbenzene	<0.00198	0.0990	0.112	113	0.0945	95	71-129	17	35	mg/kg	02.06.20 12:25	
m,p-Xylenes	<0.00396	0.198	0.231	117	0.194	97	70-135	17	35	mg/kg	02.06.20 12:25	
o-Xylene	<0.00198	0.0990	0.115	116	0.0969	97	71-133	17	35	mg/kg	02.06.20 12:25	

Surrogate

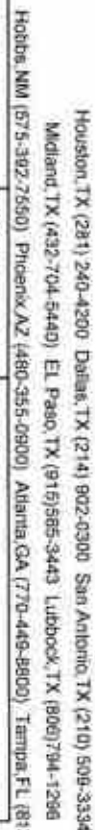
	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	02.06.20 12:25
4-Bromofluorobenzene	98		99		70-130	%	02.06.20 12:25

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

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

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.:

651930

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, 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:	dmol@ltenv.com , stacie@ltenv.com

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

[illegible]

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E)	BTEX	Chloride	Sample Comments
SW37	J	2-4-20	1345	0-4.5'	1	✓	✓	✓	

[illegible]

Signature of this document (mis)alignment of samples constitutes a valid purchase order from client company to Xenioo, its affiliates and subcontractors. It aligns standard terms and conditions of service. Xenioo will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by this client if such losses are due to circumstances beyond the control of Xenioo. A minimum charge of \$76.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenioo, 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
<i>[Signature]</i>	<i>[Signature]</i>	06/20/18:00	<i>[Signature]</i>	<i>[Signature]</i>	02/06/20 08:50

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.06.2020 08.50.00 AM

Work Order #: 651530

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)?	.6
#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#:

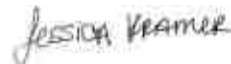
Checklist completed by:



Elizabeth McClellan

Date: 02.06.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.07.2020

Analytical Report 651677

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423 H Tank Battery

012917043

10-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)



10-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651677**

PLU 423 H Tank Battery

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) 651677. 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. 651677 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 651677

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS59	S	02-06-20 15:30	4.5 ft	651677-001
FS60	S	02-06-20 15:45	4.5 ft	651677-002
FS61	S	02-06-20 15:55	4.5 ft	651677-003



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423 H Tank Battery

Project ID: 012917043

Work Order Number(s): 651677

Report Date: 10-FEB-20

Date Received: 02/07/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115988 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651677



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Feb-07-20 09:38 am

Report Date: 10-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	651677-001	651677-002	651677-003			
	<i>Field Id:</i>	FS59	FS60	FS61			
	<i>Depth:</i>	4.5- ft	4.5- ft	4.5- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Feb-06-20 15:30	Feb-06-20 15:45	Feb-06-20 15:55			
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-07-20 11:00	Feb-07-20 11:00	Feb-07-20 11:00			
	<i>Analyzed:</i>	Feb-07-20 15:48	Feb-07-20 16:09	Feb-07-20 16:29			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00198 0.00198	<0.00199 0.00199	<0.00201 0.00201			
Toluene		<0.00198 0.00198	<0.00199 0.00199	<0.00201 0.00201			
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00201 0.00201			
m,p-Xylenes		<0.00395 0.00395	<0.00398 0.00398	<0.00402 0.00402			
o-Xylene		<0.00198 0.00198	<0.00199 0.00199	<0.00201 0.00201			
Total Xylenes		<0.00198 0.00198	<0.00199 0.00199	<0.00201 0.00201			
Total BTEX		<0.00198 0.00198	<0.00199 0.00199	<0.00201 0.00201			
Chloride by EPA 300	<i>Extracted:</i>	Feb-07-20 13:30	Feb-07-20 13:30	Feb-07-20 13:30			
	<i>Analyzed:</i>	Feb-07-20 14:00	Feb-07-20 14:05	Feb-07-20 14:11			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		4310 99.8	6530 99.8	4610 99.2			
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-07-20 11:30	Feb-07-20 11:30	Feb-07-20 11:30			
	<i>Analyzed:</i>	Feb-07-20 15:18	Feb-07-20 15:18	Feb-07-20 15:38			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.0 50.0	<50.3 50.3			
Diesel Range Organics (DRO)		<50.3 50.3	<50.0 50.0	<50.3 50.3			
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.0 50.0	<50.3 50.3			
Total GRO-DRO		<50.3 50.3	<50.0 50.0	<50.3 50.3			
Total TPH		<50.3 50.3	<50.0 50.0	<50.3 50.3			

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 651677

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS59**
Lab Sample Id: 651677-001

Matrix: Soil
Date Collected: 02.06.20 15.30

Date Received: 02.07.20 09.38
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115992

Date Prep: 02.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4310	99.8	mg/kg	02.07.20 14.00		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116028

Date Prep: 02.07.20 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.07.20 15.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.07.20 15.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.07.20 15.18	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.07.20 15.18	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.07.20 15.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.07.20 15.18	
o-Terphenyl	84-15-1	102	%	70-135	02.07.20 15.18	



Certificate of Analytical Results 651677

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS59**
Lab Sample Id: 651677-001

Matrix: Soil
Date Collected: 02.06.20 15.30

Date Received: 02.07.20 09.38
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.07.20 11.00

Basis: Wet Weight

Seq Number: 3115988

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.07.20 15.48	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.07.20 15.48	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.07.20 15.48	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	02.07.20 15.48	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.07.20 15.48	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.07.20 15.48	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.07.20 15.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.07.20 15.48		
4-Bromofluorobenzene	460-00-4	100	%	70-130	02.07.20 15.48		



Certificate of Analytical Results 651677

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS60** Matrix: Soil Date Received: 02.07.20 09.38
 Lab Sample Id: 651677-002 Date Collected: 02.06.20 15.45 Sample Depth: 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.07.20 13.30 Basis: Wet Weight
 Seq Number: 3115992

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6530	99.8	mg/kg	02.07.20 14.05		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.07.20 11.30 Basis: Wet Weight
 Seq Number: 3116028

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.07.20 15.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.07.20 15.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.07.20 15.18	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.07.20 15.18	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.07.20 15.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	02.07.20 15.18	
o-Terphenyl	84-15-1	107	%	70-135	02.07.20 15.18	



Certificate of Analytical Results 651677

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS60**
Lab Sample Id: 651677-002

Matrix: Soil
Date Collected: 02.06.20 15.45

Date Received: 02.07.20 09.38
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.07.20 11.00

Basis: Wet Weight

Seq Number: 3115988

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.07.20 16.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.07.20 16.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.07.20 16.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.07.20 16.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.07.20 16.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.07.20 16.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.07.20 16.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.07.20 16.09		
1,4-Difluorobenzene	540-36-3	106	%	70-130	02.07.20 16.09		



Certificate of Analytical Results 651677

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS61**
Lab Sample Id: 651677-003

Matrix: Soil
Date Collected: 02.06.20 15.55

Date Received: 02.07.20 09.38
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115992

Date Prep: 02.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4610	99.2	mg/kg	02.07.20 14.11		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116028

Date Prep: 02.07.20 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.07.20 15.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.07.20 15.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.07.20 15.38	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.07.20 15.38	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.07.20 15.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.07.20 15.38	
o-Terphenyl	84-15-1	89	%	70-135	02.07.20 15.38	



Certificate of Analytical Results 651677

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **FS61**
Lab Sample Id: 651677-003

Matrix: Soil
Date Collected: 02.06.20 15.55

Date Received: 02.07.20 09.38
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3115988

Date Prep: 02.07.20 11.00

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	02.07.20 16.29	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.07.20 16.29	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.07.20 16.29	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.07.20 16.29	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.07.20 16.29	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.07.20 16.29	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.07.20 16.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	02.07.20 16.29		
1,4-Difluorobenzene	540-36-3	106	%	70-130	02.07.20 16.29		



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.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3115992

MB Sample Id: 7696192-1-BLK

Matrix: Solid

LCS Sample Id: 7696192-1-BKS

Prep Method: E300P

Date Prep: 02.07.20

LCSD Sample Id: 7696192-1-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	251	100	250	100	90-110	0	20	mg/kg	02.07.20 08:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3115992

Parent Sample Id: 651630-001

Matrix: Soil

MS Sample Id: 651630-001 S

Prep Method: E300P

Date Prep: 02.07.20

MSD Sample Id: 651630-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4760	200	4920	80	4920	80	90-110	0	20	mg/kg	02.07.20 08:51	X

Analytical Method: Chloride by EPA 300

Seq Number: 3115992

Parent Sample Id: 651666-006

Matrix: Soil

MS Sample Id: 651666-006 S

Prep Method: E300P

Date Prep: 02.07.20

MSD Sample Id: 651666-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	290	200	495	103	490	101	90-110	1	20	mg/kg	02.07.20 13:37	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116028

MB Sample Id: 7696243-1-BLK

Matrix: Solid

LCS Sample Id: 7696243-1-BKS

Prep Method: SW8015P

Date Prep: 02.07.20

LCSD Sample Id: 7696243-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1140	114	1060	106	70-135	7	35	mg/kg	02.07.20 11:57	
Diesel Range Organics (DRO)	<50.0	1000	1180	118	1100	110	70-135	7	35	mg/kg	02.07.20 11:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		119		117		70-135	%	02.07.20 11:57
o-Terphenyl	101		113		109		70-135	%	02.07.20 11:57

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116028

Matrix: Solid

MB Sample Id: 7696243-1-BLK

Prep Method: SW8015P

Date Prep: 02.07.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.10.20 11:15	

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.

PLU 423 H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116028

Parent Sample Id: 651666-001

Matrix: Soil

MS Sample Id: 651666-001 S

Prep Method: SW8015P

Date Prep: 02.07.20

MSD Sample Id: 651666-001 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)	<50.2	1000	1190	119	1250	124	70-135	5	35	mg/kg	02.07.20 12:17	
Diesel Range Organics (DRO)	326	1000	1280	95	1390	105	70-135	8	35	mg/kg	02.07.20 12:17	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	131		130		70-135	%	02.07.20 12:17
o-Terphenyl	120		131		70-135	%	02.07.20 12:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115988

MB Sample Id: 7696221-1-BLK

Matrix: Solid

LCS Sample Id: 7696221-1-BKS

Prep Method: SW5030B

Date Prep: 02.07.20

LCSD Sample Id: 7696221-1-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	0.115	115	70-130	5	35	mg/kg	02.07.20 12:04	
Toluene	<0.00200	0.100	0.104	104	0.110	110	70-130	6	35	mg/kg	02.07.20 12:04	
Ethylbenzene	<0.00200	0.100	0.101	101	0.106	106	71-129	5	35	mg/kg	02.07.20 12:04	
m,p-Xylenes	<0.00400	0.200	0.208	104	0.219	110	70-135	5	35	mg/kg	02.07.20 12:04	
o-Xylene	<0.00200	0.100	0.103	103	0.109	109	71-133	6	35	mg/kg	02.07.20 12:04	

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	%	02.07.20 12:04
4-Bromofluorobenzene	98		95		95		70-130	%	02.07.20 12:04

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115988

Parent Sample Id: 651666-001

Matrix: Soil

MS Sample Id: 651666-001 S

Prep Method: SW5030B

Date Prep: 02.07.20

MSD Sample Id: 651666-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.124	125	0.120	120	70-130	3	35	mg/kg	02.07.20 12:45	
Toluene	<0.00198	0.0990	0.117	118	0.114	114	70-130	3	35	mg/kg	02.07.20 12:45	
Ethylbenzene	<0.00198	0.0990	0.110	111	0.107	107	71-129	3	35	mg/kg	02.07.20 12:45	
m,p-Xylenes	<0.00396	0.198	0.223	113	0.217	109	70-135	3	35	mg/kg	02.07.20 12:45	
o-Xylene	<0.00198	0.0990	0.109	110	0.107	107	71-133	2	35	mg/kg	02.07.20 12:45	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		70-130	%	02.07.20 12:45
4-Bromofluorobenzene	95		94		70-130	%	02.07.20 12:45

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3304
 Midland, TX (432) 704-5440 El Paso, TX (915) 555-3443 Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 382-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

Chain of Custody

Work Order No: US1677

www.xenco.com

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrell
Company Name:	LT Environmental, 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:	slm@xenco.com, dmoir@xenco.com, klitrell@xenco.com

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

ANALYSIS REQUEST

Work Order Notes

Project Name:	PLU Y23H Tank Battery	Turn Around	
Project Number:	012917043	Routine	☐
P.O. Number:		Rush:	2/4/4
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	1.4	Thermometer ID				
Received In tact:	Yes	No	T-NM-004			
Cooler Custody Seals:	Yes	No	Correction Factor: -0.2			
Sample Custody Seals:	Yes	No	Total Containers: 3			

9 PM

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E	BTEX (	Chloride																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
-----------------------	--------	--------------	--------------	-------	--------	--------	--------	----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total 200.7 / 6010 200.8 / 6020:

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

 BRCRA 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: BRCRA 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 \$3 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
<i>[Signature]</i>	<i>[Signature]</i>	2/7/2019 10:00 am	<i>[Signature]</i>	<i>[Signature]</i>	2/1/20 9:58

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.07.2020 09.38.00 AM

Work Order #: 651677

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst:

PH Device/Lot#:

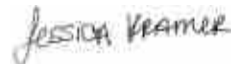
Checklist completed by:



Elizabeth McClellan

Date: 02.07.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.07.2020

Analytical Report 651679

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423 H Tank Battery

012917043

10-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)



10-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651679**

PLU 423 H Tank Battery

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) 651679. 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. 651679 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 651679

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW33	S	02-06-20 13:05	0 - 4.5 ft	651679-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423 H Tank Battery

Project ID: 012917043

Work Order Number(s): 651679

Report Date: 10-FEB-20

Date Received: 02/07/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115988 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651679



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423 H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Feb-07-20 09:38 am

Report Date: 10-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	651679-001					
	Field Id:	SW33					
	Depth:	0-4.5 ft					
	Matrix:	SOIL					
	Sampled:	Feb-06-20 13:05					
BTEX by EPA 8021B	Extracted:	Feb-07-20 11:00					
	Analyzed:	Feb-07-20 16:49					
	Units/RL:	mg/kg RL					
Benzene		<0.00200 0.00200					
Toluene		<0.00200 0.00200					
Ethylbenzene		<0.00200 0.00200					
m,p-Xylenes		<0.00399 0.00399					
o-Xylene		<0.00200 0.00200					
Total Xylenes		<0.00200 0.00200					
Total BTEX		<0.00200 0.00200					
Chloride by EPA 300	Extracted:	Feb-07-20 13:30					
	Analyzed:	Feb-07-20 14:17					
	Units/RL:	mg/kg RL					
Chloride		720 10.0					
TPH by SW8015 Mod	Extracted:	Feb-07-20 11:30					
	Analyzed:	Feb-07-20 15:38					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1					
Diesel Range Organics (DRO)		<50.1 50.1					
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1					
Total GRO-DRO		<50.1 50.1					
Total TPH		<50.1 50.1					

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 651679

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW33**
Lab Sample Id: 651679-001

Matrix: Soil
Date Collected: 02.06.20 13.05

Date Received: 02.07.20 09.38
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115992

Date Prep: 02.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	720	10.0	mg/kg	02.07.20 14.17		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116028

Date Prep: 02.07.20 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.07.20 15.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.07.20 15.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.07.20 15.38	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.07.20 15.38	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.07.20 15.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.07.20 15.38	
o-Terphenyl	84-15-1	104	%	70-135	02.07.20 15.38	



Certificate of Analytical Results 651679

LT Environmental, Inc., Arvada, CO

PLU 423 H Tank Battery

Sample Id: **SW33**
Lab Sample Id: 651679-001

Matrix: Soil
Date Collected: 02.06.20 13.05

Date Received: 02.07.20 09.38
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.07.20 11.00

Basis: Wet Weight

Seq Number: 3115988

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.07.20 16.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.07.20 16.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.07.20 16.49	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.07.20 16.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.07.20 16.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.07.20 16.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.07.20 16.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.07.20 16.49		
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.07.20 16.49		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 423 H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3115992

MB Sample Id: 7696192-1-BLK

Matrix: Solid

LCS Sample Id: 7696192-1-BKS

Prep Method: E300P

Date Prep: 02.07.20

LCSD Sample Id: 7696192-1-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	251	100	250	100	90-110	0	20	mg/kg	02.07.20 08:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3115992

Parent Sample Id: 651630-001

Matrix: Soil

MS Sample Id: 651630-001 S

Prep Method: E300P

Date Prep: 02.07.20

MSD Sample Id: 651630-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4760	200	4920	80	4920	80	90-110	0	20	mg/kg	02.07.20 08:51	X

Analytical Method: Chloride by EPA 300

Seq Number: 3115992

Parent Sample Id: 651666-006

Matrix: Soil

MS Sample Id: 651666-006 S

Prep Method: E300P

Date Prep: 02.07.20

MSD Sample Id: 651666-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	290	200	495	103	490	101	90-110	1	20	mg/kg	02.07.20 13:37	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116028

MB Sample Id: 7696243-1-BLK

Matrix: Solid

LCS Sample Id: 7696243-1-BKS

Prep Method: SW8015P

Date Prep: 02.07.20

LCSD Sample Id: 7696243-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1140	114	1060	106	70-135	7	35	mg/kg	02.07.20 11:57	
Diesel Range Organics (DRO)	<50.0	1000	1180	118	1100	110	70-135	7	35	mg/kg	02.07.20 11:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		119		117		70-135	%	02.07.20 11:57
o-Terphenyl	101		113		109		70-135	%	02.07.20 11:57

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116028

Matrix: Solid

MB Sample Id: 7696243-1-BLK

Prep Method: SW8015P

Date Prep: 02.07.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.10.20 11:15	

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.

PLU 423 H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116028

Parent Sample Id: 651666-001

Matrix: Soil

MS Sample Id: 651666-001 S

Prep Method: SW8015P

Date Prep: 02.07.20

MSD Sample Id: 651666-001 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)	<50.2	1000	1190	119	1250	124	70-135	5	35	mg/kg	02.07.20 12:17	
Diesel Range Organics (DRO)	326	1000	1280	95	1390	105	70-135	8	35	mg/kg	02.07.20 12:17	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	131		130		70-135	%	02.07.20 12:17
o-Terphenyl	120		131		70-135	%	02.07.20 12:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115988

MB Sample Id: 7696221-1-BLK

Matrix: Solid

LCS Sample Id: 7696221-1-BKS

Prep Method: SW5030B

Date Prep: 02.07.20

LCSD Sample Id: 7696221-1-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	0.115	115	70-130	5	35	mg/kg	02.07.20 12:04	
Toluene	<0.00200	0.100	0.104	104	0.110	110	70-130	6	35	mg/kg	02.07.20 12:04	
Ethylbenzene	<0.00200	0.100	0.101	101	0.106	106	71-129	5	35	mg/kg	02.07.20 12:04	
m,p-Xylenes	<0.00400	0.200	0.208	104	0.219	110	70-135	5	35	mg/kg	02.07.20 12:04	
o-Xylene	<0.00200	0.100	0.103	103	0.109	109	71-133	6	35	mg/kg	02.07.20 12:04	

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	%	02.07.20 12:04
4-Bromofluorobenzene	98		95		95		70-130	%	02.07.20 12:04

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115988

Parent Sample Id: 651666-001

Matrix: Soil

MS Sample Id: 651666-001 S

Prep Method: SW5030B

Date Prep: 02.07.20

MSD Sample Id: 651666-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.124	125	0.120	120	70-130	3	35	mg/kg	02.07.20 12:45	
Toluene	<0.00198	0.0990	0.117	118	0.114	114	70-130	3	35	mg/kg	02.07.20 12:45	
Ethylbenzene	<0.00198	0.0990	0.110	111	0.107	107	71-129	3	35	mg/kg	02.07.20 12:45	
m,p-Xylenes	<0.00396	0.198	0.223	113	0.217	109	70-135	3	35	mg/kg	02.07.20 12:45	
o-Xylene	<0.00198	0.0990	0.109	110	0.107	107	71-133	2	35	mg/kg	02.07.20 12:45	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		70-130	%	02.07.20 12:45
4-Bromofluorobenzene	95		94		70-130	%	02.07.20 12:45

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



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)585-3445 Lubbock, TX (806)794-1296
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-520-2020)

Chain of Custody

Work Order No: 1051679

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different):	Kyle Litrell
Company Name:	LT Environmental, Inc., Perrin 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:	slit@xenv.com, dmoir@xenv.com, kyle@xenv.com

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

Project Name:	PLU 423H Tank Battery	Turn Around		ANALYSIS REQUEST	Work Order Notes
---------------	-----------------------	-------------	--	------------------	------------------

Project Number:	012917013	Routine	☐
P.O. Number:		Rush:	24H
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT	Temp Blank:	☒ Yes	☐ No	Wet Ice:	☒ Yes	☐ No
	Temperature (°C):	1.4	Thermometer ID			
	Received Inlet:	☒ Yes	☐ No	T - N/A - 207		
	Cooler Custody Seals:	☒ Yes	☐ No	Correction Factor:		
	Sample Custody Seals:	☒ Yes	☐ No	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8-8021)	Chloride (EPA 300.0)																	TAT starts the day received by the lab, if received by 4:30pm	Sample Comments
SW33	S	2.6.20	1305	0-4.5'	1	X	X	X																		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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 1631 / 245.1 / 7470 / 7471: Hg

Note: 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 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
<i>[Signature]</i>	<i>[Signature]</i>	2/19/2020	<i>[Signature]</i>	<i>[Signature]</i>	2/19/2020

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.07.2020 09.38.00 AM

Work Order #: 651679

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst:

PH Device/Lot#:

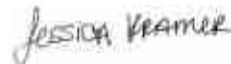
Checklist completed by:



Elizabeth McClellan

Date: 02.07.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.07.2020

Analytical Report 651804

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

11-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)



11-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651804**

PLU 423H Tank Battery

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) 651804. 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. 651804 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 651804

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW39	S	02-07-20 13:40	0 - 4.5 ft	651804-001
SW40	S	02-07-20 14:00	0 - 4.5 ft	651804-002
FS62	S	02-07-20 14:30	4.5 ft	651804-003
FS63	S	02-07-20 15:15	4.5 ft	651804-004
FS64	S	02-07-20 15:25	4.5 ft	651804-005



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043

Work Order Number(s): 651804

Report Date: 11-FEB-20

Date Received: 02/10/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116093 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651804



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Feb-10-20 08:10 am

Report Date: 11-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	651804-001	651804-002	651804-003	651804-004	651804-005	
	<i>Field Id:</i>	SW39	SW40	FS62	FS63	FS64	
	<i>Depth:</i>	0-4.5 ft	0-4.5 ft	4.5- ft	4.5- ft	4.5- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Feb-07-20 13:40	Feb-07-20 14:00	Feb-07-20 14:30	Feb-07-20 15:15	Feb-07-20 15:25	
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-10-20 10:00	Feb-10-20 10:00	Feb-10-20 10:00	Feb-10-20 10:00	Feb-10-20 10:00	
	<i>Analyzed:</i>	Feb-10-20 12:40	Feb-10-20 13:01	Feb-10-20 13:21	Feb-10-20 13:42	Feb-10-20 14:02	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	
m,p-Xylenes		<0.00401 0.00401	<0.00399 0.00399	<0.00402 0.00402	<0.00404 0.00404	<0.00404 0.00404	
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	
Chloride by EPA 300	<i>Extracted:</i>	Feb-10-20 10:30	Feb-10-20 10:30	Feb-10-20 10:30	Feb-10-20 10:30	Feb-10-20 10:30	
	<i>Analyzed:</i>	Feb-10-20 12:30	Feb-10-20 12:46	Feb-10-20 12:52	Feb-10-20 12:57	Feb-10-20 13:03	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		2410 50.1	2240 50.5	5410 201	6150 201	7450 202	
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-10-20 10:40	Feb-10-20 10:40	Feb-10-20 10:40	Feb-10-20 10:40	Feb-10-20 10:40	
	<i>Analyzed:</i>	Feb-10-20 13:24	Feb-10-20 13:44	Feb-10-20 14:04	Feb-10-20 14:04	Feb-10-20 14:24	
	<i>Units/RL:</i>	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	<50.1 50.1	<49.8 49.8	<50.2 50.2	
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<50.1 50.1	<49.8 49.8	<50.2 50.2	
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<50.1 50.1	<49.8 49.8	<50.2 50.2	
Total GRO-DRO		<50.0 50.0	<50.0 50.0	<50.1 50.1	<49.8 49.8	<50.2 50.2	
Total TPH		<50.0 50.0	<50.0 50.0	<50.1 50.1	<49.8 49.8	<50.2 50.2	

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 651804

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW39**
Lab Sample Id: 651804-001

Matrix: Soil
Date Collected: 02.07.20 13.40

Date Received: 02.10.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116090

Date Prep: 02.10.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2410	50.1	mg/kg	02.10.20 12.30		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116082

Date Prep: 02.10.20 10.40

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	02.10.20 13.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.10.20 13.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.10.20 13.24	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.10.20 13.24	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.10.20 13.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	02.10.20 13.24	
o-Terphenyl	84-15-1	108	%	70-135	02.10.20 13.24	



Certificate of Analytical Results 651804

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW39**
Lab Sample Id: 651804-001

Matrix: Soil
Date Collected: 02.07.20 13.40

Date Received: 02.10.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.10.20 12.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.10.20 12.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.10.20 12.40	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.10.20 12.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.10.20 12.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.10.20 12.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.10.20 12.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.10.20 12.40		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.10.20 12.40		



Certificate of Analytical Results 651804

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW40** Matrix: Soil Date Received: 02.10.20 08.10
 Lab Sample Id: 651804-002 Date Collected: 02.07.20 14.00 Sample Depth: 0 - 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.10.20 10.30 Basis: Wet Weight
 Seq Number: 3116090

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2240	50.5	mg/kg	02.10.20 12.46		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.10.20 10.40 Basis: Wet Weight
 Seq Number: 3116082

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.10.20 13.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.10.20 13.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.10.20 13.44	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.10.20 13.44	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.10.20 13.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	02.10.20 13.44	
o-Terphenyl	84-15-1	114	%	70-135	02.10.20 13.44	



Certificate of Analytical Results 651804

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW40**
Lab Sample Id: 651804-002

Matrix: Soil
Date Collected: 02.07.20 14.00

Date Received: 02.10.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3116093

Prep Method: SW5030B

% Moisture:

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.10.20 13.01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.10.20 13.01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.10.20 13.01	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.10.20 13.01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.10.20 13.01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.10.20 13.01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.10.20 13.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.10.20 13.01		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.10.20 13.01		



Certificate of Analytical Results 651804

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS62**
Lab Sample Id: 651804-003

Matrix: Soil
Date Collected: 02.07.20 14.30

Date Received: 02.10.20 08.10
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116090

Date Prep: 02.10.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5410	201	mg/kg	02.10.20 12.52		20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116082

Date Prep: 02.10.20 10.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.10.20 14.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.10.20 14.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.10.20 14.04	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.10.20 14.04	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.10.20 14.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	02.10.20 14.04	
o-Terphenyl	84-15-1	111	%	70-135	02.10.20 14.04	



Certificate of Analytical Results 651804

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS62**
Lab Sample Id: 651804-003

Matrix: Soil
Date Collected: 02.07.20 14.30

Date Received: 02.10.20 08.10
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.10.20 13.21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.10.20 13.21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.10.20 13.21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.10.20 13.21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.10.20 13.21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.10.20 13.21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.10.20 13.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.10.20 13.21		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.10.20 13.21		



Certificate of Analytical Results 651804

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS63**
Lab Sample Id: 651804-004

Matrix: Soil
Date Collected: 02.07.20 15.15

Date Received: 02.10.20 08.10
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116090

Date Prep: 02.10.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6150	201	mg/kg	02.10.20 12.57		20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116082

Date Prep: 02.10.20 10.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.10.20 14.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.10.20 14.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.10.20 14.04	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.10.20 14.04	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.10.20 14.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	02.10.20 14.04	
o-Terphenyl	84-15-1	116	%	70-135	02.10.20 14.04	



Certificate of Analytical Results 651804

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS63**
Lab Sample Id: 651804-004

Matrix: Soil
Date Collected: 02.07.20 15.15

Date Received: 02.10.20 08.10
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.10.20 13.42	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.10.20 13.42	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.10.20 13.42	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.10.20 13.42	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.10.20 13.42	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.10.20 13.42	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.10.20 13.42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.10.20 13.42		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.10.20 13.42		



Certificate of Analytical Results 651804

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS64**
Lab Sample Id: 651804-005

Matrix: Soil
Date Collected: 02.07.20 15.25

Date Received: 02.10.20 08.10
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116090

Date Prep: 02.10.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7450	202	mg/kg	02.10.20 13.03		20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116082

Date Prep: 02.10.20 10.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.10.20 14.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.10.20 14.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.10.20 14.24	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.10.20 14.24	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.10.20 14.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	02.10.20 14.24	
o-Terphenyl	84-15-1	119	%	70-135	02.10.20 14.24	



Certificate of Analytical Results 651804

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS64**
Lab Sample Id: 651804-005

Matrix: Soil
Date Collected: 02.07.20 15.25

Date Received: 02.10.20 08.10
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.10.20 14.02	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.10.20 14.02	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.10.20 14.02	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.10.20 14.02	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.10.20 14.02	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.10.20 14.02	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.10.20 14.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.10.20 14.02		
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.10.20 14.02		



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.
PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116090

MB Sample Id: 7696315-1-BLK

Matrix: Solid

LCS Sample Id: 7696315-1-BKS

Prep Method: E300P

Date Prep: 02.10.20

LCSD Sample Id: 7696315-1-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	256	102	256	102	90-110	0	20	mg/kg	02.10.20 12:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3116090

Parent Sample Id: 651804-001

Matrix: Soil

MS Sample Id: 651804-001 S

Prep Method: E300P

Date Prep: 02.10.20

MSD Sample Id: 651804-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2410	201	2620	104	2610	100	90-110	0	20	mg/kg	02.10.20 12:36	

Analytical Method: Chloride by EPA 300

Seq Number: 3116090

Parent Sample Id: 651808-004

Matrix: Soil

MS Sample Id: 651808-004 S

Prep Method: E300P

Date Prep: 02.10.20

MSD Sample Id: 651808-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.39	201	219	105	218	105	90-110	0	20	mg/kg	02.10.20 13:51	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116082

MB Sample Id: 7696305-1-BLK

Matrix: Solid

LCS Sample Id: 7696305-1-BKS

Prep Method: SW8015P

Date Prep: 02.10.20

LCSD Sample Id: 7696305-1-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	957	96	1180	118	70-135	21	35	mg/kg	02.10.20 13:04	
Diesel Range Organics (DRO)	<50.0	1000	964	96	1100	110	70-135	13	35	mg/kg	02.10.20 13:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		116		130		70-135	%	02.10.20 13:04
o-Terphenyl	113		97		113		70-135	%	02.10.20 13:04

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116082

Matrix: Solid

MB Sample Id: 7696305-1-BLK

Prep Method: SW8015P

Date Prep: 02.10.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.10.20 12:44	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116082

Parent Sample Id: 651804-001

Matrix: Soil

MS Sample Id: 651804-001 S

Prep Method: SW8015P

Date Prep: 02.10.20

MSD Sample Id: 651804-001 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	883	88	1030	103	70-135	15	35	mg/kg	02.10.20 13:24	
Diesel Range Organics (DRO)	<50.1	1000	984	98	1110	111	70-135	12	35	mg/kg	02.10.20 13:24	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	130		133		70-135	%	02.10.20 13:24
o-Terphenyl	119		118		70-135	%	02.10.20 13:24

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116093

MB Sample Id: 7696320-1-BLK

Matrix: Solid

LCS Sample Id: 7696320-1-BKS

Prep Method: SW5030B

Date Prep: 02.10.20

LCSD Sample Id: 7696320-1-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	0.110	110	0.112	112	70-130	2	35	mg/kg	02.10.20 10:59	
Toluene	<0.00200	0.100	0.106	106	0.108	108	70-130	2	35	mg/kg	02.10.20 10:59	
Ethylbenzene	<0.00200	0.100	0.103	103	0.105	105	71-129	2	35	mg/kg	02.10.20 10:59	
m,p-Xylenes	<0.00400	0.200	0.211	106	0.215	108	70-135	2	35	mg/kg	02.10.20 10:59	
o-Xylene	<0.00200	0.100	0.105	105	0.107	107	71-133	2	35	mg/kg	02.10.20 10:59	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		105		70-130	%	02.10.20 10:59
4-Bromofluorobenzene	96		93		95		70-130	%	02.10.20 10:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116093

Parent Sample Id: 651804-001

Matrix: Soil

MS Sample Id: 651804-001 S

Prep Method: SW5030B

Date Prep: 02.10.20

MSD Sample Id: 651804-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.119	118	0.108	107	70-130	10	35	mg/kg	02.10.20 11:39	
Toluene	<0.00202	0.101	0.112	111	0.103	102	70-130	8	35	mg/kg	02.10.20 11:39	
Ethylbenzene	<0.00202	0.101	0.104	103	0.0973	96	71-129	7	35	mg/kg	02.10.20 11:39	
m,p-Xylenes	<0.00403	0.202	0.213	105	0.198	98	70-135	7	35	mg/kg	02.10.20 11:39	
o-Xylene	<0.00202	0.101	0.106	105	0.101	100	71-133	5	35	mg/kg	02.10.20 11:39	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	02.10.20 11:39
4-Bromofluorobenzene	97		94		70-130	%	02.10.20 11:39

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



Work Order No.

1021805

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 508-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 555-3441 Lubbock, TX (806) 784-1286
Hobbs, NM (505) 382-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813)

www.kencor.com

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, 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:	slm@lternv.com, dmoir@lternv.com, acole@lternv.com

Work Order Comments	
Program: UST/PST	☐ RRP ☐ Brownfields ☐ ARC ☐ Superfund ☐
State of Project:	
Reporting Level II	☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDO	☐ Adapt ☐ Other:

[illegible]

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	0.6	Thermometer ID					
Received In/Out:	Yes	No	TNN007				
Cooler Custody Seals:	Yes	No	Correction Factor:				
Sample Custody Seals:	Yes	No	Total Containers:				
			-0.2				
			5				

Number of Containers

PA 8015)

PA 0=8021)

(EPA 300.0)

141 starts the day/received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EP)	BTEX (E)	Chloride	Sample Comments
SW 39	5	2-7-20	1340	0-4.5'	1	x	x	x	
SW 40			1400	0-4.5'	1	x	x	x	
FS 62			1430	4.5'	1	x	x	x	
FS 63			1515	4.5'	1	x	x	x	
FS 64			1525	4.5'	1	x	x	x	

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	
	TCLP / 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

Xenico will be liable only for the cost of samples and shall not assume any responsibility for client losses or expenses incurred by the client if such losses are due to circumstances beyond the control of **Xenico**. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to **Xenico**, 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
		21/10/2017:30am			21/10/20 08:10

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.10.2020 08.10.00 AM

Work Order #: 651804

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)?	.6
#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#:

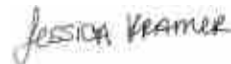
Checklist completed by:



Elizabeth McClellan

Date: 02.10.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.10.2020

Analytical Report 651806

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

11-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)



11-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651806**

PLU 423H Tank Battery

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) 651806. 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. 651806 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 651806

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW35	S	02-07-20 12:45	0 - 4.5 ft	651806-001
SW41	S	02-07-20 13:20	0 - 4.5 ft	651806-002



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043

Work Order Number(s): 651806

Report Date: 11-FEB-20

Date Received: 02/10/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116093 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651806



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Feb-10-20 08:10 am

Report Date: 11-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	651806-001	651806-002				
	Field Id:	SW35	SW41				
	Depth:	0-4.5 ft	0-4.5 ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Feb-07-20 12:45	Feb-07-20 13:20				
BTEX by EPA 8021B	Extracted:	Feb-10-20 10:00	Feb-10-20 10:00				
	Analyzed:	Feb-10-20 14:22	Feb-10-20 14:43				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00201 0.00201	<0.00202 0.00202				
Toluene		<0.00201 0.00201	<0.00202 0.00202				
Ethylbenzene		<0.00201 0.00201	<0.00202 0.00202				
m,p-Xylenes		<0.00402 0.00402	<0.00404 0.00404				
o-Xylene		<0.00201 0.00201	<0.00202 0.00202				
Total Xylenes		<0.00201 0.00201	<0.00202 0.00202				
Total BTEX		<0.00201 0.00201	<0.00202 0.00202				
Chloride by EPA 300	Extracted:	Feb-10-20 10:30	Feb-10-20 10:30				
	Analyzed:	Feb-10-20 13:19	Feb-10-20 13:24				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		439 202	436 50.1				
TPH by SW8015 Mod	Extracted:	Feb-10-20 10:40	Feb-10-20 10:40				
	Analyzed:	Feb-10-20 14:24	Feb-10-20 14:45				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<49.9 49.9				
Diesel Range Organics (DRO)		<49.8 49.8	<49.9 49.9				
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<49.9 49.9				
Total GRO-DRO		<49.8 49.8	<49.9 49.9				
Total TPH		<49.8 49.8	<49.9 49.9				

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 651806

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW35**
Lab Sample Id: 651806-001

Matrix: Soil
Date Collected: 02.07.20 12.45

Date Received: 02.10.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116090

Date Prep: 02.10.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	439	202	mg/kg	02.10.20 13.19		20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116082

Date Prep: 02.10.20 10.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.10.20 14.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.10.20 14.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.10.20 14.24	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.10.20 14.24	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.10.20 14.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	02.10.20 14.24	
o-Terphenyl	84-15-1	112	%	70-135	02.10.20 14.24	



Certificate of Analytical Results 651806

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW35**
Lab Sample Id: 651806-001

Matrix: Soil
Date Collected: 02.07.20 12.45

Date Received: 02.10.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.10.20 14.22	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.10.20 14.22	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.10.20 14.22	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.10.20 14.22	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.10.20 14.22	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.10.20 14.22	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.10.20 14.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.10.20 14.22		
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.10.20 14.22		



Certificate of Analytical Results 651806

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW41**
Lab Sample Id: 651806-002

Matrix: Soil
Date Collected: 02.07.20 13.20

Date Received: 02.10.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116090

Date Prep: 02.10.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	436	50.1	mg/kg	02.10.20 13.24		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116082

Date Prep: 02.10.20 10.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.10.20 14.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.10.20 14.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.10.20 14.45	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	02.10.20 14.45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.10.20 14.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	02.10.20 14.45	
o-Terphenyl	84-15-1	128	%	70-135	02.10.20 14.45	



Certificate of Analytical Results 651806

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW41**
Lab Sample Id: 651806-002

Matrix: Soil
Date Collected: 02.07.20 13.20

Date Received: 02.10.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.10.20 14.43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.10.20 14.43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.10.20 14.43	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.10.20 14.43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.10.20 14.43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.10.20 14.43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.10.20 14.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	02.10.20 14.43		
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.10.20 14.43		



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116090

MB Sample Id: 7696315-1-BLK

Matrix: Solid

LCS Sample Id: 7696315-1-BKS

Prep Method: E300P

Date Prep: 02.10.20

LCSD Sample Id: 7696315-1-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	256	102	256	102	90-110	0	20	mg/kg	02.10.20 12:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3116090

Parent Sample Id: 651804-001

Matrix: Soil

MS Sample Id: 651804-001 S

Prep Method: E300P

Date Prep: 02.10.20

MSD Sample Id: 651804-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2410	201	2620	104	2610	100	90-110	0	20	mg/kg	02.10.20 12:36	

Analytical Method: Chloride by EPA 300

Seq Number: 3116090

Parent Sample Id: 651808-004

Matrix: Soil

MS Sample Id: 651808-004 S

Prep Method: E300P

Date Prep: 02.10.20

MSD Sample Id: 651808-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.39	201	219	105	218	105	90-110	0	20	mg/kg	02.10.20 13:51	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116082

MB Sample Id: 7696305-1-BLK

Matrix: Solid

LCS Sample Id: 7696305-1-BKS

Prep Method: SW8015P

Date Prep: 02.10.20

LCSD Sample Id: 7696305-1-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	957	96	1180	118	70-135	21	35	mg/kg	02.10.20 13:04	
Diesel Range Organics (DRO)	<50.0	1000	964	96	1100	110	70-135	13	35	mg/kg	02.10.20 13:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		116		130		70-135	%	02.10.20 13:04
o-Terphenyl	113		97		113		70-135	%	02.10.20 13:04

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116082

Matrix: Solid

MB Sample Id: 7696305-1-BLK

Prep Method: SW8015P

Date Prep: 02.10.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.10.20 12:44	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116082

Parent Sample Id: 651804-001

Matrix: Soil

MS Sample Id: 651804-001 S

Prep Method: SW8015P

Date Prep: 02.10.20

MSD Sample Id: 651804-001 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	883	88	1030	103	70-135	15	35	mg/kg	02.10.20 13:24	
Diesel Range Organics (DRO)	<50.1	1000	984	98	1110	111	70-135	12	35	mg/kg	02.10.20 13:24	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	130		133		70-135	%	02.10.20 13:24
o-Terphenyl	119		118		70-135	%	02.10.20 13:24

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116093

MB Sample Id: 7696320-1-BLK

Matrix: Solid

LCS Sample Id: 7696320-1-BKS

Prep Method: SW5030B

Date Prep: 02.10.20

LCSD Sample Id: 7696320-1-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	0.110	110	0.112	112	70-130	2	35	mg/kg	02.10.20 10:59	
Toluene	<0.00200	0.100	0.106	106	0.108	108	70-130	2	35	mg/kg	02.10.20 10:59	
Ethylbenzene	<0.00200	0.100	0.103	103	0.105	105	71-129	2	35	mg/kg	02.10.20 10:59	
m,p-Xylenes	<0.00400	0.200	0.211	106	0.215	108	70-135	2	35	mg/kg	02.10.20 10:59	
o-Xylene	<0.00200	0.100	0.105	105	0.107	107	71-133	2	35	mg/kg	02.10.20 10:59	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		105		70-130	%	02.10.20 10:59
4-Bromofluorobenzene	96		93		95		70-130	%	02.10.20 10:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116093

Parent Sample Id: 651804-001

Matrix: Soil

MS Sample Id: 651804-001 S

Prep Method: SW5030B

Date Prep: 02.10.20

MSD Sample Id: 651804-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.119	118	0.108	107	70-130	10	35	mg/kg	02.10.20 11:39	
Toluene	<0.00202	0.101	0.112	111	0.103	102	70-130	8	35	mg/kg	02.10.20 11:39	
Ethylbenzene	<0.00202	0.101	0.104	103	0.0973	96	71-129	7	35	mg/kg	02.10.20 11:39	
m,p-Xylenes	<0.00403	0.202	0.213	105	0.198	98	70-135	7	35	mg/kg	02.10.20 11:39	
o-Xylene	<0.00202	0.101	0.106	105	0.101	100	71-133	5	35	mg/kg	02.10.20 11:39	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	02.10.20 11:39
4-Bromofluorobenzene	97		94		70-130	%	02.10.20 11:39

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 500-3534
Midland, TX (432-704-5440) El Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-0800) Tampa, FL (813)
Hobbs, NM (575-392-7660)

Work Order No: WB / 2020

Page 1 of 1

www.melico.com

Chain of Custody

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Little
Company Name:	LT Environmental, 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:	gale@ltenv.com, dmoir@ltenv.com, alcolea@ltenv.com

Work Order Comments	
Program: UST/PST	☐ TRP ☐ Grow/fields ☐ IRC ☐ Superfund ☐
State of Project:	
Reporting Level II	☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other: ☐

[illegible]

SAMPLE RECEIPT		Temp Blank:	(Yes) No	Wet Ice	(Yes) No
Temperature (°C):	0.6	Thermometer ID			
Received Initial:	(Yes) No	TNN007			
Cooler Custody Seals:	Yes (No)	N/A	Correction Factor	-0.2	
Sample Custody Seals:	Yes (No)	N/A	Total Containers	2	

Number of Containers

(EPA 8015)

(EPA 0=8021)

de (EPA 300.0)

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E)	BTEX	Chloride	Sample Comments
SW 35	S	2.7.20	1245	0-4.5'	1	1	1	1	
SW 41	S	2.7.20	1320	0-4.5'	1	1	2	3	

Circle Method(s) and Metal(s) to be analyzed	Total	200.7 / 6010	200.8 / 6020
8RCRA, 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SnOz Ina Cl H Zn V Zn		
TCLP / 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

Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xeno, its affiliates and subcontractors. It assigns standard terms and conditions to Xeno. Xeno will be liable only for the cost of samples and shall not assume any responsibility for any loss or expenses incurred by the client if such losses are due to circumstances beyond the control of Xeno. A minimum charge of \$76.00 will be applied to each project and a charge of \$5 for each sample submitted to Xeno, 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
<i>[Signature]</i>	<i>[Signature]</i>	2/10/20 / 7:30am	<i>[Signature]</i>	<i>[Signature]</i>	2/10/20 08:10

Revised Date 05/14/18 Page 30/31

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.10.2020 08.10.00 AM

Work Order #: 651806

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)?	.6
#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#:

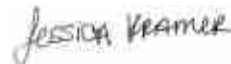
Checklist completed by:



Elizabeth McClellan

Date: 02.10.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.10.2020

Analytical Report 651915

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

12-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)



12-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651915**

PLU 423H Tank Battery

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) 651915. 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. 651915 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 651915

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS65	S	02-10-20 14:15	4.5 ft	651915-001
FS66	S	02-10-20 14:30	4.5 ft	651915-002



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043
Work Order Number(s): 651915

Report Date: 12-FEB-20
Date Received: 02/11/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116181 Chloride by EPA 300

Lab Sample ID 651916-009 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: 651915-001, -002.

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

Batch: LBA-3116229 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651915



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Feb-11-20 08:10 am

Report Date: 12-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	651915-001	651915-002				
	Field Id:	FS65	FS66				
	Depth:	4.5- ft	4.5- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Feb-10-20 14:15	Feb-10-20 14:30				
BTEX by EPA 8021B	Extracted:	Feb-11-20 10:00	Feb-11-20 10:00				
	Analyzed:	Feb-11-20 12:59	Feb-11-20 13:20				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00199 0.00199	<0.00199 0.00199				
Toluene		<0.00199 0.00199	<0.00199 0.00199				
Ethylbenzene		<0.00199 0.00199	<0.00199 0.00199				
m,p-Xylenes		<0.00398 0.00398	<0.00398 0.00398				
o-Xylene		<0.00199 0.00199	<0.00199 0.00199				
Total Xylenes		<0.00199 0.00199	<0.00199 0.00199				
Total BTEX		<0.00199 0.00199	<0.00199 0.00199				
Chloride by EPA 300	Extracted:	Feb-11-20 10:30	Feb-11-20 10:30				
	Analyzed:	Feb-11-20 10:55	Feb-11-20 11:12				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		551 50.1	147 49.8				
TPH by SW8015 Mod	Extracted:	Feb-11-20 09:50	Feb-11-20 09:50				
	Analyzed:	Feb-11-20 10:48	Feb-11-20 11:07				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0				
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0				
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0				
Total GRO-DRO		<49.9 49.9	<50.0 50.0				
Total TPH		<49.9 49.9	<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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 651915

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS65**
Lab Sample Id: 651915-001

Matrix: Soil
Date Collected: 02.10.20 14.15

Date Received: 02.11.20 08.10
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116181

Date Prep: 02.11.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	551	50.1	mg/kg	02.11.20 10.55		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116201

Date Prep: 02.11.20 09.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.11.20 10.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.11.20 10.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.11.20 10.48	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	02.11.20 10.48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.11.20 10.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.11.20 10.48	
o-Terphenyl	84-15-1	107	%	70-135	02.11.20 10.48	



Certificate of Analytical Results 651915

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS65**
Lab Sample Id: 651915-001

Matrix: Soil
Date Collected: 02.10.20 14.15

Date Received: 02.11.20 08.10
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MRB

Seq Number: 3116229

Date Prep: 02.11.20 10.00

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	02.11.20 12.59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.11.20 12.59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.11.20 12.59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.11.20 12.59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.11.20 12.59	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.11.20 12.59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.11.20 12.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.11.20 12.59		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.11.20 12.59		



Certificate of Analytical Results 651915

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS66**
Lab Sample Id: 651915-002

Matrix: Soil
Date Collected: 02.10.20 14.30

Date Received: 02.11.20 08.10
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116181

Date Prep: 02.11.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	147	49.8	mg/kg	02.11.20 11.12		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116201

Date Prep: 02.11.20 09.50

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	02.11.20 11.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.11.20 11.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.11.20 11.07	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.11.20 11.07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.11.20 11.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	134	%	70-135	02.11.20 11.07	
o-Terphenyl	84-15-1	129	%	70-135	02.11.20 11.07	



Certificate of Analytical Results 651915

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS66**
Lab Sample Id: 651915-002

Matrix: Soil
Date Collected: 02.10.20 14.30

Date Received: 02.11.20 08.10
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MRB

Seq Number: 3116229

Date Prep: 02.11.20 10.00

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	02.11.20 13.20	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.11.20 13.20	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.11.20 13.20	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.11.20 13.20	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.11.20 13.20	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.11.20 13.20	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.11.20 13.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.11.20 13.20		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.11.20 13.20		



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116181

MB Sample Id: 7696390-1-BLK

Matrix: Solid

LCS Sample Id: 7696390-1-BKS

Prep Method: E300P

Date Prep: 02.11.20

LCSD Sample Id: 7696390-1-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	268	107	269	108	90-110	0	20	mg/kg	02.11.20 10:44	

Analytical Method: Chloride by EPA 300

Seq Number: 3116181

Parent Sample Id: 651915-001

Matrix: Soil

MS Sample Id: 651915-001 S

Prep Method: E300P

Date Prep: 02.11.20

MSD Sample Id: 651915-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	551	199	793	122	787	117	90-110	1	20	mg/kg	02.11.20 11:01	X

Analytical Method: Chloride by EPA 300

Seq Number: 3116181

Parent Sample Id: 651916-009

Matrix: Soil

MS Sample Id: 651916-009 S

Prep Method: E300P

Date Prep: 02.11.20

MSD Sample Id: 651916-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	483	200	707	112	707	111	90-110	0	20	mg/kg	02.11.20 12:19	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116201

MB Sample Id: 7696392-1-BLK

Matrix: Solid

LCS Sample Id: 7696392-1-BKS

Prep Method: SW8015P

Date Prep: 02.11.20

LCSD Sample Id: 7696392-1-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	978	98	886	89	70-135	10	35	mg/kg	02.11.20 10:24	
Diesel Range Organics (DRO)	<50.0	1000	1090	109	974	97	70-135	11	35	mg/kg	02.11.20 10:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		131		128		70-135	%	02.11.20 10:24
o-Terphenyl	111		120		102		70-135	%	02.11.20 10:24

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116201

Matrix: Solid

MB Sample Id: 7696392-1-BLK

Prep Method: SW8015P

Date Prep: 02.11.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.11.20 10:04	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116201

Parent Sample Id: 651915-001

Matrix: Soil

MS Sample Id: 651915-001 S

Prep Method: SW8015P

Date Prep: 02.11.20

MSD Sample Id: 651915-001 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)	<49.9	998	888	89	972	97	70-135	9	35	mg/kg	02.11.20 10:48	
Diesel Range Organics (DRO)	<49.9	998	981	98	1070	107	70-135	9	35	mg/kg	02.11.20 10:48	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	133		132		70-135	%	02.11.20 10:48
o-Terphenyl	123		122		70-135	%	02.11.20 10:48

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116229

MB Sample Id: 7696394-1-BLK

Matrix: Solid

LCS Sample Id: 7696394-1-BKS

Prep Method: SW5030B

Date Prep: 02.11.20

LCSD Sample Id: 7696394-1-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	0.110	110	0.110	110	70-130	0	35	mg/kg	02.11.20 11:17	
Toluene	<0.00200	0.100	0.106	106	0.105	105	70-130	1	35	mg/kg	02.11.20 11:17	
Ethylbenzene	<0.00200	0.100	0.101	101	0.100	100	71-129	1	35	mg/kg	02.11.20 11:17	
m,p-Xylenes	<0.00400	0.200	0.208	104	0.204	102	70-135	2	35	mg/kg	02.11.20 11:17	
o-Xylene	<0.00200	0.100	0.104	104	0.103	103	71-133	1	35	mg/kg	02.11.20 11:17	

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	%	02.11.20 11:17
4-Bromofluorobenzene	96		94		95		70-130	%	02.11.20 11:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116229

Parent Sample Id: 651915-001

Matrix: Soil

MS Sample Id: 651915-001 S

Prep Method: SW5030B

Date Prep: 02.11.20

MSD Sample Id: 651915-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.118	119	0.114	115	70-130	3	35	mg/kg	02.11.20 11:58	
Toluene	<0.00198	0.0992	0.115	116	0.111	112	70-130	4	35	mg/kg	02.11.20 11:58	
Ethylbenzene	<0.00198	0.0992	0.112	113	0.107	108	71-129	5	35	mg/kg	02.11.20 11:58	
m,p-Xylenes	<0.00397	0.198	0.230	116	0.221	112	70-135	4	35	mg/kg	02.11.20 11:58	
o-Xylene	<0.00198	0.0992	0.114	115	0.109	110	71-133	4	35	mg/kg	02.11.20 11:58	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		70-130	%	02.11.20 11:58
4-Bromofluorobenzene	96		96		70-130	%	02.11.20 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



6051915

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) 586-3443 Lubbock, TX (806) 794-1295

Hobbs, NM (575-392-7560) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2900)

www.xenico.com

Page 1 of 1

Work Order Comments	
Program: UST/PST	☐ RP ☐ Brownfields ☐ TRC ☐ Superfund ☐
State of Project:	
Reporting Level II	☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ Adapt ☐ Other

[illegible]

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

[illegible]

Total	200.7 / 6010	200.8 / 6020;
-------	--------------	---------------

[illegible]

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

[illegible]

Received by: (Signature) _____ Date/Time _____

Relinquished by: (Signature) _____ Date/Time _____

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.

Relinquished by (Signature)		
Received by (Signature)	Date/Time	Ballot/Judged by (Signature)

[illegible][illegible]

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.11.2020 08.10.00 AM

Work Order #: 651915

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst:

PH Device/Lot#:

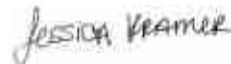
Checklist completed by:



Elizabeth McClellan

Date: 02.11.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.11.2020

Analytical Report 651916

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

12-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)



12-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651916**

PLU 423H Tank Battery

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) 651916. 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. 651916 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 651916****LT Environmental, Inc., Arvada, CO**

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW42	S	02-10-20 12:00	0 - 4.5 ft	651916-001
SW43	S	02-10-20 12:15	0 - 4.5 ft	651916-002
SW48	S	02-10-20 13:30	0 - 4.5 ft	651916-003
SW47	S	02-10-20 12:45	0 - 4.5 ft	651916-004
SW45	S	02-10-20 13:00	0 - 4.5 ft	651916-005
SW46	S	02-10-20 13:15	0 - 4.5 ft	651916-006
SW50	S	02-10-20 13:45	0 - 4.5 ft	651916-007
SW49	S	02-10-20 14:00	0 - 4.5 ft	651916-008
SW44	S	02-10-20 14:45	0 - 4.5 ft	651916-009



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043
Work Order Number(s): 651916

Report Date: 12-FEB-20
Date Received: 02/11/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116181 Chloride by EPA 300

Lab Sample ID 651916-009 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: 651916-001, -002, -003, -004, -005, -006, -007, -008, -009.

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

Batch: LBA-3116201 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 651916-008.

Batch: LBA-3116229 BTEX by EPA 8021B

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

Certificate of Analysis Summary 651916



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Feb-11-20 08:10 am

Report Date: 12-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	651916-001	651916-002	651916-003	651916-004	651916-005	651916-006
	<i>Field Id:</i>	SW42	SW43	SW48	SW47	SW45	SW46
	<i>Depth:</i>	0-4.5 ft	0-4.5 ft	0-4.5 ft	0-4.5 ft	0-4.5 ft	0-4.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Feb-10-20 12:00	Feb-10-20 12:15	Feb-10-20 13:30	Feb-10-20 12:45	Feb-10-20 13:00	Feb-10-20 13:15
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-11-20 10:00	Feb-11-20 10:00	Feb-11-20 10:00	Feb-11-20 10:00	Feb-11-20 10:00	Feb-11-20 10:00
	<i>Analyzed:</i>	Feb-11-20 13:40	Feb-11-20 14:00	Feb-11-20 14:21	Feb-11-20 14:41	Feb-11-20 15:02	Feb-11-20 15:22
	<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	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00398 0.00398	<0.00397 0.00397	<0.00398 0.00398	<0.00398 0.00398	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Feb-11-20 10:30	Feb-11-20 10:30	Feb-11-20 10:30	Feb-11-20 10:30	Feb-11-20 10:30	Feb-11-20 10:30
	<i>Analyzed:</i>	Feb-11-20 11:17	Feb-11-20 11:23	Feb-11-20 11:29	Feb-11-20 11:34	Feb-11-20 11:51	Feb-11-20 11:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1940 49.7	5980 49.2	218 49.9	425 9.92	725 9.98	621 9.92
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-11-20 09:50	Feb-11-20 09:50	Feb-11-20 09:50	Feb-11-20 09:50	Feb-11-20 09:50	Feb-11-20 09:50
	<i>Analyzed:</i>	Feb-11-20 11:27	Feb-11-20 11:27	Feb-11-20 11:47	Feb-11-20 11:47	Feb-11-20 12:07	Feb-11-20 12:07
	<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)		<50.1 50.1	<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.2 50.2	<50.0 50.0
Diesel Range Organics (DRO)		<50.1 50.1	<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.2 50.2	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.2 50.2	<50.0 50.0
Total GRO-DRO		<50.1 50.1	<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.2 50.2	<50.0 50.0
Total TPH		<50.1 50.1	<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.2 50.2	<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 651916



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Feb-11-20 08:10 am

Report Date: 12-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	651916-007	651916-008	651916-009			
	<i>Field Id:</i>	SW50	SW49	SW44			
	<i>Depth:</i>	0-4.5 ft	0-4.5 ft	0-4.5 ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Feb-10-20 13:45	Feb-10-20 14:00	Feb-10-20 14:45			
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-11-20 10:00	Feb-11-20 10:00	Feb-11-20 10:00			
	<i>Analyzed:</i>	Feb-11-20 15:42	Feb-11-20 16:03	Feb-11-20 17:04			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200			
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200			
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200			
m,p-Xylenes		<0.00399 0.00399	<0.00401 0.00401	<0.00401 0.00401			
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200			
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200			
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200			
Chloride by EPA 300	<i>Extracted:</i>	Feb-11-20 10:30	Feb-11-20 10:30	Feb-11-20 10:30			
	<i>Analyzed:</i>	Feb-11-20 12:02	Feb-11-20 12:08	Feb-11-20 12:13			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		429 49.9	41.8 9.90	483 49.6			
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-11-20 09:50	Feb-11-20 09:50	Feb-11-20 09:50			
	<i>Analyzed:</i>	Feb-11-20 12:27	Feb-11-20 12:27	Feb-11-20 12:46			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.1 50.1	<49.9 49.9			
Diesel Range Organics (DRO)		<50.2 50.2	<50.1 50.1	<49.9 49.9			
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.1 50.1	<49.9 49.9			
Total GRO-DRO		<50.2 50.2	<50.1 50.1	<49.9 49.9			
Total TPH		<50.2 50.2	<50.1 50.1	<49.9 49.9			

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW42**
Lab Sample Id: 651916-001

Matrix: Soil
Date Collected: 02.10.20 12.00

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116181

Date Prep: 02.11.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1940	49.7	mg/kg	02.11.20 11.17		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116201

Date Prep: 02.11.20 09.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.11.20 11.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.11.20 11.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.11.20 11.27	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.11.20 11.27	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.11.20 11.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	02.11.20 11.27	
o-Terphenyl	84-15-1	111	%	70-135	02.11.20 11.27	



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW42**
Lab Sample Id: 651916-001

Matrix: Soil
Date Collected: 02.10.20 12.00

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MRB

Seq Number: 3116229

Date Prep: 02.11.20 10.00

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	02.11.20 13.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.11.20 13.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.11.20 13.40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.11.20 13.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.11.20 13.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.11.20 13.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.11.20 13.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.11.20 13.40		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.11.20 13.40		



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW43**
Lab Sample Id: 651916-002

Matrix: Soil
Date Collected: 02.10.20 12.15

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116181

Date Prep: 02.11.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5980	49.2	mg/kg	02.11.20 11.23		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116201

Date Prep: 02.11.20 09.50

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	02.11.20 11.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.11.20 11.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.11.20 11.27	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.11.20 11.27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.11.20 11.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	02.11.20 11.27	
o-Terphenyl	84-15-1	122	%	70-135	02.11.20 11.27	



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW43**
Lab Sample Id: 651916-002

Matrix: Soil
Date Collected: 02.10.20 12.15

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MRB

Seq Number: 3116229

Date Prep: 02.11.20 10.00

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	02.11.20 14.00	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.11.20 14.00	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.11.20 14.00	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.11.20 14.00	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.11.20 14.00	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.11.20 14.00	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.11.20 14.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.11.20 14.00		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.11.20 14.00		



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW48**
Lab Sample Id: 651916-003

Matrix: Soil
Date Collected: 02.10.20 13.30

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116181

Date Prep: 02.11.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	218	49.9	mg/kg	02.11.20 11.29		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116201

Date Prep: 02.11.20 09.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.11.20 11.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.11.20 11.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.11.20 11.47	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.11.20 11.47	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.11.20 11.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	130	%	70-135	02.11.20 11.47	
o-Terphenyl	84-15-1	130	%	70-135	02.11.20 11.47	



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW48**
Lab Sample Id: 651916-003

Matrix: Soil
Date Collected: 02.10.20 13.30

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MRB

Date Prep: 02.11.20 10.00

Basis: Wet Weight

Seq Number: 3116229

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.11.20 14.21	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.11.20 14.21	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.11.20 14.21	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.11.20 14.21	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.11.20 14.21	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.11.20 14.21	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.11.20 14.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.11.20 14.21		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.11.20 14.21		



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW47**
Lab Sample Id: 651916-004

Matrix: Soil
Date Collected: 02.10.20 12.45

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116181

Date Prep: 02.11.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	425	9.92	mg/kg	02.11.20 11.34		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116201

Date Prep: 02.11.20 09.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.11.20 11.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.11.20 11.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.11.20 11.47	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	02.11.20 11.47	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.11.20 11.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	02.11.20 11.47	
o-Terphenyl	84-15-1	119	%	70-135	02.11.20 11.47	



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW47**
Lab Sample Id: 651916-004

Matrix: Soil
Date Collected: 02.10.20 12.45

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MRB

Seq Number: 3116229

Date Prep: 02.11.20 10.00

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	02.11.20 14.41	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.11.20 14.41	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.11.20 14.41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.11.20 14.41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.11.20 14.41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.11.20 14.41	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.11.20 14.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.11.20 14.41		
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.11.20 14.41		



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW45**
Lab Sample Id: 651916-005

Matrix: Soil
Date Collected: 02.10.20 13.00

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116181

Date Prep: 02.11.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	725	9.98	mg/kg	02.11.20 11.51		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116201

Date Prep: 02.11.20 09.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.11.20 12.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.11.20 12.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.11.20 12.07	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.11.20 12.07	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.11.20 12.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	02.11.20 12.07	
o-Terphenyl	84-15-1	128	%	70-135	02.11.20 12.07	



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW45**
Lab Sample Id: 651916-005

Matrix: Soil
Date Collected: 02.10.20 13.00

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MRB

Date Prep: 02.11.20 10.00

Basis: Wet Weight

Seq Number: 3116229

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.11.20 15.02	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.11.20 15.02	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.11.20 15.02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.11.20 15.02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.11.20 15.02	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.11.20 15.02	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.11.20 15.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.11.20 15.02		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.11.20 15.02		



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW46**
Lab Sample Id: 651916-006

Matrix: Soil
Date Collected: 02.10.20 13.15

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116181

Date Prep: 02.11.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	621	9.92	mg/kg	02.11.20 11.57		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116201

Date Prep: 02.11.20 09.50

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	02.11.20 12.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.11.20 12.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.11.20 12.07	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.11.20 12.07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.11.20 12.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	02.11.20 12.07	
o-Terphenyl	84-15-1	123	%	70-135	02.11.20 12.07	



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW46**
Lab Sample Id: 651916-006

Matrix: Soil
Date Collected: 02.10.20 13.15

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MRB

Date Prep: 02.11.20 10.00

Basis: Wet Weight

Seq Number: 3116229

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.11.20 15.22	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.11.20 15.22	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.11.20 15.22	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.11.20 15.22	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.11.20 15.22	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.11.20 15.22	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.11.20 15.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	02.11.20 15.22		
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.11.20 15.22		



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW50**
Lab Sample Id: 651916-007

Matrix: Soil
Date Collected: 02.10.20 13.45

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116181

Date Prep: 02.11.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	429	49.9	mg/kg	02.11.20 12.02		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116201

Date Prep: 02.11.20 09.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.11.20 12.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.11.20 12.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.11.20 12.27	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.11.20 12.27	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.11.20 12.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	02.11.20 12.27	
o-Terphenyl	84-15-1	134	%	70-135	02.11.20 12.27	



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW50**
Lab Sample Id: 651916-007

Matrix: Soil
Date Collected: 02.10.20 13.45

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MRB

Seq Number: 3116229

Date Prep: 02.11.20 10.00

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	02.11.20 15.42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.11.20 15.42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.11.20 15.42	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.11.20 15.42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.11.20 15.42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.11.20 15.42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.11.20 15.42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.11.20 15.42		
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.11.20 15.42		



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW49**
Lab Sample Id: 651916-008

Matrix: Soil
Date Collected: 02.10.20 14.00

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116181

Date Prep: 02.11.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	41.8	9.90	mg/kg	02.11.20 12.08		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116201

Date Prep: 02.11.20 09.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.11.20 12.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.11.20 12.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.11.20 12.27	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.11.20 12.27	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.11.20 12.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	140	%	70-135	02.11.20 12.27	**
o-Terphenyl	84-15-1	131	%	70-135	02.11.20 12.27	



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW49**
Lab Sample Id: 651916-008

Matrix: Soil
Date Collected: 02.10.20 14.00

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MRB

Date Prep: 02.11.20 10.00

Basis: Wet Weight

Seq Number: 3116229

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.11.20 16.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.11.20 16.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.11.20 16.03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.11.20 16.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.11.20 16.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.11.20 16.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.11.20 16.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	02.11.20 16.03		
1,4-Difluorobenzene	540-36-3	96	%	70-130	02.11.20 16.03		



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW44**
Lab Sample Id: 651916-009

Matrix: Soil
Date Collected: 02.10.20 14.45

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116181

Date Prep: 02.11.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	483	49.6	mg/kg	02.11.20 12.13		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116201

Date Prep: 02.11.20 09.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.11.20 12.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.11.20 12.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.11.20 12.46	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	02.11.20 12.46	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.11.20 12.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	02.11.20 12.46	
o-Terphenyl	84-15-1	125	%	70-135	02.11.20 12.46	



Certificate of Analytical Results 651916

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW44**
Lab Sample Id: 651916-009

Matrix: Soil
Date Collected: 02.10.20 14.45

Date Received: 02.11.20 08.10
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MRB

Seq Number: 3116229

Date Prep: 02.11.20 10.00

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	02.11.20 17.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.11.20 17.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.11.20 17.04	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.11.20 17.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.11.20 17.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.11.20 17.04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.11.20 17.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.11.20 17.04		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.11.20 17.04		



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.
PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116181

MB Sample Id: 7696390-1-BLK

Matrix: Solid

LCS Sample Id: 7696390-1-BKS

Prep Method: E300P

Date Prep: 02.11.20

LCSD Sample Id: 7696390-1-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	268	107	269	108	90-110	0	20	mg/kg	02.11.20 10:44	

Analytical Method: Chloride by EPA 300

Seq Number: 3116181

Parent Sample Id: 651915-001

Matrix: Soil

MS Sample Id: 651915-001 S

Prep Method: E300P

Date Prep: 02.11.20

MSD Sample Id: 651915-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	551	199	793	122	787	117	90-110	1	20	mg/kg	02.11.20 11:01	X

Analytical Method: Chloride by EPA 300

Seq Number: 3116181

Parent Sample Id: 651916-009

Matrix: Soil

MS Sample Id: 651916-009 S

Prep Method: E300P

Date Prep: 02.11.20

MSD Sample Id: 651916-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	483	200	707	112	707	111	90-110	0	20	mg/kg	02.11.20 12:19	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116201

MB Sample Id: 7696392-1-BLK

Matrix: Solid

LCS Sample Id: 7696392-1-BKS

Prep Method: SW8015P

Date Prep: 02.11.20

LCSD Sample Id: 7696392-1-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	978	98	886	89	70-135	10	35	mg/kg	02.11.20 10:24	
Diesel Range Organics (DRO)	<50.0	1000	1090	109	974	97	70-135	11	35	mg/kg	02.11.20 10:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		131		128		70-135	%	02.11.20 10:24
o-Terphenyl	111		120		102		70-135	%	02.11.20 10:24

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116201

Matrix: Solid

MB Sample Id: 7696392-1-BLK

Prep Method: SW8015P

Date Prep: 02.11.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.11.20 10:04	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116201

Parent Sample Id: 651915-001

Matrix: Soil

MS Sample Id: 651915-001 S

Prep Method: SW8015P

Date Prep: 02.11.20

MSD Sample Id: 651915-001 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)	<49.9	998	888	89	972	97	70-135	9	35	mg/kg	02.11.20 10:48	
Diesel Range Organics (DRO)	<49.9	998	981	98	1070	107	70-135	9	35	mg/kg	02.11.20 10:48	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	133		132		70-135	%	02.11.20 10:48
o-Terphenyl	123		122		70-135	%	02.11.20 10:48

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116229

MB Sample Id: 7696394-1-BLK

Matrix: Solid

LCS Sample Id: 7696394-1-BKS

Prep Method: SW5030B

Date Prep: 02.11.20

LCSD Sample Id: 7696394-1-BSO

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	0.110	110	0.110	110	70-130	0	35	mg/kg	02.11.20 11:17	
Toluene	<0.00200	0.100	0.106	106	0.105	105	70-130	1	35	mg/kg	02.11.20 11:17	
Ethylbenzene	<0.00200	0.100	0.101	101	0.100	100	71-129	1	35	mg/kg	02.11.20 11:17	
m,p-Xylenes	<0.00400	0.200	0.208	104	0.204	102	70-135	2	35	mg/kg	02.11.20 11:17	
o-Xylene	<0.00200	0.100	0.104	104	0.103	103	71-133	1	35	mg/kg	02.11.20 11:17	

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	%	02.11.20 11:17
4-Bromofluorobenzene	96		94		95		70-130	%	02.11.20 11:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116229

Parent Sample Id: 651915-001

Matrix: Soil

MS Sample Id: 651915-001 S

Prep Method: SW5030B

Date Prep: 02.11.20

MSD Sample Id: 651915-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.118	119	0.114	115	70-130	3	35	mg/kg	02.11.20 11:58	
Toluene	<0.00198	0.0992	0.115	116	0.111	112	70-130	4	35	mg/kg	02.11.20 11:58	
Ethylbenzene	<0.00198	0.0992	0.112	113	0.107	108	71-129	5	35	mg/kg	02.11.20 11:58	
m,p-Xylenes	<0.00397	0.198	0.230	116	0.221	112	70-135	4	35	mg/kg	02.11.20 11:58	
o-Xylene	<0.00198	0.0992	0.114	115	0.109	110	71-133	4	35	mg/kg	02.11.20 11:58	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		70-130	%	02.11.20 11:58
4-Bromofluorobenzene	96		96		70-130	%	02.11.20 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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0500 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5140 El Paso, TX (915) 865-3443 Lubbock, TX (806) 794-1296
 Phoenix, AZ (480) 335-0800 Atlanta, GA (770) 448-8800 Tampa, FL (813) 576-3827
 Hobbs, NM (575) 382-7550

Work Order No: 051912

www.xendo.com Page 1 of 0

Chain of Custody

by OGD: 4/10/2020 1:23:39 PM

Project Manager:		Dan Moir	Bill To: (if different)		Kyle Littlell
Company Name:		L.T Environmental Inc., Permian office	Company Name:		XTO Energy
Address:		3300 North A Street	Address:		310A East Green Street
City, State ZIP:		Midland, TX 79705	City, State ZIP:		Carsbad, NM 88220
Phone:		(432) 236-3849	Email:		slogg@ltenv.com, dmoir@ltenv.com, acogle@ltenv.com

Project Name:		PLO 423H Tank Bottom	Turn Around	
Project Number:		012917043	Routine ☒ Rush ☒	
P.O. Number:				
Sampler's Name:	Spencer Lo		Due Date:	

SAMPLE RECEIPT		Temp Blank	Yes ☒ No ☐	Weigher ID	Yes ☒ No ☐
Temperature (°C):		3.0	Thermometer ID		TNMOO7
Received intact:		Yes ☒ No ☐	Correction Factor:		-0.2
Cooler Custody Seals:		Yes ☒ No ☐ N/A	Total Containers:		9
Sample Custody Seals:		Yes ☒ No ☐ N/A			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8016)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST										Work Order Notes
SW 42	S	2-10-20	12:00	0-4.5'	1	x	x	x											
SW 43																			
SW 48				1330															
SW 47				1245															
SW 45				1300															
SW 46				1315															
SW 50				1345															
SW 49				1400															
SW 44				1445															

Total 200.7 / 6010 200.8 / 6020: BRCRA 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
Circle Method(s) and Metal(s) to be analyzed TCLP/SPLP 6010: BRCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U 1631 / 245.1 / 7470 / 7474 . Hg

Note: 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 service. Xenco will be liable only for the cost of analysis 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
[Signature]	[Signature]	2/11/20 7:30am	[Signature]	[Signature]	2/11/20 08:10

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.11.2020 08.10.00 AM

Work Order #: 651916

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst:

PH Device/Lot#:

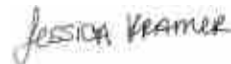
Checklist completed by:



Elizabeth McClellan

Date: 02.11.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.11.2020

Analytical Report 652094

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

13-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)



13-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652094**

PLU 423H Tank Battery

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) 652094. 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. 652094 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 652094

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS 67	S	02-11-20 14:50	4.5 ft	652094-001
FS 68	S	02-11-20 15:05	4.5 ft	652094-002
FS 69	S	02-11-20 15:20	4.5 ft	652094-003



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043

Work Order Number(s): 652094

Report Date: 13-FEB-20

Date Received: 02/12/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116351 BTEX by EPA 8021B

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

Certificate of Analysis Summary 652094



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Feb-12-20 09:25 am

Report Date: 13-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	652094-001	652094-002	652094-003			
	<i>Field Id:</i>	FS 67	FS 68	FS 69			
	<i>Depth:</i>	4.5- ft	4.5- ft	4.5- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Feb-11-20 14:50	Feb-11-20 15:05	Feb-11-20 15:20			
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-12-20 10:30	Feb-12-20 10:30	Feb-12-20 10:30			
	<i>Analyzed:</i>	Feb-12-20 14:03	Feb-12-20 14:23	Feb-12-20 14:44			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
m,p-Xylenes		<0.00400 0.00400	<0.00401 0.00401	<0.00397 0.00397			
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
Chloride by EPA 300	<i>Extracted:</i>	Feb-12-20 10:30	Feb-12-20 10:30	Feb-12-20 10:30			
	<i>Analyzed:</i>	Feb-12-20 12:10	Feb-12-20 12:26	Feb-12-20 12:32			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		9040 199	10600 200	735 99.2			
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-12-20 11:20	Feb-12-20 11:20	Feb-12-20 11:20			
	<i>Analyzed:</i>	Feb-12-20 11:56	Feb-12-20 12:16	Feb-12-20 12:36			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8			
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8			
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8			
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<49.8 49.8			
Total TPH		<50.0 50.0	<49.9 49.9	<49.8 49.8			

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 652094

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS 67**
Lab Sample Id: 652094-001

Matrix: Soil
Date Collected: 02.11.20 14.50

Date Received: 02.12.20 09.25
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116355

Date Prep: 02.12.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9040	199	mg/kg	02.12.20 12.10		20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116314

Date Prep: 02.12.20 11.20

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	02.12.20 11.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.12.20 11.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.12.20 11.56	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.12.20 11.56	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.12.20 11.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	02.12.20 11.56	
o-Terphenyl	84-15-1	125	%	70-135	02.12.20 11.56	



Certificate of Analytical Results 652094

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS 67**
Lab Sample Id: 652094-001

Matrix: Soil
Date Collected: 02.11.20 14.50

Date Received: 02.12.20 09.25
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.12.20 10.30

Basis: Wet Weight

Seq Number: 3116351

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.12.20 14.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.12.20 14.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.12.20 14.03	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.12.20 14.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.12.20 14.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.12.20 14.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.12.20 14.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.12.20 14.03		
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.12.20 14.03		



Certificate of Analytical Results 652094

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS 68**
Lab Sample Id: 652094-002

Matrix: Soil
Date Collected: 02.11.20 15.05

Date Received: 02.12.20 09.25
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116355

Date Prep: 02.12.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10600	200	mg/kg	02.12.20 12.26		20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116314

Date Prep: 02.12.20 11.20

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.12.20 12.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.12.20 12.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.12.20 12.16	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	02.12.20 12.16	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.12.20 12.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.12.20 12.16	
o-Terphenyl	84-15-1	102	%	70-135	02.12.20 12.16	



Certificate of Analytical Results 652094

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS 68**
Lab Sample Id: 652094-002

Matrix: Soil
Date Collected: 02.11.20 15.05

Date Received: 02.12.20 09.25
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.12.20 10.30

Basis: Wet Weight

Seq Number: 3116351

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.12.20 14.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.12.20 14.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.12.20 14.23	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.12.20 14.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.12.20 14.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.12.20 14.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.12.20 14.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.12.20 14.23		
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.12.20 14.23		



Certificate of Analytical Results 652094

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS 69**
Lab Sample Id: 652094-003

Matrix: Soil
Date Collected: 02.11.20 15.20

Date Received: 02.12.20 09.25
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116355

Date Prep: 02.12.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	735	99.2	mg/kg	02.12.20 12.32		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116314

Date Prep: 02.12.20 11.20

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.12.20 12.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.12.20 12.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.12.20 12.36	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.12.20 12.36	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.12.20 12.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.12.20 12.36	
o-Terphenyl	84-15-1	104	%	70-135	02.12.20 12.36	



Certificate of Analytical Results 652094

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS 69**
Lab Sample Id: 652094-003

Matrix: Soil
Date Collected: 02.11.20 15.20

Date Received: 02.12.20 09.25
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.12.20 10.30

Basis: Wet Weight

Seq Number: 3116351

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.12.20 14.44	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.12.20 14.44	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.12.20 14.44	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.12.20 14.44	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.12.20 14.44	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.12.20 14.44	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.12.20 14.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.12.20 14.44		
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.12.20 14.44		



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116355

MB Sample Id: 7696487-1-BLK

Matrix: Solid

LCS Sample Id: 7696487-1-BKS

Prep Method: E300P

Date Prep: 02.12.20

LCSD Sample Id: 7696487-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	256	102	90-110	0	20	mg/kg	02.12.20 11:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3116355

Parent Sample Id: 652094-001

Matrix: Soil

MS Sample Id: 652094-001 S

Prep Method: E300P

Date Prep: 02.12.20

MSD Sample Id: 652094-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9040	200	9250	105	9220	90	90-110	0	20	mg/kg	02.12.20 12:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3116355

Parent Sample Id: 652112-004

Matrix: Soil

MS Sample Id: 652112-004 S

Prep Method: E300P

Date Prep: 02.12.20

MSD Sample Id: 652112-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	565	200	763	99	764	100	90-110	0	20	mg/kg	02.12.20 13:47	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116314

MB Sample Id: 7696489-1-BLK

Matrix: Solid

LCS Sample Id: 7696489-1-BKS

Prep Method: SW8015P

Date Prep: 02.12.20

LCSD Sample Id: 7696489-1-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	795	80	834	83	70-135	5	35	mg/kg	02.12.20 11:36	
Diesel Range Organics (DRO)	<50.0	1000	707	71	747	75	70-135	6	35	mg/kg	02.12.20 11:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	132		117		112		70-135	%	02.12.20 11:36
o-Terphenyl	130		100		100		70-135	%	02.12.20 11:36

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116314

Matrix: Solid

MB Sample Id: 7696489-1-BLK

Prep Method: SW8015P

Date Prep: 02.12.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.12.20 11:16	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116314

Parent Sample Id: 652094-001

Matrix: Soil

MS Sample Id: 652094-001 S

Prep Method: SW8015P

Date Prep: 02.12.20

MSD Sample Id: 652094-001 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)	<50.2	1000	883	88	932	93	70-135	5	35	mg/kg	02.12.20 11:56	
Diesel Range Organics (DRO)	<50.2	1000	967	97	1020	102	70-135	5	35	mg/kg	02.12.20 11:56	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		112		70-135	%	02.12.20 11:56
o-Terphenyl	101		108		70-135	%	02.12.20 11:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116351

MB Sample Id: 7696486-1-BLK

Matrix: Solid

LCS Sample Id: 7696486-1-BKS

Prep Method: SW5030B

Date Prep: 02.12.20

LCSD Sample Id: 7696486-1-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	0.118	118	0.125	125	70-130	6	35	mg/kg	02.12.20 12:21	
Toluene	<0.00200	0.100	0.110	110	0.116	116	70-130	5	35	mg/kg	02.12.20 12:21	
Ethylbenzene	<0.00200	0.100	0.106	106	0.112	112	71-129	6	35	mg/kg	02.12.20 12:21	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.220	110	70-135	5	35	mg/kg	02.12.20 12:21	
o-Xylene	<0.00200	0.100	0.104	104	0.110	110	71-133	6	35	mg/kg	02.12.20 12:21	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		108		108		70-130	%	02.12.20 12:21
4-Bromofluorobenzene	96		93		94		70-130	%	02.12.20 12:21

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116351

Parent Sample Id: 652094-001

Matrix: Soil

MS Sample Id: 652094-001 S

Prep Method: SW5030B

Date Prep: 02.12.20

MSD Sample Id: 652094-001 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	0.106	106	0.125	125	70-130	16	35	mg/kg	02.12.20 13:02	
Toluene	<0.00199	0.0996	0.111	111	0.116	116	70-130	4	35	mg/kg	02.12.20 13:02	
Ethylbenzene	<0.00199	0.0996	0.108	108	0.112	112	71-129	4	35	mg/kg	02.12.20 13:02	
m,p-Xylenes	<0.00398	0.199	0.190	95	0.219	110	70-135	14	35	mg/kg	02.12.20 13:02	
o-Xylene	<0.00199	0.0996	0.102	102	0.110	110	71-133	8	35	mg/kg	02.12.20 13:02	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	02.12.20 13:02
4-Bromofluorobenzene	95		94		70-130	%	02.12.20 13:02

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



Houston, TX (281) 240-4200 Dallas, TX (214) 992-0300 San Antonio, TX (210) 509-3336
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-445-8800) Tampa, FL (813)

Chain of Custody

Work Order No: 652094

Project Manager:		Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:		LT Environmental, 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:	slu@ltenv.com, dmoir@ltenv.com, klittle@ltenv.com

Work Order Comments Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund State of Project: Reporting Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV Deliverables: EDD ☐ ADAPT ☐ Other:				
---	--	--	--	--

[illegible]

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	0.8	Thermometer ID					
Received intact:	Yes	No	TMM07				
Cooler Custody Seals:	Yes	No	Correction Factor				
Sample Custody Seals:	Yes	No	Total Containers:				
			-0.2				
			3				

Number of Containers

PA 8015)

PA 0=8021)

(EPA 300.0)

TAT starts the day received by the lab. If received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EP)	BTEX (E)	Chloride	Sample Comments
FS67	S	2-11-20	1450	4.5'	1	x	x	x	
FS68	S	2-11-20	1505	4.5'	1	x	x	x	
ES69	S	2-11-20	1520	4.5'	1	x	x	x	

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
TCLP / 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

ce: Signature of this document certifies a valid purchase order from client company to Xeno, its affiliates and sub-contractors. It assigns standard terms and conditions of service. Xeno 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 Xeno. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xeno, 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
		2-12-2019: 4:45pm			2/12/20 09:25

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.12.2020 09.25.00 AM

Work Order #: 652094

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : TNM 007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	No
#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#:

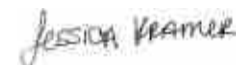
Checklist completed by:



Martha Castro

Date: 02.12.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.12.2020

Analytical Report 652096

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

13-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)



13-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652096**

PLU 423H Tank Battery

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) 652096. 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. 652096 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 652096

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW51	S	02-11-20 13:00	0 - 4.5 ft	652096-001
SW28	S	02-11-20 14:30	0 - 4.5 ft	652096-002



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043

Work Order Number(s): 652096

Report Date: 13-FEB-20

Date Received: 02/12/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116351 BTEX by EPA 8021B

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

Certificate of Analysis Summary 652096



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Feb-12-20 09:25 am

Report Date: 13-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	652096-001	652096-002				
	Field Id:	SW51	SW28				
	Depth:	0-4.5 ft	0-4.5 ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Feb-11-20 13:00	Feb-11-20 14:30				
BTEX by EPA 8021B	Extracted:	Feb-12-20 10:30	Feb-12-20 10:30				
	Analyzed:	Feb-12-20 15:04	Feb-12-20 15:25				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00200 0.00200	<0.00200 0.00200				
	Toluene	<0.00200 0.00200	<0.00200 0.00200				
	Ethylbenzene	<0.00200 0.00200	<0.00200 0.00200				
	m,p-Xylenes	<0.00401 0.00401	<0.00399 0.00399				
	o-Xylene	<0.00200 0.00200	<0.00200 0.00200				
	Total Xylenes	<0.00200 0.00200	<0.00200 0.00200				
	Total BTEX	<0.00200 0.00200	<0.00200 0.00200				
Chloride by EPA 300	Extracted:	Feb-12-20 10:30	Feb-12-20 10:30				
	Analyzed:	Feb-12-20 12:37	Feb-12-20 12:44				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	20.2 10.0	76.9 10.0				
TPH by SW8015 Mod	Extracted:	Feb-12-20 11:20	Feb-12-20 11:20				
	Analyzed:	Feb-12-20 12:36	Feb-12-20 12:55				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<49.8 49.8	<50.0 50.0				
	Diesel Range Organics (DRO)	<49.8 49.8	<50.0 50.0				
	Motor Oil Range Hydrocarbons (MRO)	<49.8 49.8	<50.0 50.0				
	Total GRO-DRO	<49.8 49.8	<50.0 50.0				
	Total TPH	<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 Analytical Results 652096

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW51**
Lab Sample Id: 652096-001

Matrix: Soil
Date Collected: 02.11.20 13.00

Date Received: 02.12.20 09.25
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116355

Date Prep: 02.12.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.2	10.0	mg/kg	02.12.20 12.37		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116314

Date Prep: 02.12.20 11.20

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.12.20 12.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.12.20 12.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.12.20 12.36	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.12.20 12.36	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.12.20 12.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.12.20 12.36	
o-Terphenyl	84-15-1	98	%	70-135	02.12.20 12.36	



Certificate of Analytical Results 652096

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW51**
Lab Sample Id: 652096-001

Matrix: Soil
Date Collected: 02.11.20 13.00

Date Received: 02.12.20 09.25
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.12.20 10.30

Basis: Wet Weight

Seq Number: 3116351

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.12.20 15.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.12.20 15.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.12.20 15.04	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.12.20 15.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.12.20 15.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.12.20 15.04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.12.20 15.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.12.20 15.04		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.12.20 15.04		



Certificate of Analytical Results 652096

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW28**
Lab Sample Id: 652096-002

Matrix: Soil
Date Collected: 02.11.20 14.30

Date Received: 02.12.20 09.25
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116355

Date Prep: 02.12.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	76.9	10.0	mg/kg	02.12.20 12.44		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116314

Date Prep: 02.12.20 11.20

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	02.12.20 12.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.12.20 12.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.12.20 12.55	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.12.20 12.55	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.12.20 12.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.12.20 12.55	
o-Terphenyl	84-15-1	106	%	70-135	02.12.20 12.55	



Certificate of Analytical Results 652096

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW28**
Lab Sample Id: 652096-002

Matrix: Soil
Date Collected: 02.11.20 14.30

Date Received: 02.12.20 09.25
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.12.20 10.30

Basis: Wet Weight

Seq Number: 3116351

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.12.20 15.25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.12.20 15.25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.12.20 15.25	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.12.20 15.25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.12.20 15.25	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.12.20 15.25	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.12.20 15.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.12.20 15.25		
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.12.20 15.25		



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116355

MB Sample Id: 7696487-1-BLK

Matrix: Solid

LCS Sample Id: 7696487-1-BKS

Prep Method: E300P

Date Prep: 02.12.20

LCSD Sample Id: 7696487-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	256	102	90-110	0	20	mg/kg	02.12.20 11:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3116355

Parent Sample Id: 652094-001

Matrix: Soil

MS Sample Id: 652094-001 S

Prep Method: E300P

Date Prep: 02.12.20

MSD Sample Id: 652094-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9040	200	9250	105	9220	90	90-110	0	20	mg/kg	02.12.20 12:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3116355

Parent Sample Id: 652112-004

Matrix: Soil

MS Sample Id: 652112-004 S

Prep Method: E300P

Date Prep: 02.12.20

MSD Sample Id: 652112-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	565	200	763	99	764	100	90-110	0	20	mg/kg	02.12.20 13:47	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116314

MB Sample Id: 7696489-1-BLK

Matrix: Solid

LCS Sample Id: 7696489-1-BKS

Prep Method: SW8015P

Date Prep: 02.12.20

LCSD Sample Id: 7696489-1-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	795	80	834	83	70-135	5	35	mg/kg	02.12.20 11:36	
Diesel Range Organics (DRO)	<50.0	1000	707	71	747	75	70-135	6	35	mg/kg	02.12.20 11:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	132		117		112		70-135	%	02.12.20 11:36
o-Terphenyl	130		100		100		70-135	%	02.12.20 11:36

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116314

Matrix: Solid

MB Sample Id: 7696489-1-BLK

Prep Method: SW8015P

Date Prep: 02.12.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.12.20 11:16	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116314

Parent Sample Id: 652094-001

Matrix: Soil

MS Sample Id: 652094-001 S

Prep Method: SW8015P

Date Prep: 02.12.20

MSD Sample Id: 652094-001 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)	<50.2	1000	883	88	932	93	70-135	5	35	mg/kg	02.12.20 11:56	
Diesel Range Organics (DRO)	<50.2	1000	967	97	1020	102	70-135	5	35	mg/kg	02.12.20 11:56	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		112		70-135	%	02.12.20 11:56
o-Terphenyl	101		108		70-135	%	02.12.20 11:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116351

MB Sample Id: 7696486-1-BLK

Matrix: Solid

LCS Sample Id: 7696486-1-BKS

Prep Method: SW5030B

Date Prep: 02.12.20

LCSD Sample Id: 7696486-1-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	0.118	118	0.125	125	70-130	6	35	mg/kg	02.12.20 12:21	
Toluene	<0.00200	0.100	0.110	110	0.116	116	70-130	5	35	mg/kg	02.12.20 12:21	
Ethylbenzene	<0.00200	0.100	0.106	106	0.112	112	71-129	6	35	mg/kg	02.12.20 12:21	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.220	110	70-135	5	35	mg/kg	02.12.20 12:21	
o-Xylene	<0.00200	0.100	0.104	104	0.110	110	71-133	6	35	mg/kg	02.12.20 12:21	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		108		108		70-130	%	02.12.20 12:21
4-Bromofluorobenzene	96		93		94		70-130	%	02.12.20 12:21

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116351

Parent Sample Id: 652094-001

Matrix: Soil

MS Sample Id: 652094-001 S

Prep Method: SW5030B

Date Prep: 02.12.20

MSD Sample Id: 652094-001 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	0.106	106	0.125	125	70-130	16	35	mg/kg	02.12.20 13:02	
Toluene	<0.00199	0.0996	0.111	111	0.116	116	70-130	4	35	mg/kg	02.12.20 13:02	
Ethylbenzene	<0.00199	0.0996	0.108	108	0.112	112	71-129	4	35	mg/kg	02.12.20 13:02	
m,p-Xylenes	<0.00398	0.199	0.190	95	0.219	110	70-135	14	35	mg/kg	02.12.20 13:02	
o-Xylene	<0.00199	0.0996	0.102	102	0.110	110	71-133	8	35	mg/kg	02.12.20 13:02	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	02.12.20 13:02
4-Bromofluorobenzene	95		94		70-130	%	02.12.20 13:02

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: 652096

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) 985-3443 Lubbock, TX (806) 794-1296

Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8900 Tampa, FL (813) 820-2000

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, 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:	slco@xenco.com, daniel@xenco.com, apople@xenco.com

Project Name:	PLU 4234 Tank Battery	Turn Around	
Project Number:	012917043	Routine	☐
P.O. Number:		Rush:	24H
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT		Temp Blank:	☒ Yes	☐ No	Wet Ice:	☒ Yes	☐ No	
Temperature (°C):	0.8	Thermometer ID:	TMM007					
Received Intact:	☒ Yes	☐ No	Correction Factor:	-0.2				
Cooler Custody Seals:	Yes	☒ No	N/A	Total Containers:	2			
Sample Custody Seals:	Yes	☒ No	N/A					

Sample Identification	Matrix	Date		Depth	ANALYSIS REQUEST											Work Order Notes
		Sampled	Time Sampled		Number of Containers	TPH (EPA 8015)	BTEX (EPA 8-8021)	Chloride (EPA 300.0)								
SW51	S	2/1/20	1300	0-4.5'	1	X	X	X								
SW28	S	2/1/20	1430	0-4.5'	1	X	X	X								

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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 1631 / 246.1 / 7470 / 7471 : Hg

i: 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
<i>[Signature]</i>	<i>[Signature]</i>	2/1/20 9:00am	<i>[Signature]</i>	<i>[Signature]</i>	2/1/20 09:20

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.12.2020 09.25.00 AM

Work Order #: 652096

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)?	.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?	No
#6 *Custody Seals Signed and dated?	No
#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#:

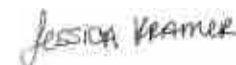
Checklist completed by:



Martha Castro

Date: 02.12.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.12.2020

Analytical Report 652251

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

14-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)



14-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652251**

PLU 423H Tank Battery

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) 652251. 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. 652251 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 652251

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW52	S	02-12-20 13:45	0 - 4.5 ft	652251-001
SW53	S	02-12-20 12:30	0 - 4.5 ft	652251-002



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043

Work Order Number(s): 652251

Report Date: 14-FEB-20

Date Received: 02/13/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116480 BTEX by EPA 8021B

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

Certificate of Analysis Summary 652251



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Feb-13-20 08:50 am

Report Date: 14-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	652251-001	652251-002				
	Field Id:	SW52	SW53				
	Depth:	0-4.5 ft	0-4.5 ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Feb-12-20 13:45	Feb-12-20 12:30				
BTEX by EPA 8021B	Extracted:	Feb-13-20 10:00	Feb-13-20 10:00				
	Analyzed:	Feb-13-20 16:54	Feb-13-20 17:15				
	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	Extracted:	Feb-13-20 11:41	Feb-13-20 11:41				
	Analyzed:	Feb-13-20 13:36	Feb-13-20 13:42				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	23.6 10.1	28.8 10.0				
TPH by SW8015 Mod	Extracted:	Feb-13-20 10:19	Feb-13-20 10:19				
	Analyzed:	Feb-13-20 16:56	Feb-13-20 14:56				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<50.1 50.1	<50.2 50.2				
	Diesel Range Organics (DRO)	<50.1 50.1	<50.2 50.2				
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.2 50.2				
Total GRO-DRO		<50.1 50.1	<50.2 50.2				
Total TPH		<50.1 50.1	<50.2 50.2				

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 652251

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW52**
Lab Sample Id: 652251-001

Matrix: Soil
Date Collected: 02.12.20 13.45

Date Received: 02.13.20 08.50
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116451

Date Prep: 02.13.20 11.41

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.6	10.1	mg/kg	02.13.20 13.36		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116469

Date Prep: 02.13.20 10.19

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.13.20 16.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.13.20 16.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.13.20 16.56	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.13.20 16.56	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.13.20 16.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.13.20 16.56	
o-Terphenyl	84-15-1	113	%	70-135	02.13.20 16.56	



Certificate of Analytical Results 652251

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW52**
Lab Sample Id: 652251-001

Matrix: Soil
Date Collected: 02.12.20 13.45

Date Received: 02.13.20 08.50
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 10.00

Basis: Wet Weight

Seq Number: 3116480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.20 16.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.13.20 16.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.13.20 16.54	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.13.20 16.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.13.20 16.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.13.20 16.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.13.20 16.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.13.20 16.54		
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.13.20 16.54		



Certificate of Analytical Results 652251

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW53**
Lab Sample Id: 652251-002

Matrix: Soil
Date Collected: 02.12.20 12.30

Date Received: 02.13.20 08.50
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116451

Date Prep: 02.13.20 11.41

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.8	10.0	mg/kg	02.13.20 13.42		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116469

Date Prep: 02.13.20 10.19

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.13.20 14.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.13.20 14.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.13.20 14.56	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.13.20 14.56	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.13.20 14.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.13.20 14.56	
o-Terphenyl	84-15-1	93	%	70-135	02.13.20 14.56	



Certificate of Analytical Results 652251

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW53**
Lab Sample Id: 652251-002

Matrix: Soil
Date Collected: 02.12.20 12.30

Date Received: 02.13.20 08.50
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 10.00

Basis: Wet Weight

Seq Number: 3116480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.13.20 17.15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.13.20 17.15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.13.20 17.15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.13.20 17.15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.13.20 17.15	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.13.20 17.15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.13.20 17.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.13.20 17.15		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.13.20 17.15		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

MB Sample Id: 7696580-1-BLK

Matrix: Solid

LCS Sample Id: 7696580-1-BKS

Prep Method: E300P

Date Prep: 02.13.20

LCSD Sample Id: 7696580-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	262	105	90-110	3	20	mg/kg	02.13.20 12:25	

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

Parent Sample Id: 652249-001

Matrix: Soil

MS Sample Id: 652249-001 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652249-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	278	201	492	106	493	107	90-110	0	20	mg/kg	02.13.20 12:41	

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

Parent Sample Id: 652255-001

Matrix: Soil

MS Sample Id: 652255-001 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652255-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	305	200	512	104	516	106	90-110	1	20	mg/kg	02.13.20 14:05	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

MB Sample Id: 7696566-1-BLK

Matrix: Solid

LCS Sample Id: 7696566-1-BKS

Prep Method: SW8015P

Date Prep: 02.13.20

LCSD Sample Id: 7696566-1-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	895	90	853	85	70-135	5	35	mg/kg	02.13.20 10:11	
Diesel Range Organics (DRO)	<50.0	1000	980	98	759	76	70-135	25	35	mg/kg	02.13.20 10:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		135		114		70-135	%	02.13.20 10:11
o-Terphenyl	129		127		100		70-135	%	02.13.20 10:11

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

Matrix: Solid

MB Sample Id: 7696566-1-BLK

Prep Method: SW8015P

Date Prep: 02.13.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.13.20 09:51	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

Parent Sample Id: 652249-001

Matrix: Soil

MS Sample Id: 652249-001 S

Prep Method: SW8015P

Date Prep: 02.13.20

MSD Sample Id: 652249-001 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)	<50.0	1000	897	90	909	91	70-135	1	35	mg/kg	02.13.20 14:36	
Diesel Range Organics (DRO)	4330	1000	4990	66	5180	85	70-135	4	35	mg/kg	02.13.20 14:36	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		126		70-135	%	02.13.20 14:36
o-Terphenyl	108		105		70-135	%	02.13.20 14:36

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116480

MB Sample Id: 7696582-1-BLK

Matrix: Solid

LCS Sample Id: 7696582-1-BKS

Prep Method: SW5030B

Date Prep: 02.13.20

LCSD Sample Id: 7696582-1-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	0.105	105	0.108	108	70-130	3	35	mg/kg	02.13.20 12:09	
Toluene	<0.00200	0.100	0.103	103	0.105	105	70-130	2	35	mg/kg	02.13.20 12:09	
Ethylbenzene	<0.00200	0.100	0.0999	100	0.102	102	71-129	2	35	mg/kg	02.13.20 12:09	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.209	105	70-135	1	35	mg/kg	02.13.20 12:09	
o-Xylene	<0.00200	0.100	0.102	102	0.104	104	71-133	2	35	mg/kg	02.13.20 12:09	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		104		70-130	%	02.13.20 12:09
4-Bromofluorobenzene	94		93		92		70-130	%	02.13.20 12:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116480

Parent Sample Id: 652249-001

Matrix: Soil

MS Sample Id: 652249-001 S

Prep Method: SW5030B

Date Prep: 02.13.20

MSD Sample Id: 652249-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0196	0.980	1.01	103	1.02	102	70-130	1	35	mg/kg	02.13.20 12:50	
Toluene	<0.0196	0.980	0.933	95	0.933	93	70-130	0	35	mg/kg	02.13.20 12:50	
Ethylbenzene	<0.0196	0.980	0.832	85	0.835	84	71-129	0	35	mg/kg	02.13.20 12:50	
m,p-Xylenes	<0.0392	1.96	1.66	85	1.72	86	70-135	4	35	mg/kg	02.13.20 12:50	
o-Xylene	<0.0196	0.980	0.815	83	0.824	82	71-133	1	35	mg/kg	02.13.20 12:50	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	02.13.20 12:50
4-Bromofluorobenzene	89		107		70-130	%	02.13.20 12:50

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



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) 794-1286
 Hobbs, NM (575-382-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 620-2000

Chain of Custody

Work Order No: 052251

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different):	Kyle Litrell
Company Name:	LT Environmental, 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:	sls@xenv.com, dmoir@xenv.com, kyle@xenv.com

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

Project Name:	PLU 4234 Tank Bldg	Turn Around	
Project Number:	012917013	Routine	☐
P.O. Number:		Rush:	24H
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT	Temp Blank	Yes	No	Wet Ice	Yes	No
	Temperature (°C):	1.0	Thermometer ID			
	Received Intact:	Yes	No	Thermometer ID		
	Cooler Custody Seals:	Yes	No	Correction Factor:	-0.2	
Sample Custody Seals:	Yes	No	N/A	Total Containers:	2	

9 PM

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Num	TPH	BTEX	Chlor	Sample Comments										
SW52	S	2/2/20	1345	0-4.5'	1	✓	✓	✓											
SW53	S	2/2/20	1250	0-4.5'	1	✓	✓	✓											
<i>[Handwritten signature across the table]</i>																			

Total: 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Pb 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 1631 / 245.1 / 7470 / 7471: Hg

Note: 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 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
<i>[Signature]</i>	<i>[Signature]</i>	2/2/20 8:30am	<i>[Signature]</i>	<i>[Signature]</i>	2/13/20 08:30

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.13.2020 08.50.00 AM

Work Order #: 652251

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
#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#:

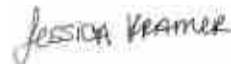
Checklist completed by:



Elizabeth McClellan

Date: 02.13.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.13.2020

Analytical Report 652253

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

14-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)



14-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652253**

PLU 423H Tank Battery

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) 652253. 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. 652253 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 652253

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH08B	S	02-12-20 14:45	2 ft	652253-001
PH08C	S	02-12-20 14:55	3 ft	652253-002



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043
Work Order Number(s): 652253

Report Date: 14-FEB-20
Date Received: 02/13/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116480 BTEX by EPA 8021B

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



Certificate of Analysis Summary 652253

LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Feb-13-20 08:50 am

Report Date: 14-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	652253-001	652253-002				
	Field Id:	PH08B	PH08C				
	Depth:	2- ft	3- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Feb-12-20 14:45	Feb-12-20 14:55				
BTEX by EPA 8021B	Extracted:	Feb-13-20 10:00	Feb-13-20 10:00				
	Analyzed:	Feb-13-20 17:35	Feb-13-20 18:36				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00199 0.00199	<0.00198 0.00198				
Toluene		<0.00199 0.00199	<0.00198 0.00198				
Ethylbenzene		<0.00199 0.00199	<0.00198 0.00198				
m,p-Xylenes		<0.00398 0.00398	<0.00397 0.00397				
o-Xylene		<0.00199 0.00199	<0.00198 0.00198				
Total Xylenes		<0.00199 0.00199	<0.00198 0.00198				
Total BTEX		<0.00199 0.00199	<0.00198 0.00198				
Chloride by EPA 300	Extracted:	Feb-13-20 11:41	Feb-13-20 11:41				
	Analyzed:	Feb-13-20 13:47	Feb-13-20 13:53				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		15.3 9.94	64.6 10.0				
TPH by SW8015 Mod	Extracted:	Feb-13-20 10:19	Feb-13-20 10:19				
	Analyzed:	Feb-13-20 16:36	Feb-13-20 15:16				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<49.8 49.8				
Diesel Range Organics (DRO)		<50.2 50.2	<49.8 49.8				
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<49.8 49.8				
Total GRO-DRO		<50.2 50.2	<49.8 49.8				
Total TPH		<50.2 50.2	<49.8 49.8				

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 652253

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH08B**
Lab Sample Id: 652253-001

Matrix: Soil
Date Collected: 02.12.20 14.45

Date Received: 02.13.20 08.50
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116451

Date Prep: 02.13.20 11.41

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.3	9.94	mg/kg	02.13.20 13.47		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116469

Date Prep: 02.13.20 10.19

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.13.20 16.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.13.20 16.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.13.20 16.36	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.13.20 16.36	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.13.20 16.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.13.20 16.36	
o-Terphenyl	84-15-1	98	%	70-135	02.13.20 16.36	



Certificate of Analytical Results 652253

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH08B**
Lab Sample Id: 652253-001

Matrix: Soil
Date Collected: 02.12.20 14.45

Date Received: 02.13.20 08.50
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 10.00

Basis: Wet Weight

Seq Number: 3116480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.13.20 17.35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.13.20 17.35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.13.20 17.35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.13.20 17.35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.13.20 17.35	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.13.20 17.35	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.13.20 17.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.13.20 17.35		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.13.20 17.35		



Certificate of Analytical Results 652253

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH08C**
Lab Sample Id: 652253-002

Matrix: Soil
Date Collected: 02.12.20 14.55

Date Received: 02.13.20 08.50
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116451

Date Prep: 02.13.20 11.41

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	64.6	10.0	mg/kg	02.13.20 13.53		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116469

Date Prep: 02.13.20 10.19

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.13.20 15.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.13.20 15.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.13.20 15.16	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.13.20 15.16	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.13.20 15.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.13.20 15.16	
o-Terphenyl	84-15-1	94	%	70-135	02.13.20 15.16	



Certificate of Analytical Results 652253

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **PH08C**
Lab Sample Id: 652253-002

Matrix: Soil
Date Collected: 02.12.20 14.55

Date Received: 02.13.20 08.50
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 10.00

Basis: Wet Weight

Seq Number: 3116480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.13.20 18.36	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.13.20 18.36	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.13.20 18.36	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.13.20 18.36	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.13.20 18.36	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.13.20 18.36	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.13.20 18.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.13.20 18.36		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.13.20 18.36		



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

MB Sample Id: 7696580-1-BLK

Matrix: Solid

LCS Sample Id: 7696580-1-BKS

Prep Method: E300P

Date Prep: 02.13.20

LCSD Sample Id: 7696580-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	262	105	90-110	3	20	mg/kg	02.13.20 12:25	

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

Parent Sample Id: 652249-001

Matrix: Soil

MS Sample Id: 652249-001 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652249-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	278	201	492	106	493	107	90-110	0	20	mg/kg	02.13.20 12:41	

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

Parent Sample Id: 652255-001

Matrix: Soil

MS Sample Id: 652255-001 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652255-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	305	200	512	104	516	106	90-110	1	20	mg/kg	02.13.20 14:05	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

MB Sample Id: 7696566-1-BLK

Matrix: Solid

LCS Sample Id: 7696566-1-BKS

Prep Method: SW8015P

Date Prep: 02.13.20

LCSD Sample Id: 7696566-1-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	895	90	853	85	70-135	5	35	mg/kg	02.13.20 10:11	
Diesel Range Organics (DRO)	<50.0	1000	980	98	759	76	70-135	25	35	mg/kg	02.13.20 10:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		135		114		70-135	%	02.13.20 10:11
o-Terphenyl	129		127		100		70-135	%	02.13.20 10:11

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

Matrix: Solid

MB Sample Id: 7696566-1-BLK

Prep Method: SW8015P

Date Prep: 02.13.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.13.20 09:51	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

Parent Sample Id: 652249-001

Matrix: Soil

MS Sample Id: 652249-001 S

Prep Method: SW8015P

Date Prep: 02.13.20

MSD Sample Id: 652249-001 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)	<50.0	1000	897	90	909	91	70-135	1	35	mg/kg	02.13.20 14:36	
Diesel Range Organics (DRO)	4330	1000	4990	66	5180	85	70-135	4	35	mg/kg	02.13.20 14:36	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		126		70-135	%	02.13.20 14:36
o-Terphenyl	108		105		70-135	%	02.13.20 14:36

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116480

MB Sample Id: 7696582-1-BLK

Matrix: Solid

LCS Sample Id: 7696582-1-BKS

Prep Method: SW5030B

Date Prep: 02.13.20

LCSD Sample Id: 7696582-1-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	0.105	105	0.108	108	70-130	3	35	mg/kg	02.13.20 12:09	
Toluene	<0.00200	0.100	0.103	103	0.105	105	70-130	2	35	mg/kg	02.13.20 12:09	
Ethylbenzene	<0.00200	0.100	0.0999	100	0.102	102	71-129	2	35	mg/kg	02.13.20 12:09	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.209	105	70-135	1	35	mg/kg	02.13.20 12:09	
o-Xylene	<0.00200	0.100	0.102	102	0.104	104	71-133	2	35	mg/kg	02.13.20 12:09	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		104		70-130	%	02.13.20 12:09
4-Bromofluorobenzene	94		93		92		70-130	%	02.13.20 12:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116480

Parent Sample Id: 652249-001

Matrix: Soil

MS Sample Id: 652249-001 S

Prep Method: SW5030B

Date Prep: 02.13.20

MSD Sample Id: 652249-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0196	0.980	1.01	103	1.02	102	70-130	1	35	mg/kg	02.13.20 12:50	
Toluene	<0.0196	0.980	0.933	95	0.933	93	70-130	0	35	mg/kg	02.13.20 12:50	
Ethylbenzene	<0.0196	0.980	0.832	85	0.835	84	71-129	0	35	mg/kg	02.13.20 12:50	
m,p-Xylenes	<0.0392	1.96	1.66	85	1.72	86	70-135	4	35	mg/kg	02.13.20 12:50	
o-Xylene	<0.0196	0.980	0.815	83	0.824	82	71-133	1	35	mg/kg	02.13.20 12:50	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	02.13.20 12:50
4-Bromofluorobenzene	89		107		70-130	%	02.13.20 12:50

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



Houston, TX (281) 240-4200 Dallas, TX (214) 802-0300 San Antonio, TX (210) 506-3333
Midland, TX (432) 704-0440 El Paso, TX (915) 585-4440 Lubbock, TX (806) 794-1296
Hobbs, NM (575-382-7550) Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813)

Work Order No: 452253

Chain of Custody

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, 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:	slm@ltenv.com, dmoir@ltenv.com, acs@ltenv.com

Work Order Comments			
Program: UST/PST	☒ RP	☐ Brownfields	☐ RC
State of Project:			
Reporting Level II	☐ Level III	☐ ST/UST	☐ RRP
Deliverables: EDD	☐ ADAPT	☐	Other:

Project Name:	PLU 4234 Tank B-Hen	ANALYSIS REQUEST	WORK ORDER NOTES
Project Number:	012917043		
P.O. Number			
Sampler's Name	Spencer Lo		
	Turn Around		
	Routine ☐		
	Rush: 24H		
	Due Date:		

SAMPLE RECEIPT		Temp Blank	Yes	No	Wet Ice	Yes	No
Temperature (°C):	1.0				Thermometer ID		
Received Intact:	Yes	No			Thm007		
Cooler Custody Seals:	Yes	No			Correction Factor:	-0.2	
Sample Custody Seals:	Yes	No			Total Containers:	2	

Number of Containers

EPA 8015)

(EPA 0=8021)

ide (EPA 300.0)

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (ppm)	BTEX (ppm)	Chloride (ppm)	Sample Comments
PH088	5	2-12-10	1445	2'	1	X	X	X	
PH08c	3	2-12-10	1455	3'	1	X	X	X	

Circle Method(s) and Metal(s) to be analyzed		Total	200.7 / 6010	200.8 / 6020:																
8RCRA	13PPM Texas 11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Ni	N	Sr	Zn
TCCLP / 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																	

Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xencio, its affiliates and subcontractors. It assigns standard terms and conditions: Xencio 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 service. Xencio 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 service. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xencio, 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
<i>[Signature]</i>	<i>[Signature]</i>	2/13/20 08:00am	<i>[Signature]</i>	<i>[Signature]</i>	2/13/20 08:50

Printed Coin ID: 14115 Date: 2018

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.13.2020 08.50.00 AM

Work Order #: 652253

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
#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#:

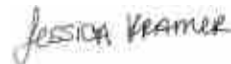
Checklist completed by:



Elizabeth McClellan

Date: 02.13.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.13.2020

Analytical Report 652255

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Battery

012917043

14-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)



14-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652255**

PLU 423H Tank Battery

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) 652255. 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. 652255 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 652255

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS70	S	02-12-20 14:10	4.5 ft	652255-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043
Work Order Number(s): 652255

Report Date: 14-FEB-20
Date Received: 02/13/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116480 BTEX by EPA 8021B

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

Certificate of Analysis Summary 652255



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Feb-13-20 08:50 am

Report Date: 14-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	652255-001					
	Field Id:	FS70					
	Depth:	4.5- ft					
	Matrix:	SOIL					
	Sampled:	Feb-12-20 14:10					
BTEX by EPA 8021B	Extracted:	Feb-13-20 10:00					
	Analyzed:	Feb-13-20 18:57					
	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-13-20 11:41					
	Analyzed:	Feb-13-20 13:59					
	Units/RL:	mg/kg RL					
Chloride		305 50.0					
TPH by SW8015 Mod	Extracted:	Feb-13-20 10:19					
	Analyzed:	Feb-13-20 15:36					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1					
Diesel Range Organics (DRO)		<50.1 50.1					
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1					
Total GRO-DRO		<50.1 50.1					
Total TPH		<50.1 50.1					

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 652255

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS70**
Lab Sample Id: 652255-001

Matrix: Soil
Date Collected: 02.12.20 14.10

Date Received: 02.13.20 08.50
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116451

Date Prep: 02.13.20 11.41

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	305	50.0	mg/kg	02.13.20 13.59		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116469

Date Prep: 02.13.20 10.19

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.13.20 15.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.13.20 15.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.13.20 15.36	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.13.20 15.36	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.13.20 15.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.13.20 15.36	
o-Terphenyl	84-15-1	105	%	70-135	02.13.20 15.36	



Certificate of Analytical Results 652255

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS70**
Lab Sample Id: 652255-001

Matrix: Soil
Date Collected: 02.12.20 14.10

Date Received: 02.13.20 08.50
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 10.00

Basis: Wet Weight

Seq Number: 3116480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.13.20 18.57	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.13.20 18.57	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.13.20 18.57	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.13.20 18.57	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.13.20 18.57	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.13.20 18.57	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.13.20 18.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.13.20 18.57		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.13.20 18.57		



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.
PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

MB Sample Id: 7696580-1-BLK

Matrix: Solid

LCS Sample Id: 7696580-1-BKS

Prep Method: E300P

Date Prep: 02.13.20

LCSD Sample Id: 7696580-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	262	105	90-110	3	20	mg/kg	02.13.20 12:25	

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

Parent Sample Id: 652249-001

Matrix: Soil

MS Sample Id: 652249-001 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652249-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	278	201	492	106	493	107	90-110	0	20	mg/kg	02.13.20 12:41	

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

Parent Sample Id: 652255-001

Matrix: Soil

MS Sample Id: 652255-001 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652255-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	305	200	512	104	516	106	90-110	1	20	mg/kg	02.13.20 14:05	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

MB Sample Id: 7696566-1-BLK

Matrix: Solid

LCS Sample Id: 7696566-1-BKS

Prep Method: SW8015P

Date Prep: 02.13.20

LCSD Sample Id: 7696566-1-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	895	90	853	85	70-135	5	35	mg/kg	02.13.20 10:11	
Diesel Range Organics (DRO)	<50.0	1000	980	98	759	76	70-135	25	35	mg/kg	02.13.20 10:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		135		114		70-135	%	02.13.20 10:11
o-Terphenyl	129		127		100		70-135	%	02.13.20 10:11

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

Matrix: Solid

MB Sample Id: 7696566-1-BLK

Prep Method: SW8015P

Date Prep: 02.13.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.13.20 09:51	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

Parent Sample Id: 652249-001

Matrix: Soil

MS Sample Id: 652249-001 S

Prep Method: SW8015P

Date Prep: 02.13.20

MSD Sample Id: 652249-001 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)	<50.0	1000	897	90	909	91	70-135	1	35	mg/kg	02.13.20 14:36	
Diesel Range Organics (DRO)	4330	1000	4990	66	5180	85	70-135	4	35	mg/kg	02.13.20 14:36	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		126		70-135	%	02.13.20 14:36
o-Terphenyl	108		105		70-135	%	02.13.20 14:36

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116480

MB Sample Id: 7696582-1-BLK

Matrix: Solid

LCS Sample Id: 7696582-1-BKS

Prep Method: SW5030B

Date Prep: 02.13.20

LCSD Sample Id: 7696582-1-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	0.105	105	0.108	108	70-130	3	35	mg/kg	02.13.20 12:09	
Toluene	<0.00200	0.100	0.103	103	0.105	105	70-130	2	35	mg/kg	02.13.20 12:09	
Ethylbenzene	<0.00200	0.100	0.0999	100	0.102	102	71-129	2	35	mg/kg	02.13.20 12:09	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.209	105	70-135	1	35	mg/kg	02.13.20 12:09	
o-Xylene	<0.00200	0.100	0.102	102	0.104	104	71-133	2	35	mg/kg	02.13.20 12:09	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		104		70-130	%	02.13.20 12:09
4-Bromofluorobenzene	94		93		92		70-130	%	02.13.20 12:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116480

Parent Sample Id: 652249-001

Matrix: Soil

MS Sample Id: 652249-001 S

Prep Method: SW5030B

Date Prep: 02.13.20

MSD Sample Id: 652249-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0196	0.980	1.01	103	1.02	102	70-130	1	35	mg/kg	02.13.20 12:50	
Toluene	<0.0196	0.980	0.933	95	0.933	93	70-130	0	35	mg/kg	02.13.20 12:50	
Ethylbenzene	<0.0196	0.980	0.832	85	0.835	84	71-129	0	35	mg/kg	02.13.20 12:50	
m,p-Xylenes	<0.0392	1.96	1.66	85	1.72	86	70-135	4	35	mg/kg	02.13.20 12:50	
o-Xylene	<0.0196	0.980	0.815	83	0.824	82	71-133	1	35	mg/kg	02.13.20 12:50	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	02.13.20 12:50
4-Bromofluorobenzene	89		107		70-130	%	02.13.20 12:50

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: 1052255

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3354
Midland TX (432-704-6440) El Paso, TX (915) 585-3443 Lubbock, TX (809) 94-1256
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-445-4400) Tampa, FL (813)

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrell
Company Name:	LT Environmental, 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 86220
Phone:	(432) 236-3849	Email:	info@ltenv.com , dmoir@ltenv.com , alcole@ltenv.com

Work Order Comments Program: UST/PST ☐ RP ☐ Brownfields ☐ ARC ☐ Superfund ☐ State of Project: Reporting Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other:	
---	--

Project Name:	PLU 4134	Turn Around
Project Number:	012917043	Routine ☐
P.O. Number:		Rush: 24H
Sampler's Name:	Spencer Lo	Due Date:
		ANALYSIS REQUEST
		Work Order Notes

SAMPLE RECEIPT				Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	1.0			Thermometer ID					
Received intact:	Yes			TMM007					
Cooler Custody Seals:	Yes			No			Correction Factor:		
Sample Custody Seals:	Yes			No			Total Containers:		
						-0.2			
						1			

Number of Containers

A 8015)

PA 0=8021)

(EPA 300.0)

TAT starts the day received by the lab. If received by 4:30.

[illegible]

Total	200.7 / 6010	200.8 / 6020;
-------	--------------	---------------

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mn Mg Ni K Se Ag SnO3 Ns S Ti Ga H V Z

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

TCLP / SPLP 6010	6RCRA	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Ti	U

1631 / 245.1 / 7470 / 7471 : Hg

ce: Signature of this document and relinquishment of sample materials a valid purchase order from client company to Xencro, its affiliates and subcontractors. It assigns standard terms and conditions service. Xencro 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 since. A minimum charge of \$75.00 will be applied to each product and a charge of \$5 for each sample submitted to Xencro, 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
		2/13/20 8:00am			2/13/20 08:50

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.13.2020 08.50.00 AM

Work Order #: 652255

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
#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#:

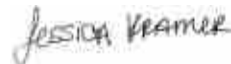
Checklist completed by:



Elizabeth McClellan

Date: 02.13.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.13.2020

Analytical Report 652437

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Baterry

012917043

17-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)



17-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652437**

PLU 423H Tank Battery

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) 652437. 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. 652437 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 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS1	S	02-13-20 13:00	4.5	652437-001
FS2	S	02-13-20 13:15	4.5	652437-002
FS3	S	02-13-20 13:45	4.5	652437-003
FS4	S	02-13-20 14:00	4.5	652437-004
FS5	S	02-13-20 14:15	4.5	652437-005



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043

Work Order Number(s): 652437

Report Date: 17-FEB-20

Date Received: 02/14/2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116684 BTEX by EPA 8021B

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

Certificate of Analysis Summary 652437



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Feb-14-20 10:30 am

Report Date: 17-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	652437-001	652437-002	652437-003	652437-004	652437-005	
	Field Id:	FS1	FS2	FS3	FS4	FS5	
	Depth:	4.5-	4.5-	4.5-	4.5-	4.5-	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Feb-13-20 13:00	Feb-13-20 13:15	Feb-13-20 13:45	Feb-13-20 14:00	Feb-13-20 14:15	
BTEX by EPA 8021B	Extracted:	Feb-14-20 11:30	Feb-14-20 11:30	Feb-14-20 11:30	Feb-14-20 11:30	Feb-14-20 11:30	
	Analyzed:	Feb-14-20 15:24	Feb-14-20 15:45	Feb-14-20 16:05	Feb-14-20 16:25	Feb-14-20 16:46	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
Toluene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
Ethylbenzene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
m,p-Xylenes		<0.00403 0.00403	<0.00400 0.00400	<0.00396 0.00396	<0.00398 0.00398	<0.00398 0.00398	
o-Xylene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
Total Xylenes		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
Total BTEX		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
Chloride by EPA 300	Extracted:	Feb-14-20 13:00	Feb-14-20 13:00	Feb-14-20 13:00	Feb-14-20 13:00	Feb-14-20 13:00	
	Analyzed:	Feb-14-20 16:31	Feb-14-20 16:48	Feb-14-20 16:53	Feb-14-20 16:59	Feb-14-20 17:04	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		409 9.98	4990 99.6	2670 99.2	1840 99.8	1640 99.2	
TPH by SW8015 Mod	Extracted:	Feb-14-20 15:00	Feb-14-20 15:00	Feb-14-20 15:00	Feb-14-20 15:00	Feb-14-20 15:00	
	Analyzed:	Feb-14-20 15:42	Feb-14-20 16:42	Feb-14-20 16:42	Feb-14-20 17:02	Feb-14-20 17:02	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.1 50.1	<49.8 49.8	<50.2 50.2	<50.0 50.0	
Diesel Range Organics (DRO)		<50.2 50.2	<50.1 50.1	<49.8 49.8	<50.2 50.2	<50.0 50.0	
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.1 50.1	<49.8 49.8	<50.2 50.2	<50.0 50.0	
Total GRO-DRO		<50.2 50.2	<50.1 50.1	<49.8 49.8	<50.2 50.2	<50.0 50.0	
Total TPH		<50.2 50.2	<50.1 50.1	<49.8 49.8	<50.2 50.2	<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 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS1** Matrix: Soil Date Received: 02.14.20 10.30
 Lab Sample Id: 652437-001 Date Collected: 02.13.20 13.00 Sample Depth: 4.5
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.14.20 13.00 Basis: Wet Weight
 Seq Number: 3116672

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	409	9.98	mg/kg	02.14.20 16.31		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.14.20 15.00 Basis: Wet Weight
 Seq Number: 3116680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.14.20 15.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.14.20 15.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.14.20 15.42	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.14.20 15.42	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.14.20 15.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.14.20 15.42	
o-Terphenyl	84-15-1	101	%	70-135	02.14.20 15.42	



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS1**
Lab Sample Id: 652437-001

Matrix: Soil
Date Collected: 02.13.20 13.00

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.14.20 15.24	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.14.20 15.24		
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.14.20 15.24		



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS2 Matrix: Soil Date Received: 02.14.20 10.30
 Lab Sample Id: 652437-002 Date Collected: 02.13.20 13.15 Sample Depth: 4.5
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.14.20 13.00 Basis: Wet Weight
 Seq Number: 3116672

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4990	99.6	mg/kg	02.14.20 16.48		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.14.20 15.00 Basis: Wet Weight
 Seq Number: 3116680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.14.20 16.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.14.20 16.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.14.20 16.42	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.14.20 16.42	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.14.20 16.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.14.20 16.42	
o-Terphenyl	84-15-1	110	%	70-135	02.14.20 16.42	



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS2
Lab Sample Id: 652437-002

Matrix: Soil
Date Collected: 02.13.20 13.15

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.14.20 15.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.14.20 15.45		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.14.20 15.45		



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS3 Matrix: Soil Date Received: 02.14.20 10.30
 Lab Sample Id: 652437-003 Date Collected: 02.13.20 13.45 Sample Depth: 4.5
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.14.20 13.00 Basis: Wet Weight
 Seq Number: 3116672

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2670	99.2	mg/kg	02.14.20 16.53		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.14.20 15.00 Basis: Wet Weight
 Seq Number: 3116680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.14.20 16.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.14.20 16.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.14.20 16.42	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.14.20 16.42	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.14.20 16.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	02.14.20 16.42	
o-Terphenyl	84-15-1	105	%	70-135	02.14.20 16.42	



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS3
Lab Sample Id: 652437-003

Matrix: Soil
Date Collected: 02.13.20 13.45

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.14.20 16.05	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	02.14.20 16.05		
4-Bromofluorobenzene	460-00-4	90	%	70-130	02.14.20 16.05		



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS4** Matrix: Soil Date Received: 02.14.20 10.30
 Lab Sample Id: 652437-004 Date Collected: 02.13.20 14.00 Sample Depth: 4.5
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.14.20 13.00 Basis: Wet Weight
 Seq Number: 3116672

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1840	99.8	mg/kg	02.14.20 16.59		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.14.20 15.00 Basis: Wet Weight
 Seq Number: 3116680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.14.20 17.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.14.20 17.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.14.20 17.02	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.14.20 17.02	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.14.20 17.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.14.20 17.02	
o-Terphenyl	84-15-1	116	%	70-135	02.14.20 17.02	



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS4**
Lab Sample Id: 652437-004

Matrix: Soil
Date Collected: 02.13.20 14.00

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.14.20 16.25	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.14.20 16.25		
1,4-Difluorobenzene	540-36-3	108	%	70-130	02.14.20 16.25		



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS5 Matrix: Soil Date Received: 02.14.20 10.30
 Lab Sample Id: 652437-005 Date Collected: 02.13.20 14.15 Sample Depth: 4.5
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.14.20 13.00 Basis: Wet Weight
 Seq Number: 3116672

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1640	99.2	mg/kg	02.14.20 17.04		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.14.20 15.00 Basis: Wet Weight
 Seq Number: 3116680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.14.20 17.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.14.20 17.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.14.20 17.02	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.14.20 17.02	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.14.20 17.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.14.20 17.02	
o-Terphenyl	84-15-1	101	%	70-135	02.14.20 17.02	



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS5
Lab Sample Id: 652437-005

Matrix: Soil
Date Collected: 02.13.20 14.15

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.14.20 16.46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.14.20 16.46		
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.14.20 16.46		



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

MB Sample Id: 7696716-1-BLK

Matrix: Solid

LCS Sample Id: 7696716-1-BKS

Prep Method: E300P

Date Prep: 02.14.20

LCSD Sample Id: 7696716-1-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	258	103	259	104	90-110	0	20	mg/kg	02.14.20 16:21	

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

Parent Sample Id: 652436-004

Matrix: Soil

MS Sample Id: 652436-004 S

Prep Method: E300P

Date Prep: 02.14.20

MSD Sample Id: 652436-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	369	199	581	107	579	105	90-110	0	20	mg/kg	02.14.20 17:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: E300P

Date Prep: 02.14.20

MSD Sample Id: 652437-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	409	200	617	104	616	104	90-110	0	20	mg/kg	02.14.20 16:37	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

MB Sample Id: 7696765-1-BLK

Matrix: Solid

LCS Sample Id: 7696765-1-BKS

Prep Method: SW8015P

Date Prep: 02.14.20

LCSD Sample Id: 7696765-1-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	926	93	970	97	70-135	5	35	mg/kg	02.14.20 15:22	
Diesel Range Organics (DRO)	<50.0	1000	1000	100	1050	105	70-135	5	35	mg/kg	02.14.20 15:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		116		118		70-135	%	02.14.20 15:22
o-Terphenyl	103		109		120		70-135	%	02.14.20 15:22

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

Matrix: Solid

MB Sample Id: 7696765-1-BLK

Prep Method: SW8015P

Date Prep: 02.14.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.14.20 15:22	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: SW8015P

Date Prep: 02.14.20

MSD Sample Id: 652437-001 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)	<49.9	997	938	94	930	93	70-135	1	35	mg/kg	02.14.20 16:02	
Diesel Range Organics (DRO)	<49.9	997	1020	102	1000	100	70-135	2	35	mg/kg	02.14.20 16:02	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		118		70-135	%	02.14.20 16:02
o-Terphenyl	116		111		70-135	%	02.14.20 16:02

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116684

MB Sample Id: 7696731-1-BLK

Matrix: Solid

LCS Sample Id: 7696731-1-BKS

Prep Method: SW5030B

Date Prep: 02.14.20

LCSD Sample Id: 7696731-1-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	0.121	121	0.118	118	70-130	3	35	mg/kg	02.14.20 13:42	
Toluene	<0.00200	0.100	0.111	111	0.109	109	70-130	2	35	mg/kg	02.14.20 13:42	
Ethylbenzene	<0.00200	0.100	0.107	107	0.105	105	71-129	2	35	mg/kg	02.14.20 13:42	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.206	103	70-135	1	35	mg/kg	02.14.20 13:42	
o-Xylene	<0.00200	0.100	0.105	105	0.103	103	71-133	2	35	mg/kg	02.14.20 13:42	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		107		109		70-130	%	02.14.20 13:42
4-Bromofluorobenzene	97		89		92		70-130	%	02.14.20 13:42

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116684

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: SW5030B

Date Prep: 02.14.20

MSD Sample Id: 652437-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0901	89	0.115	116	70-130	24	35	mg/kg	02.14.20 14:23	
Toluene	<0.00202	0.101	0.0826	82	0.106	107	70-130	25	35	mg/kg	02.14.20 14:23	
Ethylbenzene	<0.00202	0.101	0.0783	78	0.102	103	71-129	26	35	mg/kg	02.14.20 14:23	
m,p-Xylenes	<0.00403	0.202	0.154	76	0.200	101	70-135	26	35	mg/kg	02.14.20 14:23	
o-Xylene	<0.00202	0.101	0.0766	76	0.0997	101	71-133	26	35	mg/kg	02.14.20 14:23	

Surrogate

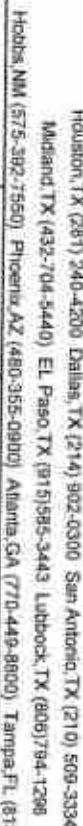
	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		106		70-130	%	02.14.20 14:23
4-Bromofluorobenzene	93		94		70-130	%	02.14.20 14:23

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: 652437

Work Order Comments									
Program: UST/PST ☐ TRP ☐ Brownfields ☐ ZRC ☐ Superfund ☐ State of Project: Reporting Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐ Deliverables: EDD ☐ ☐ ADAPT ☐ ☐ Other ☐									

[illegible]

	TAT starts the day received by the lab, if received between 6-20hrs
--	---

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EP)	BTEX (E)	Chloride	Sample Comments
F571	S	2-13-20	1700	4.5'	1	X	X	X	
F572			1315						
F573			1345						
F574			1400						
F575			1415						

Total 200.7 / 6010	200.8 / 6020:	
8RCRA	13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
<i>Circle Method(s) and Metal(s) to be analyzed</i>	TCLP / SPLP 6010: 8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U
		1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		2/19/20 10:00am			2/19/20 10:30

Analytical Report 652437

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Baterry

012917043

18-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)



18-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652437**

PLU 423H Tank Battery

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) 652437. 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. 652437 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 652437****LT Environmental, Inc., Arvada, CO**

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS71	S	02-13-20 13:00	4.5	652437-001
FS72	S	02-13-20 13:15	4.5	652437-002
FS73	S	02-13-20 13:45	4.5	652437-003
FS74	S	02-13-20 14:00	4.5	652437-004
FS75	S	02-13-20 14:15	4.5	652437-005



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043
Work Order Number(s): 652437

Report Date: 18-FEB-20
Date Received: 02/14/2020

Sample receipt non conformances and comments:

V1.001 - Revision due to correcting sample names to reflect COC (per email with Aimee Cole) JK
02/18/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116684 BTEX by EPA 8021B

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

Certificate of Analysis Summary 652437



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Feb-14-20 10:30 am

Report Date: 18-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	652437-001	652437-002	652437-003	652437-004	652437-005	
	Field Id:	FS71	FS72	FS73	FS74	FS75	
	Depth:	4.5-	4.5-	4.5-	4.5-	4.5-	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Feb-13-20 13:00	Feb-13-20 13:15	Feb-13-20 13:45	Feb-13-20 14:00	Feb-13-20 14:15	
BTEX by EPA 8021B	Extracted:	Feb-14-20 11:30	Feb-14-20 11:30	Feb-14-20 11:30	Feb-14-20 11:30	Feb-14-20 11:30	
	Analyzed:	Feb-14-20 15:24	Feb-14-20 15:45	Feb-14-20 16:05	Feb-14-20 16:25	Feb-14-20 16:46	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
Toluene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
Ethylbenzene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
m,p-Xylenes		<0.00403 0.00403	<0.00400 0.00400	<0.00396 0.00396	<0.00398 0.00398	<0.00398 0.00398	
o-Xylene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
Total Xylenes		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
Total BTEX		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	
Chloride by EPA 300	Extracted:	Feb-14-20 13:00	Feb-14-20 13:00	Feb-14-20 13:00	Feb-14-20 13:00	Feb-14-20 13:00	
	Analyzed:	Feb-14-20 16:31	Feb-14-20 16:48	Feb-14-20 16:53	Feb-14-20 16:59	Feb-14-20 17:04	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		409 9.98	4990 99.6	2670 99.2	1840 99.8	1640 99.2	
TPH by SW8015 Mod	Extracted:	Feb-14-20 15:00	Feb-14-20 15:00	Feb-14-20 15:00	Feb-14-20 15:00	Feb-14-20 15:00	
	Analyzed:	Feb-14-20 15:42	Feb-14-20 16:42	Feb-14-20 16:42	Feb-14-20 17:02	Feb-14-20 17:02	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.1 50.1	<49.8 49.8	<50.2 50.2	<50.0 50.0	
Diesel Range Organics (DRO)		<50.2 50.2	<50.1 50.1	<49.8 49.8	<50.2 50.2	<50.0 50.0	
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.1 50.1	<49.8 49.8	<50.2 50.2	<50.0 50.0	
Total GRO-DRO		<50.2 50.2	<50.1 50.1	<49.8 49.8	<50.2 50.2	<50.0 50.0	
Total TPH		<50.2 50.2	<50.1 50.1	<49.8 49.8	<50.2 50.2	<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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS71** Matrix: Soil Date Received: 02.14.20 10.30
 Lab Sample Id: 652437-001 Date Collected: 02.13.20 13.00 Sample Depth: 4.5
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.14.20 13.00 Basis: Wet Weight
 Seq Number: 3116672

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	409	9.98	mg/kg	02.14.20 16.31		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.14.20 15.00 Basis: Wet Weight
 Seq Number: 3116680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.14.20 15.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.14.20 15.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.14.20 15.42	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.14.20 15.42	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.14.20 15.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.14.20 15.42	
o-Terphenyl	84-15-1	101	%	70-135	02.14.20 15.42	



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS71**
Lab Sample Id: 652437-001

Matrix: Soil
Date Collected: 02.13.20 13.00

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.14.20 15.24	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.14.20 15.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.14.20 15.24		
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.14.20 15.24		



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS72
Lab Sample Id: 652437-002

Matrix: Soil
Date Collected: 02.13.20 13.15

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116672

Date Prep: 02.14.20 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4990	99.6	mg/kg	02.14.20 16.48		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116680

Date Prep: 02.14.20 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.14.20 16.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.14.20 16.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.14.20 16.42	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.14.20 16.42	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.14.20 16.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.14.20 16.42	
o-Terphenyl	84-15-1	110	%	70-135	02.14.20 16.42	



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS72**
Lab Sample Id: 652437-002

Matrix: Soil
Date Collected: 02.13.20 13.15

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.14.20 15.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.14.20 15.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.14.20 15.45		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.14.20 15.45		



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS73**
Lab Sample Id: 652437-003

Matrix: Soil
Date Collected: 02.13.20 13.45

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116672

Date Prep: 02.14.20 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2670	99.2	mg/kg	02.14.20 16.53		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116680

Date Prep: 02.14.20 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.14.20 16.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.14.20 16.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.14.20 16.42	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.14.20 16.42	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.14.20 16.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	02.14.20 16.42	
o-Terphenyl	84-15-1	105	%	70-135	02.14.20 16.42	



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS73**
Lab Sample Id: 652437-003

Matrix: Soil
Date Collected: 02.13.20 13.45

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.14.20 16.05	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.14.20 16.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	02.14.20 16.05		
4-Bromofluorobenzene	460-00-4	90	%	70-130	02.14.20 16.05		



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS74**
 Lab Sample Id: 652437-004

Matrix: Soil
 Date Collected: 02.13.20 14.00

Date Received: 02.14.20 10.30
 Sample Depth: 4.5

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 13.00

Basis: Wet Weight

Seq Number: 3116672

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1840	99.8	mg/kg	02.14.20 16.59		10

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

% Moisture:

Analyst: DTH

Date Prep: 02.14.20 15.00

Basis: Wet Weight

Seq Number: 3116680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.14.20 17.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.14.20 17.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.14.20 17.02	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.14.20 17.02	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.14.20 17.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.14.20 17.02	
o-Terphenyl	84-15-1	116	%	70-135	02.14.20 17.02	



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS74**
Lab Sample Id: 652437-004

Matrix: Soil
Date Collected: 02.13.20 14.00

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.14.20 16.25	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.14.20 16.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.14.20 16.25		
1,4-Difluorobenzene	540-36-3	108	%	70-130	02.14.20 16.25		



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: FS75
Lab Sample Id: 652437-005

Matrix: Soil
Date Collected: 02.13.20 14.15

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116672

Date Prep: 02.14.20 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1640	99.2	mg/kg	02.14.20 17.04		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116680

Date Prep: 02.14.20 15.00

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	02.14.20 17.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.14.20 17.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.14.20 17.02	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.14.20 17.02	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.14.20 17.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.14.20 17.02	
o-Terphenyl	84-15-1	101	%	70-135	02.14.20 17.02	



Certificate of Analytical Results 652437

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **FS75**
Lab Sample Id: 652437-005

Matrix: Soil
Date Collected: 02.13.20 14.15

Date Received: 02.14.20 10.30
Sample Depth: 4.5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.14.20 16.46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.14.20 16.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.14.20 16.46		
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.14.20 16.46		



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.
PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

MB Sample Id: 7696716-1-BLK

Matrix: Solid

LCS Sample Id: 7696716-1-BKS

Prep Method: E300P

Date Prep: 02.14.20

LCSD Sample Id: 7696716-1-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	258	103	259	104	90-110	0	20	mg/kg	02.14.20 16:21	

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

Parent Sample Id: 652436-004

Matrix: Soil

MS Sample Id: 652436-004 S

Prep Method: E300P

Date Prep: 02.14.20

MSD Sample Id: 652436-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	369	199	581	107	579	105	90-110	0	20	mg/kg	02.14.20 17:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: E300P

Date Prep: 02.14.20

MSD Sample Id: 652437-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	409	200	617	104	616	104	90-110	0	20	mg/kg	02.14.20 16:37	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

MB Sample Id: 7696765-1-BLK

Matrix: Solid

LCS Sample Id: 7696765-1-BKS

Prep Method: SW8015P

Date Prep: 02.14.20

LCSD Sample Id: 7696765-1-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	926	93	970	97	70-135	5	35	mg/kg	02.14.20 15:22	
Diesel Range Organics (DRO)	<50.0	1000	1000	100	1050	105	70-135	5	35	mg/kg	02.14.20 15:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		116		118		70-135	%	02.14.20 15:22
o-Terphenyl	103		109		120		70-135	%	02.14.20 15:22

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

Matrix: Solid

MB Sample Id: 7696765-1-BLK

Prep Method: SW8015P

Date Prep: 02.14.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.14.20 15:22	

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.
PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: SW8015P

Date Prep: 02.14.20

MSD Sample Id: 652437-001 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)	<49.9	997	938	94	930	93	70-135	1	35	mg/kg	02.14.20 16:02	
Diesel Range Organics (DRO)	<49.9	997	1020	102	1000	100	70-135	2	35	mg/kg	02.14.20 16:02	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		118		70-135	%	02.14.20 16:02
o-Terphenyl	116		111		70-135	%	02.14.20 16:02

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116684

MB Sample Id: 7696731-1-BLK

Matrix: Solid

LCS Sample Id: 7696731-1-BKS

Prep Method: SW5030B

Date Prep: 02.14.20

LCSD Sample Id: 7696731-1-BSO

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	0.121	121	0.118	118	70-130	3	35	mg/kg	02.14.20 13:42	
Toluene	<0.00200	0.100	0.111	111	0.109	109	70-130	2	35	mg/kg	02.14.20 13:42	
Ethylbenzene	<0.00200	0.100	0.107	107	0.105	105	71-129	2	35	mg/kg	02.14.20 13:42	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.206	103	70-135	1	35	mg/kg	02.14.20 13:42	
o-Xylene	<0.00200	0.100	0.105	105	0.103	103	71-133	2	35	mg/kg	02.14.20 13:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		107		109		70-130	%	02.14.20 13:42
4-Bromofluorobenzene	97		89		92		70-130	%	02.14.20 13:42

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116684

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: SW5030B

Date Prep: 02.14.20

MSD Sample Id: 652437-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0901	89	0.115	116	70-130	24	35	mg/kg	02.14.20 14:23	
Toluene	<0.00202	0.101	0.0826	82	0.106	107	70-130	25	35	mg/kg	02.14.20 14:23	
Ethylbenzene	<0.00202	0.101	0.0783	78	0.102	103	71-129	26	35	mg/kg	02.14.20 14:23	
m,p-Xylenes	<0.00403	0.202	0.154	76	0.200	101	70-135	26	35	mg/kg	02.14.20 14:23	
o-Xylene	<0.00202	0.101	0.0766	76	0.0997	101	71-133	26	35	mg/kg	02.14.20 14:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		106		70-130	%	02.14.20 14:23
4-Bromofluorobenzene	93		94		70-130	%	02.14.20 14:23

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: 652437

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) 794-1298
 Hobbs, NM (575) 382-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8000 Tampa, FL (813) 820-2000

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, 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) 230-3849	Email:	slittlell@xenco.com, dmoir@ltenv.com, acolle@ltenv.com

Project Name:	PLU 4234 TALK & HARRY	Turn Around	Routine
Project Number:	012917043	Rush:	24/4
P.O. Number:		Due Date:	
Sampler's Name:	Spencer Lo		

Temp Blank:	Yes	No	Well Ice:	Yes	No
Temperature (°C):	0.6	Thermometer ID	TN007		
Received Intact:	Yes	No	Correction Factor:	-0.2	
Cooler Custody Seals:	Yes	No	N/A		
Sample Custody Seals:	Yes	No	N/A		
Total Containers:	5				

Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
5	X	X	X

Temp Blank:	Yes	No	Well Ice:	Yes	No
Temperature (°C):	0.6	Thermometer ID	TN007		
Received Intact:	Yes	No	Correction Factor:	-0.2	
Cooler Custody Seals:	Yes	No	N/A		
Sample Custody Seals:	Yes	No	N/A		
Total Containers:	5				

Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
5	X	X	X

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Analysis Request	Work Order Notes
F571	S	2-13-20	1700	4.5'	1	X	X	X		
F572			1315		1	X	X	X		
F573			1345		1	X	X	X		
F574			1400		1	X	X	X		
F575			1415		1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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 1631 / 245.1 / 7470 / 7471: Hg

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
[Signature]	[Signature]	2/14/20 10:00am	[Signature]	[Signature]	2/14/20 10:30

Analytical Report 652440

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Baterry

012917043

17-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)



17-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652440**

PLU 423H Tank Battery

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) 652440. 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. 652440 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 652440

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW30	S	02-13-20 11:45	0 - 4.5 ft	652440-001
SW54	S	02-13-20 12:45	0 - 4.5 ft	652440-002
SW56	S	02-13-20 13:30	0 - 4.5 ft	652440-003
SW57	S	02-13-20 14:30	0 - 4.5 ft	652440-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043
Work Order Number(s): 652440

Report Date: 17-FEB-20
Date Received: 02/14/2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116659 BTEX by EPA 8021B

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

Certificate of Analysis Summary 652440



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Feb-14-20 10:30 am

Report Date: 17-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	652440-001	652440-002	652440-003	652440-004		
	<i>Field Id:</i>	SW30	SW54	SW56	SW57		
	<i>Depth:</i>	0-4.5 ft	0-4.5 ft	0-4.5 ft	0-4.5 ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Feb-13-20 11:45	Feb-13-20 12:45	Feb-13-20 13:30	Feb-13-20 14:30		
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-14-20 11:30	Feb-14-20 11:30	Feb-14-20 11:30	Feb-14-20 11:30		
	<i>Analyzed:</i>	Feb-14-20 21:29	Feb-14-20 21:50	Feb-14-20 22:10	Feb-14-20 22:30		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202		
Toluene		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202		
Ethylbenzene		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202		
m,p-Xylenes		<0.00402 0.00402	<0.00402 0.00402	<0.00398 0.00398	<0.00403 0.00403		
o-Xylene		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202		
Total Xylenes		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202		
Total BTEX		<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202		
Chloride by EPA 300	<i>Extracted:</i>	Feb-14-20 12:30	Feb-14-20 12:30	Feb-14-20 12:30	Feb-14-20 12:30		
	<i>Analyzed:</i>	Feb-14-20 15:42	Feb-14-20 15:48	Feb-14-20 15:53	Feb-14-20 15:59		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		182 10.0	20.7 9.84	14.7 10.0	194 10.0		
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-14-20 15:00	Feb-14-20 15:00	Feb-14-20 15:00	Feb-14-20 15:00		
	<i>Analyzed:</i>	Feb-14-20 17:21	Feb-14-20 17:21	Feb-14-20 18:01	Feb-14-20 18:21		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<50.2 50.2	<50.3 50.3	<50.3 50.3		
Diesel Range Organics (DRO)		<50.1 50.1	<50.2 50.2	<50.3 50.3	<50.3 50.3		
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.2 50.2	<50.3 50.3	<50.3 50.3		
Total GRO-DRO		<50.1 50.1	<50.2 50.2	<50.3 50.3	<50.3 50.3		
Total TPH		<50.1 50.1	<50.2 50.2	<50.3 50.3	<50.3 50.3		

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 652440

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW30**
Lab Sample Id: 652440-001

Matrix: Soil
Date Collected: 02.13.20 11.45

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116671

Date Prep: 02.14.20 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	182	10.0	mg/kg	02.14.20 15.42		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116680

Date Prep: 02.14.20 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.14.20 17.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.14.20 17.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.14.20 17.21	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.14.20 17.21	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.14.20 17.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	02.14.20 17.21	
o-Terphenyl	84-15-1	103	%	70-135	02.14.20 17.21	



Certificate of Analytical Results 652440

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW30**
Lab Sample Id: 652440-001

Matrix: Soil
Date Collected: 02.13.20 11.45

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116659

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.14.20 21.29	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.14.20 21.29	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.14.20 21.29	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.14.20 21.29	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.14.20 21.29	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.14.20 21.29	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.14.20 21.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.14.20 21.29		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.14.20 21.29		



Certificate of Analytical Results 652440

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW54**
Lab Sample Id: 652440-002

Matrix: Soil
Date Collected: 02.13.20 12.45

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116671

Date Prep: 02.14.20 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.7	9.84	mg/kg	02.14.20 15.48		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116680

Date Prep: 02.14.20 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.14.20 17.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.14.20 17.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.14.20 17.21	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.14.20 17.21	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.14.20 17.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	02.14.20 17.21	
o-Terphenyl	84-15-1	105	%	70-135	02.14.20 17.21	



Certificate of Analytical Results 652440

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW54**
Lab Sample Id: 652440-002

Matrix: Soil
Date Collected: 02.13.20 12.45

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116659

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.14.20 21.50	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.14.20 21.50	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.14.20 21.50	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.14.20 21.50	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.14.20 21.50	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.14.20 21.50	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.14.20 21.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.14.20 21.50		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.14.20 21.50		



Certificate of Analytical Results 652440

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW56**
Lab Sample Id: 652440-003

Matrix: Soil
Date Collected: 02.13.20 13.30

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116671

Date Prep: 02.14.20 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.7	10.0	mg/kg	02.14.20 15.53		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116680

Date Prep: 02.14.20 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.14.20 18.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.14.20 18.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.14.20 18.01	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.14.20 18.01	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.14.20 18.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	02.14.20 18.01	
o-Terphenyl	84-15-1	112	%	70-135	02.14.20 18.01	



Certificate of Analytical Results 652440

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW56**
Lab Sample Id: 652440-003

Matrix: Soil
Date Collected: 02.13.20 13.30

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116659

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.14.20 22.10	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.14.20 22.10	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.14.20 22.10	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.14.20 22.10	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.14.20 22.10	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.14.20 22.10	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.14.20 22.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.14.20 22.10		
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.14.20 22.10		



Certificate of Analytical Results 652440

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW57**
Lab Sample Id: 652440-004

Matrix: Soil
Date Collected: 02.13.20 14.30

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116671

Date Prep: 02.14.20 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	194	10.0	mg/kg	02.14.20 15.59		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116680

Date Prep: 02.14.20 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.14.20 18.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.14.20 18.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.14.20 18.21	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.14.20 18.21	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.14.20 18.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.14.20 18.21	
o-Terphenyl	84-15-1	107	%	70-135	02.14.20 18.21	



Certificate of Analytical Results 652440

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW57**
Lab Sample Id: 652440-004

Matrix: Soil
Date Collected: 02.13.20 14.30

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.14.20 11.30

Basis: Wet Weight

Seq Number: 3116659

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.14.20 22.30	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.14.20 22.30	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.14.20 22.30	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.14.20 22.30	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.14.20 22.30	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.14.20 22.30	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.14.20 22.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.14.20 22.30		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.14.20 22.30		



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116671

MB Sample Id: 7696715-1-BLK

Matrix: Solid

LCS Sample Id: 7696715-1-BKS

Prep Method: E300P

Date Prep: 02.14.20

LCSD Sample Id: 7696715-1-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	258	103	259	104	90-110	0	20	mg/kg	02.14.20 13:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3116671

Parent Sample Id: 652422-001

Matrix: Soil

MS Sample Id: 652422-001 S

Prep Method: E300P

Date Prep: 02.14.20

MSD Sample Id: 652422-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	648	199	850	102	863	108	90-110	2	20	mg/kg	02.14.20 13:36	

Analytical Method: Chloride by EPA 300

Seq Number: 3116671

Parent Sample Id: 652422-011

Matrix: Soil

MS Sample Id: 652422-011 S

Prep Method: E300P

Date Prep: 02.14.20

MSD Sample Id: 652422-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	675	199	881	104	862	94	90-110	2	20	mg/kg	02.14.20 14:53	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

MB Sample Id: 7696765-1-BLK

Matrix: Solid

LCS Sample Id: 7696765-1-BKS

Prep Method: SW8015P

Date Prep: 02.14.20

LCSD Sample Id: 7696765-1-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	926	93	970	97	70-135	5	35	mg/kg	02.14.20 15:22	
Diesel Range Organics (DRO)	<50.0	1000	1000	100	1050	105	70-135	5	35	mg/kg	02.14.20 15:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		116		118		70-135	%	02.14.20 15:22
o-Terphenyl	103		109		120		70-135	%	02.14.20 15:22

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

Matrix: Solid

MB Sample Id: 7696765-1-BLK

Prep Method: SW8015P

Date Prep: 02.14.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.14.20 15:22	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: SW8015P

Date Prep: 02.14.20

MSD Sample Id: 652437-001 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)	<49.9	997	938	94	930	93	70-135	1	35	mg/kg	02.14.20 16:02	
Diesel Range Organics (DRO)	<49.9	997	1020	102	1000	100	70-135	2	35	mg/kg	02.14.20 16:02	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		118		70-135	%	02.14.20 16:02
o-Terphenyl	116		111		70-135	%	02.14.20 16:02

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116659

MB Sample Id: 7696729-1-BLK

Matrix: Solid

LCS Sample Id: 7696729-1-BKS

Prep Method: SW5030B

Date Prep: 02.14.20

LCSD Sample Id: 7696729-1-BSO

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	0.110	110	0.107	107	70-130	3	35	mg/kg	02.14.20 13:40	
Toluene	<0.00200	0.100	0.106	106	0.104	104	70-130	2	35	mg/kg	02.14.20 13:40	
Ethylbenzene	<0.00200	0.100	0.103	103	0.101	101	71-129	2	35	mg/kg	02.14.20 13:40	
m,p-Xylenes	<0.00400	0.200	0.212	106	0.208	104	70-135	2	35	mg/kg	02.14.20 13:40	
o-Xylene	<0.00200	0.100	0.105	105	0.103	103	71-133	2	35	mg/kg	02.14.20 13:40	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		104		70-130	%	02.14.20 13:40
4-Bromofluorobenzene	94		93		93		70-130	%	02.14.20 13:40

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116659

Parent Sample Id: 652422-001

Matrix: Soil

MS Sample Id: 652422-001 S

Prep Method: SW5030B

Date Prep: 02.14.20

MSD Sample Id: 652422-001 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	0.108	108	0.0923	93	70-130	16	35	mg/kg	02.14.20 14:21	
Toluene	<0.00200	0.0998	0.105	105	0.0902	91	70-130	15	35	mg/kg	02.14.20 14:21	
Ethylbenzene	<0.00200	0.0998	0.101	101	0.0866	87	71-129	15	35	mg/kg	02.14.20 14:21	
m,p-Xylenes	<0.00399	0.200	0.208	104	0.178	89	70-135	16	35	mg/kg	02.14.20 14:21	
o-Xylene	<0.00200	0.0998	0.103	103	0.0873	88	71-133	17	35	mg/kg	02.14.20 14:21	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		70-130	%	02.14.20 14:21
4-Bromofluorobenzene	96		93		70-130	%	02.14.20 14:21

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



Houston, TX (281) 240-4200 Dallas, TX (214) 802-0300 San Antonio, TX (210) 506-3334
Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 448-8800 Tampa, FL (813) 620-2000

Chain of Custody

Work Order No:

652440

www.xenco.com

Page 1 of 1

Project Manager:	Dan Moll	Bill to: (if different)	Kyle Littlefield
Company Name:	LT Environmental, 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:	sluo@xenco.com, dmoll@xenco.com, acolse@xenco.com

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

Project Name:	PLU 9234 Tank Battery	Turn Around	
Project Number:	012917045	Routine	☐
P.O. Number:		Rush: 244	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	0.6	Thermometer ID: TMM007				
Received Inland:	Yes	No	Correction Factor: -0.2			
Cooler Custody Seals:	Yes	No	Total Containers: 4			
Sample Custody Seals:	Yes	No				

09 PM

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E	BTEX	Chloride	Sample Comments										
SW30	S	2-13-20	1115	0-6.5'	1	X	X	X											
SW54	S	↓	1245	↓	↓	↓	↓	↓											
SW56	S	↓	1330	↓	↓	↓	↓	↓											
SW57	S	↓	1430	↓	↓	↓	↓	↓											

Total 200.7 / 6010 200.8 / 6020: BRCRA 13PPM Texas 11 A 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
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 1631 / 245.1 / 7470 / 7471 : Hg

Notes: 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
<i>[Signature]</i>	<i>[Signature]</i>	2/14/20 10:00am	<i>[Signature]</i>	<i>[Signature]</i>	2/14/20 10:30

Analytical Report 652442

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Baterry

012917043

17-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)



17-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652442**

PLU 423H Tank Battery

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) 652442. 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. 652442 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 652442

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW55	S	02-13-20 12:30	0 - 4.5 ft	652442-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 012917043

Work Order Number(s): 652442

Report Date: 17-FEB-20

Date Received: 02/14/2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116684 BTEX by EPA 8021B

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

Certificate of Analysis Summary 652442



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Baterry

Project Id: 012917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Feb-14-20 10:30 am

Report Date: 17-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	652442-001					
	Field Id:	SW55					
	Depth:	0-4.5 ft					
	Matrix:	SOIL					
	Sampled:	Feb-13-20 12:30					
BTEX by EPA 8021B	Extracted:	Feb-14-20 11:30					
	Analyzed:	Feb-14-20 17:06					
	Units/RL:	mg/kg RL					
Benzene		<0.00201 0.00201					
Toluene		<0.00201 0.00201					
Ethylbenzene		<0.00201 0.00201					
m,p-Xylenes		<0.00402 0.00402					
o-Xylene		<0.00201 0.00201					
Total Xylenes		<0.00201 0.00201					
Total BTEX		<0.00201 0.00201					
Chloride by EPA 300	Extracted:	Feb-14-20 13:00					
	Analyzed:	Feb-14-20 17:21					
	Units/RL:	mg/kg RL					
Chloride		385 9.94					
TPH by SW8015 Mod	Extracted:	Feb-14-20 15:00					
	Analyzed:	Feb-14-20 18:21					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1					
Diesel Range Organics (DRO)		<50.1 50.1					
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1					
Total GRO-DRO		<50.1 50.1					
Total TPH		<50.1 50.1					

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 652442

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW55**
Lab Sample Id: 652442-001

Matrix: Soil
Date Collected: 02.13.20 12.30

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116672

Date Prep: 02.14.20 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	385	9.94	mg/kg	02.14.20 17.21		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116680

Date Prep: 02.14.20 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.14.20 18.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.14.20 18.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.14.20 18.21	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.14.20 18.21	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.14.20 18.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.14.20 18.21	
o-Terphenyl	84-15-1	104	%	70-135	02.14.20 18.21	



Certificate of Analytical Results 652442

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW55**
Lab Sample Id: 652442-001

Matrix: Soil
Date Collected: 02.13.20 12.30

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3116684

Date Prep: 02.14.20 11.30

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	02.14.20 17.06	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.14.20 17.06	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.14.20 17.06	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.14.20 17.06	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.14.20 17.06	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.14.20 17.06	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.14.20 17.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.14.20 17.06		
4-Bromofluorobenzene	460-00-4	93	%	70-130	02.14.20 17.06		



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 **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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

MB Sample Id: 7696716-1-BLK

Matrix: Solid

LCS Sample Id: 7696716-1-BKS

Prep Method: E300P

Date Prep: 02.14.20

LCSD Sample Id: 7696716-1-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	258	103	259	104	90-110	0	20	mg/kg	02.14.20 16:21	

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

Parent Sample Id: 652436-004

Matrix: Soil

MS Sample Id: 652436-004 S

Prep Method: E300P

Date Prep: 02.14.20

MSD Sample Id: 652436-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	369	199	581	107	579	105	90-110	0	20	mg/kg	02.14.20 17:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: E300P

Date Prep: 02.14.20

MSD Sample Id: 652437-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	409	200	617	104	616	104	90-110	0	20	mg/kg	02.14.20 16:37	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

MB Sample Id: 7696765-1-BLK

Matrix: Solid

LCS Sample Id: 7696765-1-BKS

Prep Method: SW8015P

Date Prep: 02.14.20

LCSD Sample Id: 7696765-1-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	926	93	970	97	70-135	5	35	mg/kg	02.14.20 15:22	
Diesel Range Organics (DRO)	<50.0	1000	1000	100	1050	105	70-135	5	35	mg/kg	02.14.20 15:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		116		118		70-135	%	02.14.20 15:22
o-Terphenyl	103		109		120		70-135	%	02.14.20 15:22

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

Matrix: Solid

MB Sample Id: 7696765-1-BLK

Prep Method: SW8015P

Date Prep: 02.14.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.14.20 15:22	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: SW8015P

Date Prep: 02.14.20

MSD Sample Id: 652437-001 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)	<49.9	997	938	94	930	93	70-135	1	35	mg/kg	02.14.20 16:02	
Diesel Range Organics (DRO)	<49.9	997	1020	102	1000	100	70-135	2	35	mg/kg	02.14.20 16:02	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		118		70-135	%	02.14.20 16:02
o-Terphenyl	116		111		70-135	%	02.14.20 16:02

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116684

MB Sample Id: 7696731-1-BLK

Matrix: Solid

LCS Sample Id: 7696731-1-BKS

Prep Method: SW5030B

Date Prep: 02.14.20

LCSD Sample Id: 7696731-1-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	0.121	121	0.118	118	70-130	3	35	mg/kg	02.14.20 13:42	
Toluene	<0.00200	0.100	0.111	111	0.109	109	70-130	2	35	mg/kg	02.14.20 13:42	
Ethylbenzene	<0.00200	0.100	0.107	107	0.105	105	71-129	2	35	mg/kg	02.14.20 13:42	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.206	103	70-135	1	35	mg/kg	02.14.20 13:42	
o-Xylene	<0.00200	0.100	0.105	105	0.103	103	71-133	2	35	mg/kg	02.14.20 13:42	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		107		109		70-130	%	02.14.20 13:42
4-Bromofluorobenzene	97		89		92		70-130	%	02.14.20 13:42

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116684

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: SW5030B

Date Prep: 02.14.20

MSD Sample Id: 652437-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0901	89	0.115	116	70-130	24	35	mg/kg	02.14.20 14:23	
Toluene	<0.00202	0.101	0.0826	82	0.106	107	70-130	25	35	mg/kg	02.14.20 14:23	
Ethylbenzene	<0.00202	0.101	0.0783	78	0.102	103	71-129	26	35	mg/kg	02.14.20 14:23	
m,p-Xylenes	<0.00403	0.202	0.154	76	0.200	101	70-135	26	35	mg/kg	02.14.20 14:23	
o-Xylene	<0.00202	0.101	0.0766	76	0.0997	101	71-133	26	35	mg/kg	02.14.20 14:23	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		106		70-130	%	02.14.20 14:23
4-Bromofluorobenzene	93		94		70-130	%	02.14.20 14:23

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) 902-0350 San Antonio, TX (210) 509-3034
Midland, TX (432) 704-5440 El Paso, TX (915) 595-3443 Lubbock, TX (806) 784-1296

Work Order No: 642442
652442
642442

Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0800 Atlanta, GA (770) 449-8900 Tampa, FL (813) 820-2000

www.xenco.com

Page of

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, 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:	slong@lenny.com, dmoir@lenny.com, acoble@lenny.com
Project Name:	PLU 4234 Tack B-H-H-LY	Turn Around	
Project Number:	012517443	Routine	☐
P.O. Number:		Rush:	24H
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes ☒ No ☐	Well log:	Yes ☒ No ☐
	Temperature (°C):	0.6	Thermometer ID	TMM097
	Received Initial:	Yes ☒ No ☐	Correction Factor:	-0.2
	Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:	1
Sample Custody Seals:	Yes ☒ No ☐			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST	Work Order Notes
SWSS	S	2-13-20	1230	0-4.5'	1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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 1631 / 245.1 / 7470 / 7471 : Hg

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
		2/14/20 10:00am			2/14/20 10:30

Analytical Report 652444

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 423H Tank Baterry

0121917043

17-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)



17-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652444**

PLU 423H Tank Battery

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) 652444. 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. 652444 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 652444

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW34	S	02-13-20 11:45	0 - 4.5 ft	652444-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 423H Tank Battery

Project ID: 0121917043

Work Order Number(s): 652444

Report Date: 17-FEB-20

Date Received: 02/14/2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116684 BTEX by EPA 8021B

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

Certificate of Analysis Summary 652444



LT Environmental, Inc., Arvada, CO

Project Name: PLU 423H Tank Battery

Project Id: 0121917043

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Feb-14-20 10:30 am

Report Date: 17-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	652444-001					
	Field Id:	SW34					
	Depth:	0-4.5 ft					
	Matrix:	SOIL					
	Sampled:	Feb-13-20 11:45					
BTEX by EPA 8021B	Extracted:	Feb-14-20 11:30					
	Analyzed:	Feb-14-20 17:26					
	Units/RL:	mg/kg RL					
Benzene		<0.00200 0.00200					
Toluene		<0.00200 0.00200					
Ethylbenzene		<0.00200 0.00200					
m,p-Xylenes		<0.00399 0.00399					
o-Xylene		<0.00200 0.00200					
Total Xylenes		<0.00200 0.00200					
Total BTEX		<0.00200 0.00200					
Chloride by EPA 300	Extracted:	Feb-14-20 13:00					
	Analyzed:	Feb-14-20 17:26					
	Units/RL:	mg/kg RL					
Chloride		466 9.88					
TPH by SW8015 Mod	Extracted:	Feb-14-20 15:00					
	Analyzed:	Feb-14-20 19:01					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3					
Diesel Range Organics (DRO)		<50.3 50.3					
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3					
Total GRO-DRO		<50.3 50.3					
Total TPH		<50.3 50.3					

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

Version: 1.0%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 652444

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW34**
Lab Sample Id: 652444-001

Matrix: Soil
Date Collected: 02.13.20 11.45

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116672

Date Prep: 02.14.20 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	466	9.88	mg/kg	02.14.20 17.26		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116680

Date Prep: 02.14.20 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.14.20 19.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.14.20 19.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.14.20 19.01	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.14.20 19.01	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.14.20 19.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.14.20 19.01	
o-Terphenyl	84-15-1	111	%	70-135	02.14.20 19.01	



Certificate of Analytical Results 652444

LT Environmental, Inc., Arvada, CO

PLU 423H Tank Battery

Sample Id: **SW34**
Lab Sample Id: 652444-001

Matrix: Soil
Date Collected: 02.13.20 11.45

Date Received: 02.14.20 10.30
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3116684

Date Prep: 02.14.20 11.30

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	02.14.20 17.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.14.20 17.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.14.20 17.26	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.14.20 17.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.14.20 17.26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.14.20 17.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.14.20 17.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.14.20 17.26		
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.14.20 17.26		



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.

PLU 423H Tank Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

MB Sample Id: 7696716-1-BLK

Matrix: Solid

LCS Sample Id: 7696716-1-BKS

Prep Method: E300P

Date Prep: 02.14.20

LCSD Sample Id: 7696716-1-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	258	103	259	104	90-110	0	20	mg/kg	02.14.20 16:21	

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

Parent Sample Id: 652436-004

Matrix: Soil

MS Sample Id: 652436-004 S

Prep Method: E300P

Date Prep: 02.14.20

MSD Sample Id: 652436-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	369	199	581	107	579	105	90-110	0	20	mg/kg	02.14.20 17:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3116672

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: E300P

Date Prep: 02.14.20

MSD Sample Id: 652437-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	409	200	617	104	616	104	90-110	0	20	mg/kg	02.14.20 16:37	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

MB Sample Id: 7696765-1-BLK

Matrix: Solid

LCS Sample Id: 7696765-1-BKS

Prep Method: SW8015P

Date Prep: 02.14.20

LCSD Sample Id: 7696765-1-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	926	93	970	97	70-135	5	35	mg/kg	02.14.20 15:22	
Diesel Range Organics (DRO)	<50.0	1000	1000	100	1050	105	70-135	5	35	mg/kg	02.14.20 15:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		116		118		70-135	%	02.14.20 15:22
o-Terphenyl	103		109		120		70-135	%	02.14.20 15:22

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

Matrix: Solid

MB Sample Id: 7696765-1-BLK

Prep Method: SW8015P

Date Prep: 02.14.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.14.20 15:22	

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.

PLU 423H Tank Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116680

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: SW8015P

Date Prep: 02.14.20

MSD Sample Id: 652437-001 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)	<49.9	997	938	94	930	93	70-135	1	35	mg/kg	02.14.20 16:02	
Diesel Range Organics (DRO)	<49.9	997	1020	102	1000	100	70-135	2	35	mg/kg	02.14.20 16:02	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		118		70-135	%	02.14.20 16:02
o-Terphenyl	116		111		70-135	%	02.14.20 16:02

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116684

MB Sample Id: 7696731-1-BLK

Matrix: Solid

LCS Sample Id: 7696731-1-BKS

Prep Method: SW5030B

Date Prep: 02.14.20

LCSD Sample Id: 7696731-1-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	0.121	121	0.118	118	70-130	3	35	mg/kg	02.14.20 13:42	
Toluene	<0.00200	0.100	0.111	111	0.109	109	70-130	2	35	mg/kg	02.14.20 13:42	
Ethylbenzene	<0.00200	0.100	0.107	107	0.105	105	71-129	2	35	mg/kg	02.14.20 13:42	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.206	103	70-135	1	35	mg/kg	02.14.20 13:42	
o-Xylene	<0.00200	0.100	0.105	105	0.103	103	71-133	2	35	mg/kg	02.14.20 13:42	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		107		109		70-130	%	02.14.20 13:42
4-Bromofluorobenzene	97		89		92		70-130	%	02.14.20 13:42

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116684

Parent Sample Id: 652437-001

Matrix: Soil

MS Sample Id: 652437-001 S

Prep Method: SW5030B

Date Prep: 02.14.20

MSD Sample Id: 652437-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0901	89	0.115	116	70-130	24	35	mg/kg	02.14.20 14:23	
Toluene	<0.00202	0.101	0.0826	82	0.106	107	70-130	25	35	mg/kg	02.14.20 14:23	
Ethylbenzene	<0.00202	0.101	0.0783	78	0.102	103	71-129	26	35	mg/kg	02.14.20 14:23	
m,p-Xylenes	<0.00403	0.202	0.154	76	0.200	101	70-135	26	35	mg/kg	02.14.20 14:23	
o-Xylene	<0.00202	0.101	0.0766	76	0.0997	101	71-133	26	35	mg/kg	02.14.20 14:23	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		106		70-130	%	02.14.20 14:23
4-Bromofluorobenzene	93		94		70-130	%	02.14.20 14:23

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:

65-2444

Houston, TX (281) 240-4200 Dallas, TX (214) 802-0300 San Antonio, TX (210) 569-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 585-4443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 575-3927
Hobbs, NM (575) 392-7550

www.xetico.com

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrell
Company Name:	LT Environmental, 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:	Carsbad, NM 88220
Phone:	(432) 236-3849	Email:	slot@ltenv.com, dmoir@ltenv.com, acol@ltenv.com

Work Order Comments	
Program: UST/PST	☐ RP ☐ Brownfields ☐ ZRC ☐ Superfund ☐
State of Project:	
Reporting Level II	☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

Project Name:	100 400 100 800	Turn Around
Project Number:	012912043	Routine ☐
P.O. Number		Rush: ☒
Sampler's Name:	Spencer Lo	Due Date

SAMPLE RECEIPT		Temp Blank:	Yes	No	Well Ice:	Yes	No
Temperature (°C):		0.6					
Received intact:		Yes	No				
Cooler Custody Seals:		Yes	No		Correction Factor:		
Sample Custody Seals:		Yes	No		N/A	Total Containers:	
							1

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth
-----------------------	--------	--------------	--------------	-------

PM

Hand-drawn graph on grid paper showing a curve. The x-axis is labeled 'x' and the y-axis is labeled 'y'. The curve starts at the origin (0,0) and increases, passing through points approximately at (1, 1.5), (2, 2.5), (3, 3.5), (4, 4.5), (5, 5.5), (6, 6.5), (7, 7.5), (8, 8.5), (9, 9.5), (10, 10.5), (11, 11.5), (12, 12.5), (13, 13.5), (14, 14.5), (15, 15.5), (16, 16.5), (17, 17.5), (18, 18.5), (19, 19.5), (20, 20.5), (21, 21.5), (22, 22.5), (23, 23.5), (24, 24.5), (25, 25.5), (26, 26.5), (27, 27.5), (28, 28.5), (29, 29.5), (30, 30.5), (31, 31.5), (32, 32.5), (33, 33.5), (34, 34.5), (35, 35.5), (36, 36.5), (37, 37.5), (38, 38.5), (39, 39.5), (40, 40.5), (41, 41.5), (42, 42.5), (43, 43.5), (44, 44.5), (45, 45.5), (46, 46.5), (47, 47.5), (48, 48.5), (49, 49.5), (50, 50.5), (51, 51.5), (52, 52.5), (53, 53.5), (54, 54.5), (55, 55.5), (56, 56.5), (57, 57.5), (58, 58.5), (59, 59.5), (60, 60.5), (61, 61.5), (62, 62.5), (63, 63.5), (64, 64.5), (65, 65.5), (66, 66.5), (67, 67.5), (68, 68.5), (69, 69.5), (70, 70.5), (71, 71.5), (72, 72.5), (73, 73.5), (74, 74.5), (75, 75.5), (76, 76.5), (77, 77.5), (78, 78.5), (79, 79.5), (80, 80.5), (81, 81.5), (82, 82.5), (83, 83.5), (84, 84.5), (85, 85.5), (86, 86.5), (87, 87.5), (88, 88.5), (89, 89.5), (90, 90.5), (91, 91.5), (92, 92.5), (93, 93.5), (94, 94.5), (95, 95.5), (96, 96.5), (97, 97.5), (98, 98.5), (99, 99.5), (100, 100.5). The curve is labeled 'f(x)' and 'f(100)'.

Total	200.7 / 6010	200.8 / 6020
-------	--------------	--------------

8RCRA 13PPM

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

TCLP / SPLP 6

Element	Symbol	Atomic Number	Atomic Weight	Group	Period	Block	Classification
Hydrogen	H	1	1.008	1	1	s	Non-metal
Helium	He	2	4.003	18	1	s	Noble gas
Lithium	Li	3	6.941	1	2	s	Alkali metal
Beryllium	Be	4	9.012	2	2	s	Alkaline earth metal
Boron	B	5	10.81	13	2	p	Metalloid
Carbon	C	6	12.01	14	2	p	Non-metal
Nitrogen	N	7	14.01	15	2	p	Non-metal
Oxygen	O	8	16.00	16	2	p	Non-metal
Fluorine	F	9	18.99	17	2	p	Non-metal
Neon	Ne	10	20.18	18	2	p	Noble gas
Sodium	Na	11	22.99	1	3	s	Alkali metal
Magnesium	Mg	12	24.31	2	3	s	Alkaline earth metal
Aluminum	Al	13	26.98	13	3	p	Metal
Silicon	Si	14	28.09	14	3	p	Metalloid
Phosphorus	P	15	30.97	15	3	p	Non-metal
Sulfur	S	16	32.07	16	3	p	Non-metal
Chlorine	Cl	17	35.45	17	3	p	Non-metal
Argon	Ar	18	39.95	18	3	p	Noble gas
Potassium	K	19	39.10	1	4	s	Alkali metal
Calcium	Ca	20	40.08	2	4	s	Alkaline earth metal
Scandium	Sc	21	44.96	3	4	d	Transition metal
Titanium	Ti	22	47.88	4	4	d	Transition metal
Vanadium	V	23	50.94	5	4	d	Transition metal
Chromium	Cr	24	52.00	6	4	d	Transition metal
Manganese	Mn	25	54.94	7	4	d	Transition metal
Iron	Fe	26	55.85	8	4	d	Transition metal
Cobalt	Co	27	58.93	9	4	d	Transition metal
Nickel	Ni	28	58.71	10	4	d	Transition metal
Copper	Cu	29	63.55	11	4	d	Transition metal
Zinc	Zn	30	65.38	12	4	d	Transition metal
Gallium	Ga	31	69.72	13	4	p	Metal
Germanium	Ge	32	72.64	14	4	p	Metalloid
Arsenic	As	33	74.92	15	4	p	Metalloid
Selenium	Se	34	78.96	16	4	p	Non-metal
Bromine	Br	35	79.90	17	4	p	Non-metal
Krypton	Kr	36	83.80	18	4	p	Noble gas
Rubidium	Rb	37	85.47	1	5	s	Alkali metal
Strontium	Sr	38	87.62	2	5	s	Alkaline earth metal
Yttrium	Y	39	88.91	3	5	d	Transition metal
Zirconium	Zr	40	91.22	4	5	d	Transition metal
Niobium	Nb	41	92.91	5	5	d	Transition metal
Molybdenum	Mo	42	95.94	6	5	d	Transition metal
Technetium	Tc	43	98.00	7	5	d	Transition metal
Ruthenium	Ru	44	101.07	8	5	d	Transition metal
Rhodium	Rh	45	102.91	9	5	d	Transition metal
Palladium	Pd	46	106.42	10	5	d	Transition metal
Silver	Ag	47	107.87	11	5	d	Transition metal
Cadmium	Cd	48	112.41	12	5	d	Transition metal
Indium	In	49	114.82	13	5	p	Metal
Tin	Sn	50	118.71	14	5	p	Metal
Antimony	Sb	51	121.76	15	5	p	Metalloid
Tellurium	Te	52	127.60	16	5	p	Non-metal
Iodine	I	53	126.91	17	5	p	Non-metal
Xenon	Xe	54	131.29	18	5	p	Noble gas
Cesium	Cs	55	132.91	1	6	s	Alkali metal
Barium	Ba	56	137.33	2	6	s	Alkaline earth metal
Lanthanum	La	57	138.91	3	6	f	Lanthanide
Cerium	Ce	58	140.12	4	6	f	Lanthanide
Praseodymium	Pr	59	140.91	5	6	f	Lanthanide
Neodymium	Nd	60	144.24	6	6	f	Lanthanide
Europium	Eu	63	151.96	7	6	f	Lanthanide
Gadolinium	Gd	64	157.25	8	6	f	Lanthanide
Terbium	Tb	65	158.93	9	6	f	Lanthanide
Dysprosium	Dy	66	162.50	10	6	f	Lanthanide
Ho	Ho	67	164.93	11	6	f	Lanthanide
Er	Er	68	167.26	12	6	f	Lanthanide
Tm	Tm	69	168.93	13	6		

1631 / 245.1 / 7470 / 747

1631 / 245.1 / 7470 / 7471 : Hg

signature on this document and reassignment of samples constitutes a valid purchase order from client company to Xeno, its affiliates and subcontractors. It assigns standard terms and conditions to client. Xeno 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 Xeno. A minimum charge of \$15.00 will be applied to each project and a charge of \$5 for each sample submitted to Xeno, but not analyzed. These losses will be refunded under circumstances beyond the control of Xeno.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Jan 6	Went to	9/14/20 10:00am	Went to	9/19/20 10:30
-------	---------	-----------------	---------	---------------

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 4930

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 4930
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	9/15/2021