

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 DepartmentOil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAB1906733787
District RP	2 2RP-5287
Facility ID	
Application ID	pAB1906733313

Release Notification**11VT8-190913-C-1410****Responsible Party**

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # (assigned by OCD) NAB1906733787
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.209372° Longitude -103.847022°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit 23 DTD 108H	Site Type Production Well Facility
Date Release Discovered 2/13/2019	API# (if applicable) 30-015-42452

Unit Letter	Section	Township	Range	County
A	23	24S	30E	Eddy

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

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

Cause of Release

Fluids were released to the right-of-way from the buried SWD line. Pumps were shut down until the line can be repaired and the cause of the line failure is being evaluated. Fluids remained on the right-of-way due to raised soil edges acting as a berm. An environmental contractor has been retained to assist with remediation efforts.

State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of a volume of 25 barrels or more
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice provided by Bryan Foust to Mike Bratcher, Rob Hamlet, and Jim Griswold (NMOCD), Jim Amos and Deborah McKinney (BLM) on 2/13/2019 by email	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <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> Signature:  email: <u>Kyle_Littrell@xtoenergy.com</u>	Title: <u>SH&E Coordinator</u> Date: <u>2-26-19</u> Telephone: <u>432-221-7331</u>
OCD Only Received by:  Date: <u>3/8/2019</u>	

Incident ID	
District RP	2RP-5287
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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

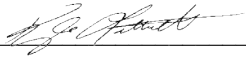
Characterization Report Checklist: Each of the following items must be included in the report. ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. ☒ Field data ☒ Data table of soil contaminant concentration data ☒ Depth to water determination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

Incident ID	
District RP	2RP-5287
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: _____ 09/13/2019 _____

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

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	2RP-5287
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Application ID	

Closure

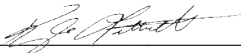
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled 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: 09/13/2019

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

September 13, 2019

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

**RE: Closure Request
Poker Lake Unit 23 DTD 108H
Remediation Permit Number 2RP-5287
Eddy County, New Mexico**

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing site assessment, soil sampling, and excavation activities at the Poker Lake Unit 23 DTD 108H (Site) in Unit A, Section 23, Township 24 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 following the release of produced water at the Site. Based on the excavation activities and results of the soil sampling events, XTO is submitting this Closure Report and requesting no further action for Remediation Permit (RP) Number 2RP-5287.

RELEASE BACKGROUND

On February 13, 2019, 149 barrels (bbls) of produced water were released from a buried salt water disposal (SWD) line onto the right-of-way (ROW) along the western and southern border of the caliche well pad. The released fluid was contained on the ROW due to raised soil along the edge, which acted as a berm. Pumps were shut down until repairs could be made. No fluid was recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on February 26, 2019, and was assigned RP Number 2RP-5287 (Attachment 1).

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be between 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 321203103511801, located approximately 4,028 feet southwest of the Site. The water well has a depth to groundwater of approximately 423 feet bgs and a total depth of 474 feet bgs. Ground surface elevation at the water well location is 3,423 feet above mean sea level (AMSL), which is



approximately 9 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is a freshwater emergent wetland approximately 790 feet west-southwest 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.

CLOSURE CRITERIA

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

- Benzene: 10 milligrams per kilogram (mg/kg);
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg;
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg; and
- Chloride: 20,000 mg/kg.

SITE ASSESSMENT, EXCAVATION, AND DELINEATION SOIL SAMPLING ACTIVITIES

On March 7, 2019, LTE personnel were at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected two preliminary soil samples (SS01 and SS02) within the release extent from a depth of approximately 0.5 feet bgs to assess for soil impacts. Soil from the preliminary soil samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

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





Laboratory analytical results for preliminary soil samples SS01 and SS02 indicated that benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were in compliance with the Closure Criteria; however, based on field observations of crystalized salt at the ground surface and in consideration of the United States Bureau of Land Management (BLM) preferred chloride closure criteria of 600 mg/kg in the top 4 feet of the subsurface, delineation and excavation of chloride containing soil was warranted. Potholing was scheduled to delineate the lateral and vertical extent of chloride-containing soil and direct excavation activities, which occurred simultaneously. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 2.

On June 6 through June 17, 2019, LTE personnel returned to the Site to oversee soil assessment activities to delineate chloride-containing soil. Potholes were advanced via a track hoe and hand auger at sixteen locations within and around the release extent. Potholes PH01 through PH09 and PH11 through PH16 were advanced to a depth of 4.5 feet bgs and pothole PH10 was advanced to a depth of 10 feet bgs. Two delineation soil samples were collected from each pothole at depths ranging from 0.5 feet to 10 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole were logged on lithologic/soil sampling logs, which are included in Attachment 3. The delineation soil samples were collected, handled, and analyzed as described above at Xenco in Midland, Texas. All potholes were backfilled with the soil removed. The potholes and delineation soil sample locations are depicted on Figure 3.

On June 10 through June 17, 2019, LTE personnel was at the Site to oversee excavation of soil as indicated by potholing, visual observations, and field screening results. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW08 were collected from the sidewalls of the excavation at depths ranging from ground surface to 2 feet, 2.5 feet, or 3 feet bgs. Composite soil samples FS01 through FS43 were collected from the floor of the excavation at depths ranging from 1 foot to 3.5 feet bgs. The excavation soil samples were collected, handled, and analyzed as described above at Xenco in Midland, Texas. The excavation extent and soil sample locations are depicted on Figure 4.

The excavation extent measured approximately 13,400 square feet in area. A total of approximately 1,490 cubic yards of soil were removed from the excavation. The impacted soil was transported and properly disposed of at the Lea Land landfill facility located in Hobbs, New Mexico.





ANALYTICAL RESULTS

Laboratory analytical results indicated that chloride concentrations in preliminary soil samples SS01 and SS02 were in compliance with the Closure Criteria; however, the chloride concentrations were greater than the BLM preferred closure criteria of 600 mg/kg in the top 4 feet of the subsurface. In consideration of the BLM preferred chloride closure criteria, delineation and excavation of chloride-containing soil was completed.

Laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH16 indicated the benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Chloride-containing soil was excavated as indicated by laboratory analytical results, field screening activities, and observed salt crusting within the release extent. Following excavation of chloride-containing soil, confirmation soil samples were collected from the sidewalls and floor of the excavation. Laboratory analytical results indicated benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in excavation soil samples SW01 through SW08 and FS01 through FS43. Laboratory analytical results are summarized in Table 1. The complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Chloride-containing soil was excavated from the release area as indicated by laboratory analytical results for the preliminary soil samples, field screening activities, and observed salt crusting within the release area. A total of approximately 1,490 cubic yards of soil were excavated from the Site. Delineation soil sampling was completed in and around the release extent. Laboratory analytical results for the delineation and excavation soil samples indicated that benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and no further excavation was required.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for release number 2RP-5287. Upon approval of this closure request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated Form C-141 is included as Attachment 1.

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





Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink, reading 'Carol Ann Whaley'.

Carol Ann Whaley
Staff Geologist

A handwritten signature in black ink, reading 'Ashley L. Ager'.

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Jim Amos, BLM
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Attachments:

Figure 1 Site Location Map
Figure 2 Preliminary Soil Sample Locations
Figure 3 Delineation Soil Sample Locations
Figure 4 Excavation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-5287)
Attachment 2 Photographic Log
Attachment 3 Lithologic / Soil Sample Logs
Attachment 4 Laboratory Analytical Reports

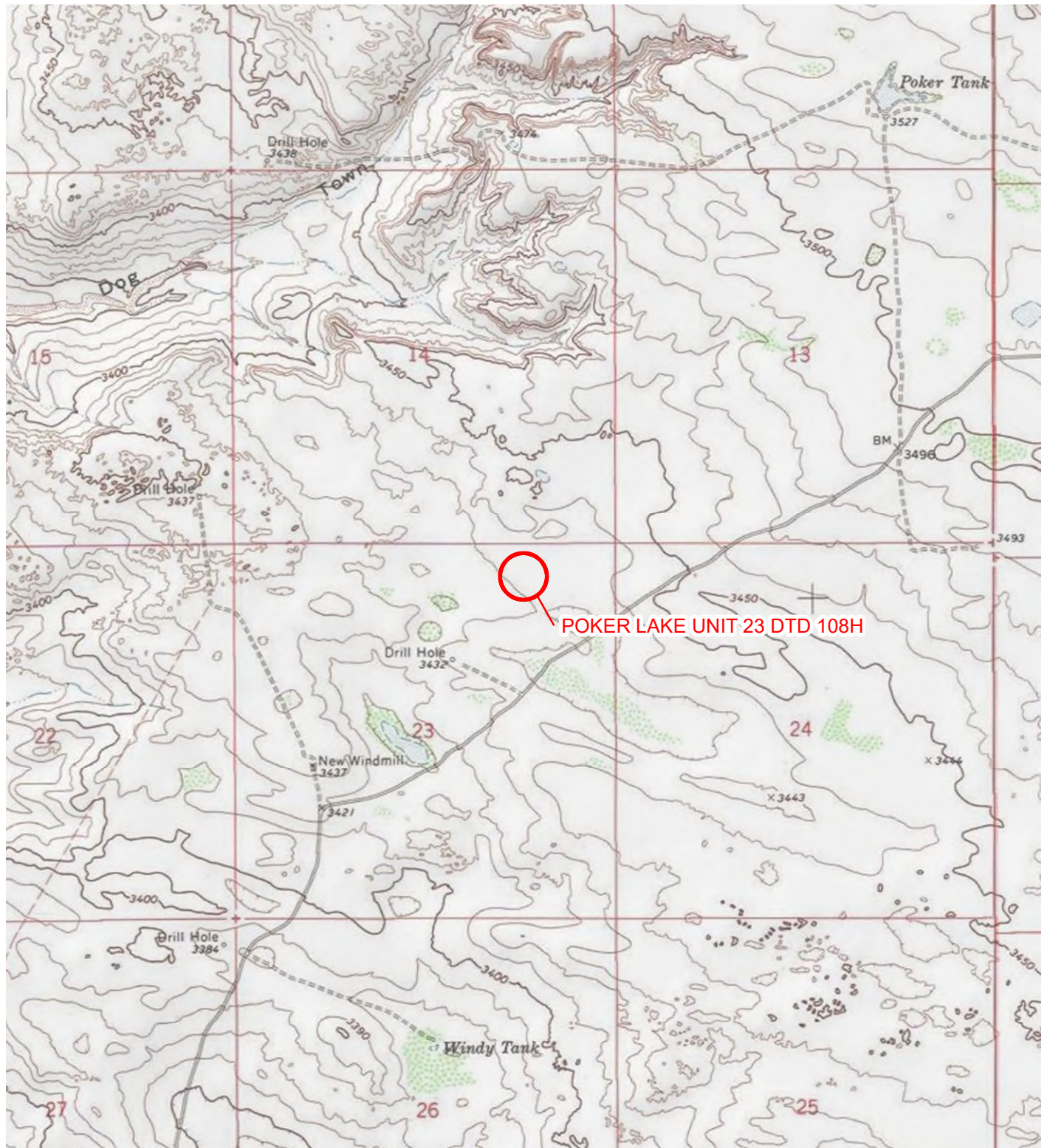
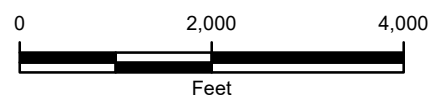


IMAGE COURTESY OF ESRI/USGS

LEGEND

 SITE LOCATION



NOTE: REMEDIATION PERMIT
NUMBER 2RP-5287

FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT 23 DTD 108H
UNIT A SEC 23 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
 SAMPLE DATE
 NMOCD TABLE 1 CLOSURE CRITERIA (NMAC 19.15.29.12)
 B = 10 mg/kg
 BTEX = 50 mg/kg
 GRO+DRO = 1,000 mg/kg
 TPH = 2,500 mg/kg
 Cl = 20,000 mg/kg
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT

SS01@0.5'
 03/07/2019
 B: <0.00200
 BTEX: <0.00200
 GRO+DRO: <15.0
 TPH: <15.0
 Cl: 5,580

SS02@0.5'
 03/07/2019
 B: <0.00201
 BTEX: <0.00201
 GRO+DRO: <15.0
 TPH: <15.0
 Cl: 5,400

LEGEND



RELEASE LOCATION



PRELIMINARY SOIL SAMPLE IN COMPLIANCE
 WITH APPLICABLE CLOSURE CRITERIA



RELEASE EXTENT

B: BENZENE

BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE,
 AND TOTAL XYLENES

GRO: GASOLINE RANGE ORGANICS

DRO: DIESEL RANGE ORGANICS

TPH: TOTAL PETROLEUM HYDROCARBONS

Cl: CHLORIDE

NMAC: NEW MEXICO ADMINISTRATIVE CODE

NMOCD: NEW MEXICO OIL CONSERVATION DIVISION

NOTE: REMEDIATION PERMIT NUMBER 2RP-5287

IMAGE COURTESY OF GOOGLE EARTH 2017

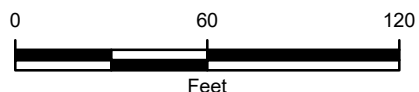


FIGURE 2
 PRELIMINARY SOIL SAMPLE LOCATIONS
 POKER LAKE UNIT 23 DTD 108H
 UNIT A SEC 23 T24S R30E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.



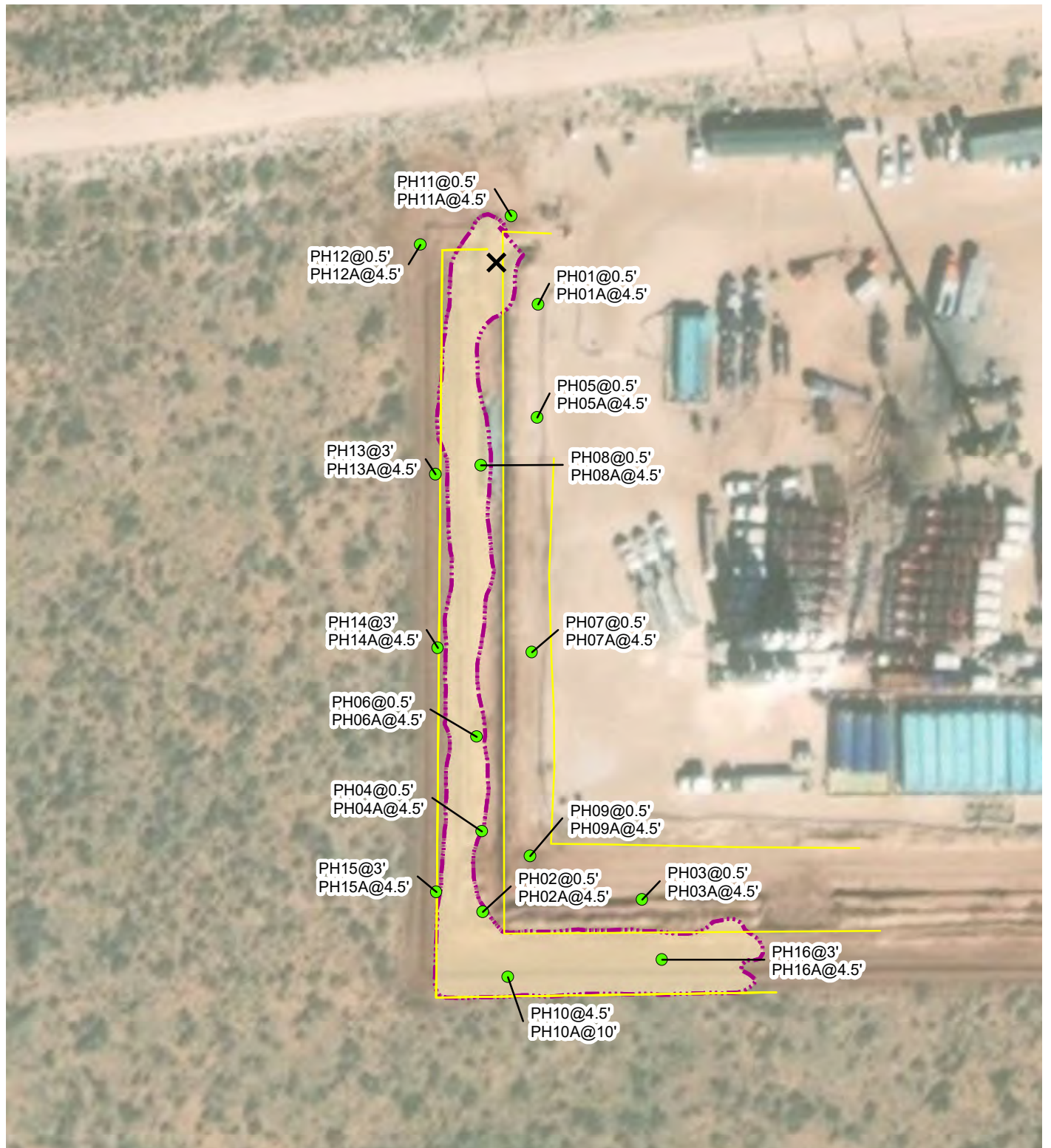


IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND



RELEASE LOCATION



DELINEATION SOIL SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIA

GAS LINE



RELEASE EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 2RP-5287

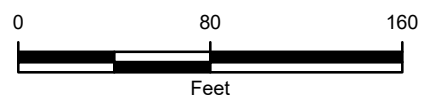
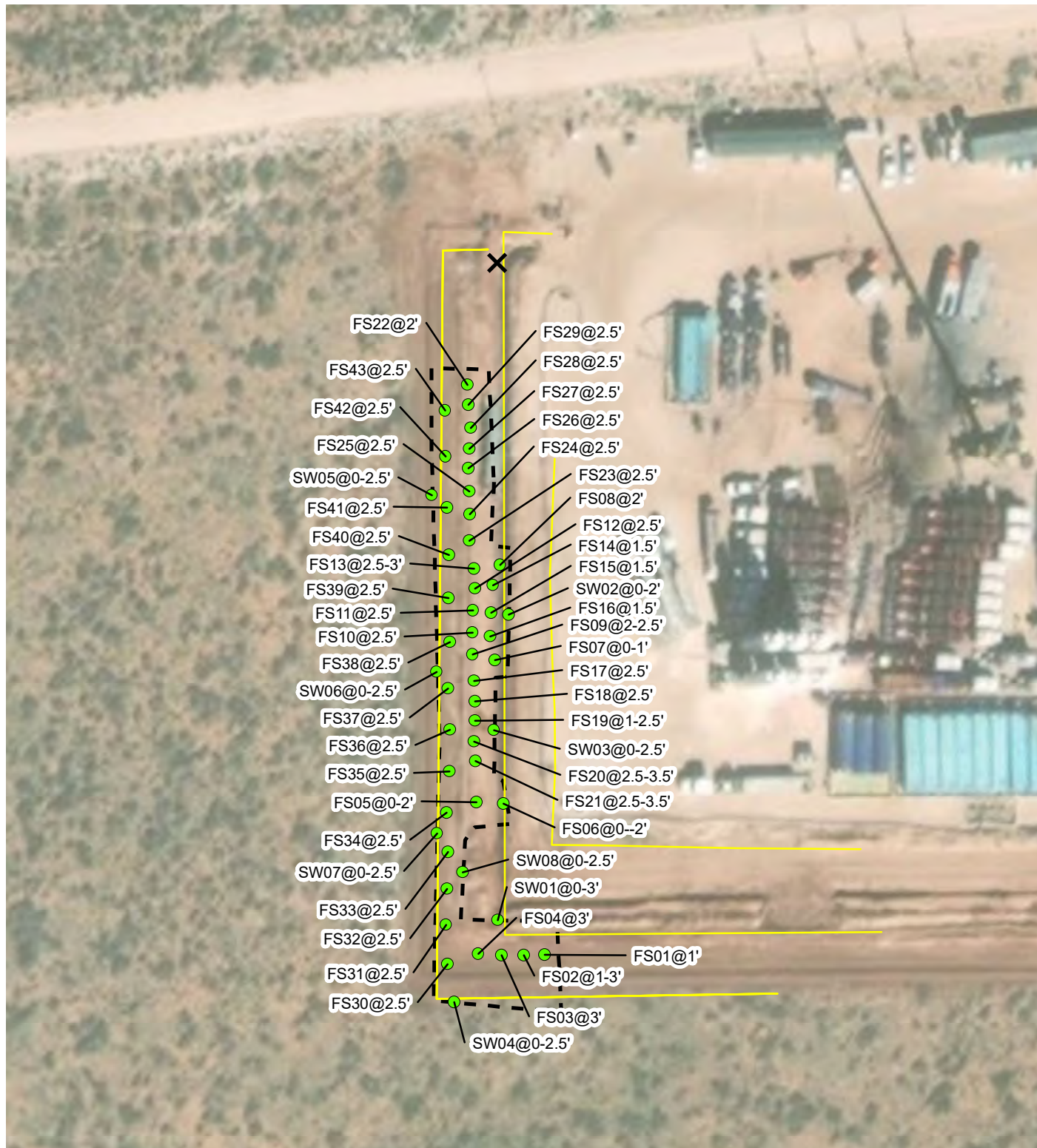


FIGURE 3
DELINEATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT 23 DTD 108H
UNIT A SEC 23 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.





LEGEND



RELEASE LOCATION



EXCAVATION SOIL SAMPLE WITH FIELD
SCREENING IN COMPLIANCE WITH
APPLICABLE CLOSURE CRITERIA

— GAS LINE



EXCAVATION EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 2RP-5287

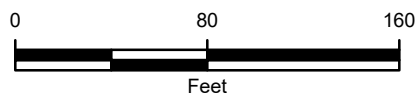


IMAGE COURTESY OF ESRI

FIGURE 4
EXCAVATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT 23 DTD 108H
UNIT A SEC 23 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



**TABLE 1
SOIL ANALYTICAL RESULTS**

**POKER LAKE UNIT 23 DTD 108H
REMEDIATION PERMIT NUMBER 2RP-5287
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	03/07/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	5,580
SS02	0.5	03/07/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	5,400
PH01	0.5	06/07/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
PH01A	4.5	06/07/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<5.03
PH02	0.5	06/06/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	5.67
PH02A	4.5	06/06/2019	0.00310	0.00406	0.00566	0.0178	0.0307	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
PH03	0.5	06/07/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<4.99
PH03A	4.5	06/07/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<4.97
PH04	0.5	06/06/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<4.95
PH04A	4.5	06/06/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	28.6
PH05	0.5	06/07/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.04
PH05A	4.5	06/06/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
PH06	0.5	06/06/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	9.54
PH06A	4.5	06/07/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<5.05
PH07	0.5	06/07/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	31.4
PH07A	4.5	06/07/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	47.3
PH08	0.5	06/06/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	19.2
PH08A	4.5	06/06/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	14.8
PH09	0.5	06/07/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	<5.00
PH09A	4.5	06/07/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	128
PH10	4.5	06/10/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	4,080
PH10A	10	06/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	137
PH11	0.5	06/12/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	34.0
PH11A	4.5	06/12/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	18.8



**TABLE 1
SOIL ANALYTICAL RESULTS**

**POKER LAKE UNIT 23 DTD 108H
REMEDIATION PERMIT NUMBER 2RP-5287
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)
PH12	0.5	06/12/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	58.2
PH12A	4.5	06/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.01
PH13	3	06/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<4.99
PH13A	4.5	06/17/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<4.96
PH14	3	06/17/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	8.31
PH14A	4.5	06/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	10.2
PH15	3	06/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	16.6
PH15A	4.5	06/17/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	41.3
PH16	0.5	06/17/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<5.05
PH16A	4.5	06/17/2019	0.0514	<0.00200	<0.00200	<0.00200	0.0514	<15.0	<15.0	<15.0	<15.0	<15.0	9.69
FS01	1	06/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	353
FS02	1 - 3	06/10/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	11.6
FS03	3	06/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	9.42
FS04	3	06/10/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	108
FS05	0 - 2	06/11/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	1,130
FS06	0 - 2	06/11/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	15.0
FS07	0 - 1	06/11/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	35.8
FS08	2	06/11/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	14.6
FS09	2 - 2.5	06/11/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	6.77
FS10	2.5	06/11/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	23.9
FS11	2.5	06/11/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	20.7
FS12	2.5	06/11/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	104
FS13	2.5 - 3	06/11/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	30.3
FS14	1.5	06/11/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.02



**TABLE 1
SOIL ANALYTICAL RESULTS**

**POKER LAKE UNIT 23 DTD 108H
REMEDIATION PERMIT NUMBER 2RP-5287
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)
FS15	1.5	06/11/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	26.3
FS16	1.5	06/11/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	142
FS17	2.5	06/12/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	8.62
FS18	2.5	06/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.02
FS19	1 - 2.5	06/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	13.5
FS20	2.5 - 3.5	06/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	11.4
FS21	2.5 - 3.5	06/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	18.3	<15.0	18.3	18.3	<5.03
FS22	2	06/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	51.3
FS23	2.5 - 3.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	57.3
FS24	2.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	79.2
FS25	2.5	06/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	14.2
FS26	2.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	11.8
FS27	2.5	06/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
FS28	2.5	06/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	133
FS29	2.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	<4.98
FS30	2.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	24.9
FS31	2.5	06/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	21.2
FS32	2.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	31.0
FS33	2.5	06/14/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	17.0
FS34	2.5	06/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	49.4
FS35	2.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	38.3
FS36	2.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	5.09
FS37	2.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	20.1
FS38	2.5	06/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	13.0



**TABLE 1
SOIL ANALYTICAL RESULTS**

**POKER LAKE UNIT 23 DTD 108H
REMEDATION PERMIT NUMBER 2RP-5287
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
FS39	2.5	06/14/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	45.5
FS40	2.5	06/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	42.1
FS41	2.5	06/14/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	<4.96
FS42	2.5	06/14/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	684
FS43	2.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	44.2
SW01	0 - 3	06/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	14.1
SW02	0 - 2	06/11/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	27.0
SW03	0 - 2.5	06/12/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	19.0
SW04	0 - 2.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.05
SW05	0 - 2.5	06/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<4.98
SW06	0 - 2.5	06/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	7.46
SW07	0 - 2.5	06/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.7	<14.7	<14.7	<14.7	<14.7	<5.03
SW08	0 - 2.5	06/17/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	15.9
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

ORO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

mg/kg - milligrams per kilogram

TPH - total petroleum hydrocarbons

< - indicates result is below laboratory reporting limits

Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018

NE - not established





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	NAB1906733787
District RP	2 2RP-5287
Facility ID	
Application ID	pAB1906733313

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # (assigned by OCD) NAB1906733787
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.209372° Longitude -103.847022°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit 23 DTD 108H	Site Type Production Well Facility
Date Release Discovered 2/13/2019	API# (if applicable) 30-015-42452

Unit Letter	Section	Township	Range	County
A	23	24S	30E	Eddy

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

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

Cause of Release

Fluids were released to the right-of-way from the buried SWD line. Pumps were shut down until the line can be repaired and the cause of the line failure is being evaluated. Fluids remained on the right-of-way due to raised soil edges acting as a berm. An environmental contractor has been retained to assist with remediation efforts.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1906733787
District RP	2 2RP-5287
Facility ID	
Application ID	pAB1906733313

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of a volume of 25 barrels or more
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice provided by Bryan Foust to Mike Bratcher, Rob Hamlet, and Jim Griswold (NMOCD), Jim Amos and Deborah McKinney (BLM) on 2/13/2019 by email	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <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> Signature:  email: <u>Kyle_Littrell@xtoenergy.com</u>	Title: <u>SH&E Coordinator</u> Date: <u>2-26-19</u> Telephone: <u>432-221-7331</u>
OCD Only Received by:  Date: <u>3/8/2019</u>	

Incident ID	
District RP	2RP-5287
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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

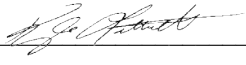
Characterization Report Checklist: Each of the following items must be included in the report. ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. ☒ Field data ☒ Data table of soil contaminant concentration data ☒ Depth to water determination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

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

Incident ID	
District RP	2RP-5287
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: _____ 09/13/2019 _____

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

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	2RP-5287
Facility ID	
Application ID	

Closure

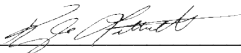
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled 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: 09/13/2019

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____





Salt crusting on soil surrounding the point of release during site assessment activities.

Project: 012919032	XTO Energy, Inc. Poker Lake Unit 23 DTD 108H	 <i>Advancing Opportunity</i>
March 7, 2019	Photographic Log	



Southern view of final excavation extent during confirmation soil sampling activities.

Project: 012919032	XTO Energy, Inc. Poker Lake Unit 23 DTD 108H	 <i>Advancing Opportunity</i>
June 17, 2019	Photographic Log	





LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PH01

Date:

6/7/19

Project Name:

PLU 23 DTD

RP Number:

2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: Hand Auger

Lat/Long:

32.2093671, -103.8469507

Field Screening:

PH / CI test strips

Hole Diameter:

2.5" x 5"

Total Depth:

4.5'

Comments:

CI test strips calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	<172.8	Ø	2	PH01	0	0.5'	SM	poorly graded, brown silt sand (m.) low plasticity, organic rich eg. roots
M		Ø			1	1.0	SM	
M		Ø			2	2	SM	
M		Ø			3	3	SM	
M		Ø		PH01A	4	4.5'	SM	
					5			Tot DEPTH
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PH02

Date:

6/6/19

Project Name:

PLU 23 DTD

RP Number:

2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: Hand Auger

Lat/Long:

32.2083963, -103.84705656

Field Screening:

PID / CI test strips

Hole Diameter:

2.5" x 5"

Total Depth:

4.5'

Comments:

CI test strips calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	<172.8	Ø	N	PH02	0			
M		Ø			0.5'	1	SM	poorly graded, brown silt sand (m.), low plasticity organic rich, eg. roots
M		Ø			1	2	SM	
M		Ø			2	3	SM	
M		Ø			3	4	SM	
M		Ø			4	4.5'	SM	
				PH02A				
					5			Tot Depth
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PH03

Date:

6/7/19

Project Name:

PLU 23 DTD

RP Number:

2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: ~~Hand Auger~~ TRACK HOE

Lat/Long:

32.20841422, -103.84676536

Field Screening:

PID / Cl⁻ test strips

Hole Diameter:

2.5" x 5'

Total Depth:

4.5'

Comments:

Cl⁻ test strips calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	179.2	Ø	NO	PH03	0	0.5'	sm	poorly graded, brown organic (mud) rich silt sand (m.), low plasticity
M		Ø			1	1	sm	
M		Ø			2	2	sm	
M		Ø			3	3	sm	
M		Ø			4	4	sm	
M		Ø		PH03A	4.5'	4.5'	sm	
					5			TOT DEPTH
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
ANALYTICAL SERVICESLT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PH04

Date:

6/6/19

Project Name:

PLU 23 DTD

RP Number:

2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: TRACK HOE

Lat/Long:

32.20852038, -103.84705725

Field Screening:

PID / CI⁻ test strips

Hole Diameter:

2.5' x 5'

Total Depth:

4.5'

Comments:

CI⁻ test strips calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	418.2	Ø	NO	PH04	0			
M		Ø			0.5	1	sm	poorly graded, brown organic rich silt sand (m.), low plasticity ↓
M		Ø			1	1	sm	
M		Ø			2	2	sm	
M		Ø			3	3	sm	
M		Ø			4			
M		Ø		PH04A	4.5'	4.5'	sm	
					5			TOT DEPTH
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PHOS

Date:

6/7/19

Project Name:

PLU 23 DTD

RP Number:

2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

32.20916173, -103.84695321

Field Screening:

PHD / CI- test strips

Logged By: A Byers

Method: ~~Hand~~ TRACK HOE

Hole Diameter:

2.5' x 5'

Total Depth:

4.5'

Comments:

CI- test strips calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	<178.2	Ø	No	PHOS	0	0.5'	SM	poorly graded, brown organic rich silt sand (m.), low plasticity ↓
M	↓	Ø	↓		1	1	SM	
M	↓	Ø	↓		2	2	SM	
M	↓	Ø	↓		3	3	SM	
M	↓	Ø	↓	PHOS A	4	4.5'	SM	
					5			TOT DEPTH
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PH06

Date:

6/6/19

Project Name:

PLU 23 DTD

RP Number:

2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

32.2081675, -103.8470659

Field Screening:

PID / CI- test strips

Logged By: A Byers

Method: TRACK HOE

Hole Diameter:

2.5" x 5"

Total Depth:

4.5'

Comments:

CI- test strips calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	148.2	Ø	NO	PH06	0			
M		Ø			0.5	0.5'	sm	poorly graded, brown organic rich silt sand (m.), low plasticity
M		Ø			1	1	sm	
M		Ø			2	2	sm	
M		Ø			3	3	sm	
M		Ø			4			
M		Ø		PH06A	4.5	4.5'	sm	
					5			TOT DEPTH
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PH07

Date:

6/7/19

Project Name:

PLU 23 DTD

RP Number:

2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: ~~Hand Auger~~ TRACK HOE

Hole Diameter:

2.5' x 5'

Total Depth:

4.5'

Lat/Long:

32.20879785, 103.8469646

Field Screening:

PID / CI⁻ test strips

Comments:

CI⁻ test strips calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	<178.2	Ø	NO	PH07	0			
M		Ø			0.5'	1	sm	poorly graded brown silt sand (m), organic rich (roots), low plasticity
M		Ø			1	2	sm	
M		Ø			2	3	sm	
M		Ø			3	4	sm	
M		Ø			4	4.5'	sm	
					5			Tot Depth
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:
PHOB

Date:
6/6/19

Project Name:
PLU 23 DTD

RP Number:
2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: *A Byers*

Method: ~~HITRACK HOE~~

Lat/Long:

32.20908815, -103.84705599

Field Screening:

PID / CI⁻ test strips

Hole Diameter:
2.5' x 5'

Total Depth:
4.5'

Comments:

CI⁻ test strips calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
m	178.2	Ø	ND	PHOB	0	0.5'	SM	poorly graded brown silt sand (m.), organic rich (roots), low plasticity ↓
m	↓	Ø	↓	↓	1	1	SM	
m	↓	Ø	↓	↓	2	2	SM	
m	↓	Ø	↓	↓	3	3	SM	
m	↓	Ø	↓	PHOB	4	4.5'	SM	
					5			TOT DEPTH
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:
PH09

Date:
6/7/19

Project Name:
PLU 23 DTD

RP Number:
2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: **A Byers**

Method: **TRACK HOE**

Lat/Long:

32.20848208 -103.84696914

Field Screening:

PID / CI⁻ test strips

Hole Diameter:

2.5' x 5'

Total Depth:

4.5'

Comments:

CI⁻ test strips calculated ppm with 60% error

Lithology/Remarks

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	<100.2	Ø	No	PH09	0			
M		Ø			0.5'	0.5'	sm	poorly graded silt sand (m), organic rich (roots), low plasticity ↓ Tot Depth
M		Ø			1	1	sm	
M		Ø			2	2	sm	
M		Ø			3	3	sm	
M		Ø		PH09A	4	4.5'	sm	
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:
PH10

Date:
6/10/19

Project Name:
PLU 23 DTD 1084

RP Number:
2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.20829492, -103.8470122
Field Screening: PID/C1- test strips

Logged By: AByers
Hole Diameter: 2.5'

Method: Hand Auger
Total Depth: 12'

Comments: 60% error calculated ppm C1-

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
M	172.8	Ø	NO			0.5	SM	poorly graded silt sand (m.), organic rich (roots), low plasticity
M	172.8	Ø			1	1	SM	
M	672	Ø			2	2	SM	
M	73884	Ø			3	3	SM	
M	73884	Ø			4			
				PH10	4.5		SM	
M	5129.16	Ø			5			
					6	6	SM	
					7			
D	73884	Ø			8	8	caliche	grey, poorly sorted sandy (c.) to gravel size grains
					9			
D	172.2	Ø		PH10A	10	10	SM	tan silt sand (m.), poorly sorted, no plasticity
Auger Refusal								caliche / hard rock
				PH10A	12	12		



Compliance · Engineering · Remediation

PH 11

6/12/19

PLU 23 DTD 108H

2RP-5287

Logged By: AByers

Method: Track Hoe

32.20947399, -103.84699848

PID / Cl^- test strips

2.5' x 5'

4.5'

60% calc ppm (Cl^-)~~ab~~



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PH12

Date:

6/12/19

Project Name:

PLU 23 DTD 108 H

RP Number:

22P-5287

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: Track Hoe

Lat/Long:

32.20943038, -108.94716417

Field Screening:

PD / Cl⁻ test strips

Hole Diameter:

2.5' x 5'

Total Depth:

4.5'

Comments:

60% error calculated Cl⁻ ppm

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	192.8	Ø	No	PH12	0			
M		Ø			1	0.5'	SM	brown poorly graded silt sand (m.), low plasticity
D		Ø			2	2	SM	" brown poorly graded silt sand (m.), no plasticity
D		Ø			3	3	SM	
D		Ø		PH12A	4	4.5'	SM	
					5			TOT DEPTH
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PH13

Date:

6/17/19

Project Name:

PLU 23 DTD 108H

RP Number:

2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

32.20907428, -105.8475902

Field Screening:

PID / CI test strips

Logged By: A Byers

Method: Hand Auger

Hole Diameter:

2.5"

Total Depth:

4.5'

Comments:

60% error calc CI ppm

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
					1			
					2			excavated
Ⓚ	<192.8	Ⓚ	NO PH3		3	3'	SM	poorly graded, brown silt sand(m.), no plasticity, roots
Ⓚ	<192.8	Ⓚ	↓ PH3A		4		SM	
					4.5'			TOT DEPTH
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PM14

Date:

6/17/19

Project Name:

PLU23DWD 108H

RP Number:

2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

32.20880555, -103.84713583

Field Screening:

PID / Cl⁻ test strips

Logged By: A. Byers

Hole Diameter:

2.5"

Method: Hand Auger

Total Depth:

4.5'

Comments:

60% calc ppm(Cl⁻)

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
					1			
					2			excavated
M	<192.8	Ø	NO	PM14	3	3'	SM	partly graded brown silt sand(m), no plasticity
D	<192.8	Ø	NO	PM14A	4			
					4.5'		SM	↓
					5			TOT DEPTH
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PH15

Date:

6/17/19

Project Name:

PLU 23 DTD 108 H

RP Number:

2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: J. Byers

Method: Hand Auger

Lat/Long:

32.20842744, -103.8474075

Field Screening:

PID/C1-test strips

Hole Diameter:

2.5"

Total Depth:

4.5'

Comments:

60% error calc ppm(C1-)

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
					1			
					2			excavated
D	<192.8	Ø	NO	PH15	3	3'	SM	brown poorly graded siltsand(m), no plasticity, roots
					4			
D	<192.8	Ø	NO	PH15A	4.5'	4.5'	SM	↓
					5			TOT DEPTH
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PH16

Date:

6/17/19

Project Name:

PLU 23DID 1084

RP Number:

2RP-5287

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: Track Hoe

Lat/Long:

32.20632074, -103.8467299

Field Screening:

PID/C1- test strips

Hole Diameter:

2.5' x 5'

Total Depth:

4.5'

Comments:

100% error ppm (C1) scale

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	192.8	Ø	NO	PH16	0	0.5'	SM	brown poorly graded silt sand(m.),
M		Ø			1	1	SM	" low plasticity, roots
D		Ø			2	2	SM	brown poorly graded silt sand(m.),
D		Ø			3	3	SM	no plasticity, roots
D		Ø		PH16A	4	4.5'	SM	
TOT DEPTH								



Analytical Report 617314

for
LT Environmental, Inc.

Project Manager: Adrian Baker

Dogtown

012919032

18-MAR-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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

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

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



18-MAR-19

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **617314**

Dogtown

Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 617314. 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. 617314 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kalei Stout

Midland Laboratory Director

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

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



Sample Cross Reference 617314



LT Environmental, Inc., Arvada, CO

Dogtown

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	03-07-19 14:20	0.5	617314-001
SS02	S	03-07-19 14:25	0.5	617314-002



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *Dogtown*

Project ID: 012919032
Work Order Number(s): 617314

Report Date: 18-MAR-19
Date Received: 03/12/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3082424 BTEX by EPA 8021B

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

Samples affected are: 617310-006 SD.

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



Certificate of Analysis Summary 617314

LT Environmental, Inc., Arvada, CO

Project Name: Dogtown



Project Id: 012919032
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Tue Mar-12-19 12:05 pm
Report Date: 18-MAR-19
Project Manager: Kalei Stout

Analysis Requested	Lab Id:	617314-001	617314-002				
	Field Id:	SS01	SS02				
	Depth:	0.5-	0.5-				
	Matrix:	SOIL	SOIL				
	Sampled:	Mar-07-19 14:20	Mar-07-19 14:25				
BTEX by EPA 8021B	Extracted:	Mar-15-19 15:00	Mar-15-19 15:00				
	Analyzed:	Mar-16-19 21:35	Mar-16-19 21:54				
	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				
Inorganic Anions by EPA 300	Extracted:	Mar-13-19 10:00	Mar-13-19 10:00				
	Analyzed:	Mar-13-19 17:06	Mar-13-19 17:17				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		5580 49.9	5400 49.8				
TPH by SW8015 Mod	Extracted:	Mar-15-19 17:00	Mar-15-19 17:00				
	Analyzed:	Mar-16-19 01:36	Mar-16-19 02:34				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0				
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0				
Total TPH		<15.0 15.0	<15.0 15.0				

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

Kalei Stout
Midland Laboratory Director



Certificate of Analytical Results 617314



LT Environmental, Inc., Arvada, CO

Dogtown

Sample Id: **SS01**
Lab Sample Id: 617314-001

Matrix: Soil
Date Collected: 03.07.19 14.20

Date Received: 03.12.19 12.05
Sample Depth: 0.5

Analytical Method: Inorganic Anions by EPA 300
Tech: SPC
Analyst: SPC
Seq Number: 3082058

Date Prep: 03.13.19 10.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5580	49.9	mg/kg	03.13.19 17.06		10

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3082336

Date Prep: 03.15.19 17.00

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	03.16.19 01.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.16.19 01.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.16.19 01.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.16.19 01.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	95	%	70-135	03.16.19 01.36		
o-Terphenyl	84-15-1	93	%	70-135	03.16.19 01.36		



Certificate of Analytical Results 617314



LT Environmental, Inc., Arvada, CO

Dogtown

Sample Id: **SS01**
Lab Sample Id: 617314-001

Matrix: Soil
Date Collected: 03.07.19 14.20

Date Received: 03.12.19 12.05
Sample Depth: 0.5

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3082424

Prep Method: SW5030B

% Moisture:

Date Prep: 03.15.19 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.16.19 21.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.16.19 21.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.16.19 21.35	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.16.19 21.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.16.19 21.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.16.19 21.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.16.19 21.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	03.16.19 21.35		
4-Bromofluorobenzene	460-00-4	118	%	70-130	03.16.19 21.35		



Certificate of Analytical Results 617314



LT Environmental, Inc., Arvada, CO

Dogtown

Sample Id: SS02
Lab Sample Id: 617314-002

Matrix: Soil
Date Collected: 03.07.19 14.25

Date Received: 03.12.19 12.05
Sample Depth: 0.5

Analytical Method: Inorganic Anions by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3082058

Date Prep: 03.13.19 10.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5400	49.8	mg/kg	03.13.19 17.17		10

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3082336

Date Prep: 03.15.19 17.00

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	03.16.19 02.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.16.19 02.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.16.19 02.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.16.19 02.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	03.16.19 02.34	
o-Terphenyl	84-15-1	100	%	70-135	03.16.19 02.34	



Certificate of Analytical Results 617314



LT Environmental, Inc., Arvada, CO

Dogtown

Sample Id: SS02
Lab Sample Id: 617314-002

Matrix: Soil
Date Collected: 03.07.19 14.25

Date Received: 03.12.19 12.05
Sample Depth: 0.5

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3082424

Date Prep: 03.15.19 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	03.16.19 21.54	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.16.19 21.54	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.16.19 21.54	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.16.19 21.54	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.16.19 21.54	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.16.19 21.54	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.16.19 21.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	130	%	70-130	03.16.19 21.54		
1,4-Difluorobenzene	540-36-3	105	%	70-130	03.16.19 21.54		

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit

SQL Method Quantitation Limit

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample

BLK

Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample

BKSD/LCSD

Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate

MS

Matrix Spike

MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



QC Summary 617314

LT Environmental, Inc. Dogtown

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3082058

MB Sample Id: 7673476-1-BLK

Matrix: Solid

LCS Sample Id: 7673476-1-BKS

Prep Method: E300P

Date Prep: 03.13.19

LCSD Sample Id: 7673476-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.883	250	266	106	272	109	90-110	2	20	mg/kg	03.13.19 12:08	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3082058

Parent Sample Id: 617310-004

Matrix: Soil

MS Sample Id: 617310-004 S

Prep Method: E300P

Date Prep: 03.13.19

MSD Sample Id: 617310-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.64	249	269	107	270	107	90-110	0	20	mg/kg	03.13.19 12:40	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3082058

Parent Sample Id: 617311-007

Matrix: Soil

MS Sample Id: 617311-007 S

Prep Method: E300P

Date Prep: 03.13.19

MSD Sample Id: 617311-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.01	249	269	108	269	108	90-110	0	20	mg/kg	03.13.19 15:09	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3082336

MB Sample Id: 7673700-1-BLK

Matrix: Solid

LCS Sample Id: 7673700-1-BKS

Prep Method: TX1005P

Date Prep: 03.15.19

LCSD Sample Id: 7673700-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	948	95	980	98	70-135	3	20	mg/kg	03.16.19 00:57	
Diesel Range Organics (DRO)	<8.13	1000	936	94	981	98	70-135	5	20	mg/kg	03.16.19 00:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		114		112		70-135	%	03.16.19 00:57
o-Terphenyl	110		97		96		70-135	%	03.16.19 00:57

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



QC Summary 617314

LT Environmental, Inc. Downtown

Analytical Method: TPH by SW8015 Mod

Seq Number: 3082336

Parent Sample Id: 617314-001

Matrix: Soil

MS Sample Id: 617314-001 S

Prep Method: TX1005P

Date Prep: 03.15.19

MSD Sample Id: 617314-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	968	97	964	97	70-135	0	20	mg/kg	03.16.19 01:55	
Diesel Range Organics (DRO)	<8.12	999	972	97	949	95	70-135	2	20	mg/kg	03.16.19 01:55	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		110		70-135	%	03.16.19 01:55
o-Terphenyl	93		94		70-135	%	03.16.19 01:55

Analytical Method: BTEX by EPA 8021B

Seq Number: 3082424

MB Sample Id: 7673758-1-BLK

Matrix: Solid

LCS Sample Id: 7673758-1-BKS

Prep Method: SW5030B

Date Prep: 03.15.19

LCSD Sample Id: 7673758-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0994	0.101	102	0.0952	95	70-130	6	35	mg/kg	03.16.19 13:25	
Toluene	<0.000453	0.0994	0.106	107	0.102	102	70-130	4	35	mg/kg	03.16.19 13:25	
Ethylbenzene	<0.000561	0.0994	0.0959	96	0.0930	93	70-130	3	35	mg/kg	03.16.19 13:25	
m,p-Xylenes	<0.00101	0.199	0.184	92	0.179	90	70-130	3	35	mg/kg	03.16.19 13:25	
o-Xylene	<0.000342	0.0994	0.0956	96	0.0925	93	70-130	3	35	mg/kg	03.16.19 13:25	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		104		101		70-130	%	03.16.19 13:25
4-Bromofluorobenzene	104		104		102		70-130	%	03.16.19 13:25

Analytical Method: BTEX by EPA 8021B

Seq Number: 3082424

Parent Sample Id: 617310-006

Matrix: Soil

MS Sample Id: 617310-006 S

Prep Method: SW5030B

Date Prep: 03.15.19

MSD Sample Id: 617310-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000461	0.100	0.0909	90	0.0436	43	70-130	70	35	mg/kg	03.16.19 14:03	XF
Toluene	0.00121	0.100	0.0952	94	0.0621	61	70-130	42	35	mg/kg	03.16.19 14:03	XF
Ethylbenzene	<0.000565	0.100	0.0895	90	0.0729	73	70-130	20	35	mg/kg	03.16.19 14:03	
m,p-Xylenes	<0.00101	0.200	0.171	86	0.148	74	70-130	14	35	mg/kg	03.16.19 14:03	
o-Xylene	0.000441	0.100	0.0887	88	0.0736	73	70-130	19	35	mg/kg	03.16.19 14:03	

Surrogate

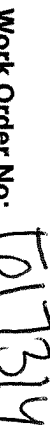
	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		124		70-130	%	03.16.19 14:03
4-Bromofluorobenzene	107		216	**	70-130	%	03.16.19 14:03

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



www.yancco.com Page 1 of 1

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Little
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTG - Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad N/A
Phone:	432.704.5178	Email:	mcaffu@ltenv.com

Work Order Comments			
Program: UST/PST	☐ RP	☐ rownfields	☐ C ☐ pfund ☐
State of Project:			
Reporting Level II	☐ Level III	☐ B7/UST	☐ RP ☐ vel IV ☐
Deliverables: EDD	☐	ADAPT	☐ Other:

[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	Mg	Mn	Mo	Ni	K	Se	Ag	SiO2	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	Ti	U													
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 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.																																	
1631 / 245.1 / 7470 / 7471 : Hg																																	

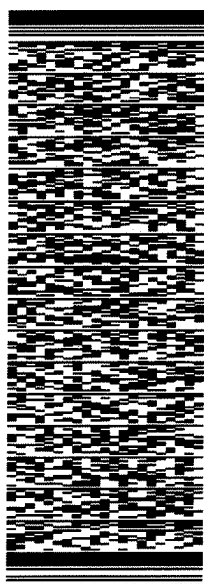
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
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3 		4	4 		1:00 PM
5		6			

Revised Date 05/14/18 Rev. 2018.

ORIGIN ID:CAOA (575) 887-6245
XENCO
PAC N MAIL
910 W PIERCE ST
CARLSBAD, NM 88220
UNITED STATES US
SHIP DATE: 11MAR19
ACTWGT: 38.00 LB
CAD: 101813706/NET4100
DIMS: 26x14x15 IN
BILL RECIPIENT

TO HOLD FOR XENCO
FEDEX EXPRESS SHIP CENTER
FEDEX SHIP CENTER
3600 COUNTY RD 1276 S

MIDLAND TX 79711
(806) 794-1296
REF:
INV:
PO:
DEPT:



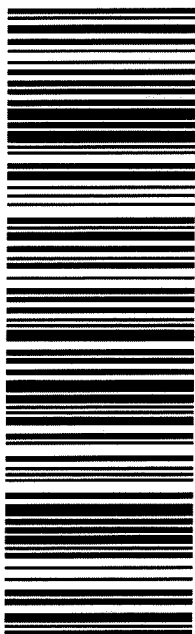
J181813706/NET4100

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

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

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



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 03/12/2019 12:05:00 PM

Work Order #: 617314

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Brianna Teel

Date: 03/12/2019

Checklist reviewed by:

Jessica Kramer

Jessica Kramer

Date: 03/12/2019

Analytical Report 627517

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108 H

012919032

14-JUN-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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

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

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



14-JUN-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **627517**

PLU 23 DTD 108 H

Project Address: Delaware Basin

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) 627517. 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. 627517 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Assistant

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



Sample Cross Reference 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	06-07-19 09:00	0.5 ft	627517-001
PH01A	S	06-07-19 09:20	4.5 ft	627517-002
PH02	S	06-06-19 09:50	0.5 ft	627517-003
PH02A	S	06-06-19 10:10	4.5 ft	627517-004
PH03	S	06-07-19 14:05	0.5 ft	627517-005
PH03A	S	06-07-19 14:25	4.5 ft	627517-006
PH04	S	06-06-19 10:30	0.5 ft	627517-007
PH04A	S	06-06-19 10:50	5.5 ft	627517-008
PH05	S	06-07-19 09:35	0.5 ft	627517-009
PH05A	S	06-06-19 11:30	4.5 ft	627517-010
PH06	S	06-06-19 11:50	0.5 ft	627517-011
PH06A	S	06-07-19 10:25	4.5 ft	627517-012
PH07	S	06-07-19 10:25	0.5 ft	627517-013
PH07A	S	06-07-19 10:45	4.5 ft	627517-014
PH08	S	06-06-19 13:10	0.5 ft	627517-015
PH08A	S	06-06-19 13:30	4.5 ft	627517-016
PH09	S	06-07-19 13:35	0.5 ft	627517-017
PH09A	S	06-07-19 12:55	4.5 ft	627517-018



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 23 DTD 108 H*

Project ID: 012919032
Work Order Number(s): 627517

Report Date: 14-JUN-19
Date Received: 06/13/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3092321 BTEX by EPA 8021B

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

Samples affected are: 627517-003.

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



Certificate of Analysis Summary 627517

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Thu Jun-13-19 11:20 am
Report Date: 14-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627517-001	627517-002	627517-003	627517-004	627517-005	627517-006
	<i>Field Id:</i>	PH01	PH01A	PH02	PH02A	PH03	PH03A
	<i>Depth:</i>	0.5- ft	4.5- ft	0.5- ft	4.5- ft	0.5- ft	4.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-07-19 09:00	Jun-07-19 09:20	Jun-06-19 09:50	Jun-06-19 10:10	Jun-07-19 14:05	Jun-07-19 14:25
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00
	<i>Analyzed:</i>	Jun-13-19 13:53	Jun-13-19 14:12	Jun-13-19 14:31	Jun-14-19 15:01	Jun-13-19 15:09	Jun-13-19 15:28
	<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	<0.00201 0.00201	<0.00199 0.00199	0.00310 0.00200	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	0.00406 0.00200	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	0.00566 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00398 0.00398	0.0114 0.00400	<0.00401 0.00401	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	0.00643 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	0.0178 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	0.0307 0.00200	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jun-13-19 15:20	Jun-13-19 15:20	Jun-13-19 15:20	Jun-13-19 15:20	Jun-13-19 15:20	Jun-13-19 15:20
	<i>Analyzed:</i>	Jun-13-19 21:40	Jun-13-19 22:02	Jun-13-19 22:09	Jun-13-19 22:31	Jun-13-19 22:38	Jun-13-19 22:45
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.00 5.00	<5.03 5.03	5.67 4.97	<5.00 5.00	<4.99 4.99	<4.97 4.97
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00
	<i>Analyzed:</i>	Jun-14-19 01:03	Jun-14-19 02:16	Jun-14-19 02:41	Jun-14-19 03:05	Jun-14-19 03:30	Jun-14-19 03:54
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<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
Total GRO-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

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 627517

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Thu Jun-13-19 11:20 am
Report Date: 14-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627517-007	627517-008	627517-009	627517-010	627517-011	627517-012
	<i>Field Id:</i>	PH04	PH04A	PH05	PH05A	PH06	PH06A
	<i>Depth:</i>	0.5- ft	5.5- ft	0.5- ft	4.5- ft	0.5- ft	4.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-06-19 10:30	Jun-06-19 10:50	Jun-07-19 09:35	Jun-06-19 11:30	Jun-06-19 11:50	Jun-07-19 10:25
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00
	<i>Analyzed:</i>	Jun-13-19 15:47	Jun-13-19 16:06	Jun-13-19 17:27	Jun-13-19 17:46	Jun-13-19 18:05	Jun-13-19 18:24
	<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	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00400 0.00400	<0.00401 0.00401	<0.00402 0.00402	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Jun-13-19 15:20	Jun-13-19 15:20	Jun-13-19 15:20	Jun-13-19 15:20	Jun-13-19 15:45	Jun-13-19 15:45
	<i>Analyzed:</i>	Jun-13-19 22:53	Jun-13-19 23:00	Jun-13-19 23:07	Jun-13-19 23:14	Jun-13-19 23:58	Jun-14-19 00:20
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<4.95 4.95	28.6 4.95	<5.04 5.04	<5.00 5.00	9.54 5.00	<5.05 5.05
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00
	<i>Analyzed:</i>	Jun-14-19 04:19	Jun-14-19 04:43	Jun-14-19 05:08	Jun-14-19 05:32	Jun-14-19 06:22	Jun-14-19 06:46
	<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)		<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
Motor Oil Range Hydrocarbons (MRO)		<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
Total GRO-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

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 627517

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Thu Jun-13-19 11:20 am
Report Date: 14-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627517-013	627517-014	627517-015	627517-016	627517-017	627517-018
	<i>Field Id:</i>	PH07	PH07A	PH08	PH08A	PH09	PH09A
	<i>Depth:</i>	0.5- ft	4.5- ft	0.5- ft	4.5- ft	0.5- ft	4.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-07-19 10:25	Jun-07-19 10:45	Jun-06-19 13:10	Jun-06-19 13:30	Jun-07-19 13:35	Jun-07-19 12:55
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00	Jun-13-19 13:00
	<i>Analyzed:</i>	Jun-13-19 18:43	Jun-13-19 19:02	Jun-13-19 19:21	Jun-13-19 19:40	Jun-13-19 19:59	Jun-13-19 20:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00400 0.00400	<0.00402 0.00402	<0.00399 0.00399	<0.00401 0.00401
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jun-13-19 15:45	Jun-13-19 15:45	Jun-13-19 15:45	Jun-13-19 15:45	Jun-13-19 15:45	Jun-13-19 15:45
	<i>Analyzed:</i>	Jun-14-19 00:27	Jun-14-19 00:34	Jun-14-19 00:41	Jun-14-19 01:03	Jun-14-19 01:10	Jun-14-19 01:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		31.4 4.96	47.3 5.02	19.2 4.99	14.8 5.00	<5.00 5.00	128 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00	Jun-13-19 15:00
	<i>Analyzed:</i>	Jun-14-19 07:11	Jun-14-19 07:35	Jun-14-19 08:00	Jun-14-19 08:25	Jun-14-19 08:49	Jun-14-19 09:14
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total TPH		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH01**
Lab Sample Id: 627517-001

Matrix: Soil
Date Collected: 06.07.19 09.00

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092257

Date Prep: 06.13.19 15.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	06.13.19 21.40	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 01.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 01.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 01.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 01.03	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 01.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	06.14.19 01.03	
o-Terphenyl	84-15-1	95	%	70-135	06.14.19 01.03	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH01**
Lab Sample Id: 627517-001

Matrix: Soil
Date Collected: 06.07.19 09.00

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

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	06.13.19 13.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 13.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 13.53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.13.19 13.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 13.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 13.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 13.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	06.13.19 13.53		
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.13.19 13.53		



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH01A**
Lab Sample Id: 627517-002

Matrix: Soil
Date Collected: 06.07.19 09.20

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092257

Date Prep: 06.13.19 15.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.03	5.03	mg/kg	06.13.19 22.02	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 02.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 02.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 02.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 02.16	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 02.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	06.14.19 02.16	
o-Terphenyl	84-15-1	88	%	70-135	06.14.19 02.16	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH01A**
Lab Sample Id: 627517-002

Matrix: Soil
Date Collected: 06.07.19 09.20

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.13.19 14.12	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.13.19 14.12	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.13.19 14.12	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.13.19 14.12	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.13.19 14.12	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.13.19 14.12	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.13.19 14.12	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		92	%	70-130	06.13.19 14.12	
4-Bromofluorobenzene	460-00-4		114	%	70-130	06.13.19 14.12	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH02**
Lab Sample Id: 627517-003

Matrix: Soil
Date Collected: 06.06.19 09.50

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092257

Date Prep: 06.13.19 15.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.67	4.97	mg/kg	06.13.19 22.09		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 02.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 02.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 02.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 02.41	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 02.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	06.14.19 02.41	
o-Terphenyl	84-15-1	78	%	70-135	06.14.19 02.41	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH02**
Lab Sample Id: 627517-003

Matrix: Soil
Date Collected: 06.06.19 09.50

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.13.19 14.31	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.13.19 14.31	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.13.19 14.31	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.13.19 14.31	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.13.19 14.31	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.13.19 14.31	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.13.19 14.31	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		94	%	70-130	06.13.19 14.31	
4-Bromofluorobenzene	460-00-4		135	%	70-130	06.13.19 14.31	**



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH02A**
Lab Sample Id: 627517-004

Matrix: Soil
Date Collected: 06.06.19 10.10

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092257

Date Prep: 06.13.19 15.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	06.13.19 22.31	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 03.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 03.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 03.05	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 03.05	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 03.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	06.14.19 03.05	
o-Terphenyl	84-15-1	84	%	70-135	06.14.19 03.05	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH02A**
Lab Sample Id: 627517-004

Matrix: Soil
Date Collected: 06.06.19 10.10

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00310	0.00200	mg/kg	06.14.19 15.01		1
Toluene	108-88-3	0.00406	0.00200	mg/kg	06.14.19 15.01		1
Ethylbenzene	100-41-4	0.00566	0.00200	mg/kg	06.14.19 15.01		1
m,p-Xylenes	179601-23-1	0.0114	0.00400	mg/kg	06.14.19 15.01		1
o-Xylene	95-47-6	0.00643	0.00200	mg/kg	06.14.19 15.01		1
Total Xylenes	1330-20-7	0.0178	0.00200	mg/kg	06.14.19 15.01		1
Total BTEX		0.0307	0.00200	mg/kg	06.14.19 15.01		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.14.19 15.01		
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.14.19 15.01		



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH03**
Lab Sample Id: 627517-005

Matrix: Soil
Date Collected: 06.07.19 14.05

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092257

Date Prep: 06.13.19 15.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	06.13.19 22.38	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 03.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 03.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 03.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 03.30	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 03.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	06.14.19 03.30	
o-Terphenyl	84-15-1	93	%	70-135	06.14.19 03.30	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH03**
Lab Sample Id: 627517-005

Matrix: Soil
Date Collected: 06.07.19 14.05

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

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	06.13.19 15.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 15.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 15.09	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.13.19 15.09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 15.09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 15.09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 15.09	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4		114	%	70-130	06.13.19 15.09	
1,4-Difluorobenzene	540-36-3		93	%	70-130	06.13.19 15.09	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH03A**
Lab Sample Id: 627517-006

Matrix: Soil
Date Collected: 06.07.19 14.25

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092257

Date Prep: 06.13.19 15.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	06.13.19 22.45	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 03.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 03.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 03.54	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 03.54	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 03.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	06.14.19 03.54	
o-Terphenyl	84-15-1	80	%	70-135	06.14.19 03.54	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH03A**
Lab Sample Id: 627517-006

Matrix: Soil
Date Collected: 06.07.19 14.25

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

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	06.13.19 15.28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 15.28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 15.28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.13.19 15.28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 15.28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 15.28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 15.28	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		94	%	70-130	06.13.19 15.28	
4-Bromofluorobenzene	460-00-4		106	%	70-130	06.13.19 15.28	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH04**
Lab Sample Id: 627517-007

Matrix: Soil
Date Collected: 06.06.19 10.30

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092257

Date Prep: 06.13.19 15.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	06.13.19 22.53	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 04.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 04.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 04.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 04.19	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 04.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	06.14.19 04.19	
o-Terphenyl	84-15-1	79	%	70-135	06.14.19 04.19	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH04**
Lab Sample Id: 627517-007

Matrix: Soil
Date Collected: 06.06.19 10.30

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.13.19 15.47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.13.19 15.47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.13.19 15.47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.13.19 15.47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.13.19 15.47	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.13.19 15.47	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.13.19 15.47	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		94	%	70-130	06.13.19 15.47	
4-Bromofluorobenzene	460-00-4		110	%	70-130	06.13.19 15.47	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH04A**
Lab Sample Id: 627517-008

Matrix: Soil
Date Collected: 06.06.19 10.50

Date Received: 06.13.19 11.20
Sample Depth: 5.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092257

Date Prep: 06.13.19 15.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.6	4.95	mg/kg	06.13.19 23.00		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 04.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 04.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 04.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 04.43	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 04.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	06.14.19 04.43	
o-Terphenyl	84-15-1	90	%	70-135	06.14.19 04.43	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH04A**
Lab Sample Id: 627517-008

Matrix: Soil
Date Collected: 06.06.19 10.50

Date Received: 06.13.19 11.20
Sample Depth: 5.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

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	06.13.19 16.06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 16.06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 16.06	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.13.19 16.06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 16.06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 16.06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 16.06	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		95	%	70-130	06.13.19 16.06	
4-Bromofluorobenzene	460-00-4		110	%	70-130	06.13.19 16.06	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH05**
Lab Sample Id: 627517-009

Matrix: Soil
Date Collected: 06.07.19 09.35

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092257

Date Prep: 06.13.19 15.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.04	5.04	mg/kg	06.13.19 23.07	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 05.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 05.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 05.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 05.08	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 05.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	06.14.19 05.08	
o-Terphenyl	84-15-1	92	%	70-135	06.14.19 05.08	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH05**
Lab Sample Id: 627517-009

Matrix: Soil
Date Collected: 06.07.19 09.35

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

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	06.13.19 17.27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 17.27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 17.27	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.13.19 17.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 17.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 17.27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 17.27	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		93	%	70-130	06.13.19 17.27	
4-Bromofluorobenzene	460-00-4		105	%	70-130	06.13.19 17.27	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH05A**
Lab Sample Id: 627517-010

Matrix: Soil
Date Collected: 06.06.19 11.30

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092257

Date Prep: 06.13.19 15.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	06.13.19 23.14	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 05.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 05.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 05.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 05.32	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 05.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	131	%	70-135	06.14.19 05.32	
o-Terphenyl	84-15-1	100	%	70-135	06.14.19 05.32	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH05A**
Lab Sample Id: 627517-010

Matrix: Soil
Date Collected: 06.06.19 11.30

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.13.19 17.46	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.13.19 17.46	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.13.19 17.46	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.13.19 17.46	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.13.19 17.46	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.13.19 17.46	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.13.19 17.46	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		89	%	70-130	06.13.19 17.46	
4-Bromofluorobenzene	460-00-4		116	%	70-130	06.13.19 17.46	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH06**
Lab Sample Id: 627517-011

Matrix: Soil
Date Collected: 06.06.19 11.50

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092271

Date Prep: 06.13.19 15.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.54	5.00	mg/kg	06.13.19 23.58		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 06.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 06.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 06.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 06.22	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 06.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	06.14.19 06.22	
o-Terphenyl	84-15-1	87	%	70-135	06.14.19 06.22	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH06**
Lab Sample Id: 627517-011

Matrix: Soil
Date Collected: 06.06.19 11.50

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

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	06.13.19 18.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 18.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 18.05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.13.19 18.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 18.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 18.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 18.05	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105		%	70-130	06.13.19 18.05	
1,4-Difluorobenzene	540-36-3	94		%	70-130	06.13.19 18.05	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH06A**
Lab Sample Id: 627517-012

Matrix: Soil
Date Collected: 06.07.19 10.25

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092271

Date Prep: 06.13.19 15.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.05	5.05	mg/kg	06.14.19 00.20	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 06.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 06.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 06.46	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 06.46	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 06.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	06.14.19 06.46	
o-Terphenyl	84-15-1	90	%	70-135	06.14.19 06.46	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH06A**
Lab Sample Id: 627517-012

Matrix: Soil
Date Collected: 06.07.19 10.25

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.13.19 18.24	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.13.19 18.24	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.13.19 18.24	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.13.19 18.24	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.13.19 18.24	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.13.19 18.24	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.13.19 18.24	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		94	%	70-130	06.13.19 18.24	
4-Bromofluorobenzene	460-00-4		106	%	70-130	06.13.19 18.24	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH07**
Lab Sample Id: 627517-013

Matrix: Soil
Date Collected: 06.07.19 10.25

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092271

Date Prep: 06.13.19 15.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.4	4.96	mg/kg	06.14.19 00.27		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 07.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 07.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 07.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 07.11	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 07.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	06.14.19 07.11	
o-Terphenyl	84-15-1	91	%	70-135	06.14.19 07.11	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH07**
Lab Sample Id: 627517-013

Matrix: Soil
Date Collected: 06.07.19 10.25

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

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	06.13.19 18.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 18.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 18.43	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.13.19 18.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 18.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 18.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 18.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	06.13.19 18.43		
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.13.19 18.43		



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH07A**
Lab Sample Id: 627517-014

Matrix: Soil
Date Collected: 06.07.19 10.45

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092271

Date Prep: 06.13.19 15.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	47.3	5.02	mg/kg	06.14.19 00.34		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.14.19 07.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.14.19 07.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	06.14.19 07.35	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.14.19 07.35	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	06.14.19 07.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	06.14.19 07.35	
o-Terphenyl	84-15-1	88	%	70-135	06.14.19 07.35	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH07A**
Lab Sample Id: 627517-014

Matrix: Soil
Date Collected: 06.07.19 10.45

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.13.19 19.02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.13.19 19.02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.13.19 19.02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.13.19 19.02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.13.19 19.02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.13.19 19.02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.13.19 19.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	06.13.19 19.02		
1,4-Difluorobenzene	540-36-3	96	%	70-130	06.13.19 19.02		



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH08**
Lab Sample Id: 627517-015

Matrix: Soil
Date Collected: 06.06.19 13.10

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092271

Date Prep: 06.13.19 15.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.2	4.99	mg/kg	06.14.19 00.41		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 08.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 08.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 08.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 08.00	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 08.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	06.14.19 08.00	
o-Terphenyl	84-15-1	94	%	70-135	06.14.19 08.00	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH08**
Lab Sample Id: 627517-015

Matrix: Soil
Date Collected: 06.06.19 13.10

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

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	06.13.19 19.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 19.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 19.21	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.13.19 19.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 19.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 19.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 19.21	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		96	%	70-130	06.13.19 19.21	
4-Bromofluorobenzene	460-00-4		109	%	70-130	06.13.19 19.21	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH08A**
Lab Sample Id: 627517-016

Matrix: Soil
Date Collected: 06.06.19 13.30

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092271

Date Prep: 06.13.19 15.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.8	5.00	mg/kg	06.14.19 01.03		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 08.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 08.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 08.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 08.25	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 08.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	06.14.19 08.25	
o-Terphenyl	84-15-1	104	%	70-135	06.14.19 08.25	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH08A**
Lab Sample Id: 627517-016

Matrix: Soil
Date Collected: 06.06.19 13.30

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.13.19 19.40	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.13.19 19.40	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.13.19 19.40	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.13.19 19.40	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.13.19 19.40	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.13.19 19.40	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.13.19 19.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.13.19 19.40		
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.13.19 19.40		



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH09**
Lab Sample Id: 627517-017

Matrix: Soil
Date Collected: 06.07.19 13.35

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092271

Date Prep: 06.13.19 15.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	06.14.19 01.10	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.14.19 08.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.14.19 08.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	06.14.19 08.49	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.14.19 08.49	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	06.14.19 08.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	06.14.19 08.49	
o-Terphenyl	84-15-1	103	%	70-135	06.14.19 08.49	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH09**
Lab Sample Id: 627517-017

Matrix: Soil
Date Collected: 06.07.19 13.35

Date Received: 06.13.19 11.20
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

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	06.13.19 19.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 19.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 19.59	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.13.19 19.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 19.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 19.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 19.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	06.13.19 19.59		
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.13.19 19.59		



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH09A**
Lab Sample Id: 627517-018

Matrix: Soil
Date Collected: 06.07.19 12.55

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092271

Date Prep: 06.13.19 15.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	128	5.00	mg/kg	06.14.19 01.18		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092270

Date Prep: 06.13.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.14.19 09.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.14.19 09.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.14.19 09.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.14.19 09.14	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.14.19 09.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	06.14.19 09.14	
o-Terphenyl	84-15-1	82	%	70-135	06.14.19 09.14	



Certificate of Analytical Results 627517



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH09A**
Lab Sample Id: 627517-018

Matrix: Soil
Date Collected: 06.07.19 12.55

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092321

Date Prep: 06.13.19 13.00

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	06.13.19 20.18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 20.18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 20.18	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.13.19 20.18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 20.18	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 20.18	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 20.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	06.13.19 20.18		
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.13.19 20.18		

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit

MQL Method Quantitation Limit

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample

BLK

Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample

BKSD/LCSD

Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate

MS

Matrix Spike

MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



QC Summary 627517

LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: Chloride by EPA 300

Seq Number: 3092257

MB Sample Id: 7679883-1-BLK

Matrix: Solid

LCS Sample Id: 7679883-1-BKS

Prep Method: E300P

Date Prep: 06.13.19

LCSD Sample Id: 7679883-1-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	239	96	239	96	90-110	0	20	mg/kg	06.13.19 19:44	

Analytical Method: Chloride by EPA 300

Seq Number: 3092271

MB Sample Id: 7679884-1-BLK

Matrix: Solid

LCS Sample Id: 7679884-1-BKS

Prep Method: E300P

Date Prep: 06.13.19

LCSD Sample Id: 7679884-1-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	243	97	242	97	90-110	0	20	mg/kg	06.13.19 23:43	

Analytical Method: Chloride by EPA 300

Seq Number: 3092257

Parent Sample Id: 627517-001

Matrix: Soil

MS Sample Id: 627517-001 S

Prep Method: E300P

Date Prep: 06.13.19

MSD Sample Id: 627517-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.70	250	248	98	248	98	90-110	0	20	mg/kg	06.13.19 21:47	

Analytical Method: Chloride by EPA 300

Seq Number: 3092257

Parent Sample Id: 627521-003

Matrix: Soil

MS Sample Id: 627521-003 S

Prep Method: E300P

Date Prep: 06.13.19

MSD Sample Id: 627521-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	30.5	249	274	98	274	98	90-110	0	20	mg/kg	06.13.19 20:06	

Analytical Method: Chloride by EPA 300

Seq Number: 3092271

Parent Sample Id: 627517-011

Matrix: Soil

MS Sample Id: 627517-011 S

Prep Method: E300P

Date Prep: 06.13.19

MSD Sample Id: 627517-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.54	250	252	97	251	97	90-110	0	20	mg/kg	06.14.19 00:05	

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

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

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

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



QC Summary 627517

LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: Chloride by EPA 300

Seq Number: 3092271

Parent Sample Id: 627518-002

Matrix: Soil

MS Sample Id: 627518-002 S

Prep Method: E300P

Date Prep: 06.13.19

MSD Sample Id: 627518-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	175	248	413	96	412	96	90-110	0	20	mg/kg	06.14.19 01:47	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092270

MB Sample Id: 7679869-1-BLK

Matrix: Solid

LCS Sample Id: 7679869-1-BKS

Prep Method: TX1005P

Date Prep: 06.13.19

LCSD Sample Id: 7679869-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1070	107	1030	103	70-135	4	20	mg/kg	06.14.19 00:14	
Diesel Range Organics (DRO)	<8.13	1000	1040	104	1060	106	70-135	2	20	mg/kg	06.14.19 00:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		115		107		70-135	%	06.14.19 00:14
o-Terphenyl	80		93		103		70-135	%	06.14.19 00:14

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092270

Parent Sample Id: 627517-001

Matrix: Soil

MS Sample Id: 627517-001 S

Prep Method: TX1005P

Date Prep: 06.13.19

MSD Sample Id: 627517-001 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)	13.7	999	896	88	938	93	70-135	5	20	mg/kg	06.14.19 01:28	
Diesel Range Organics (DRO)	<8.12	999	861	86	891	89	70-135	3	20	mg/kg	06.14.19 01:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		96		70-135	%	06.14.19 01:28
o-Terphenyl	76		82		70-135	%	06.14.19 01:28

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

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

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



QC Summary 627517

LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3092321

MB Sample Id: 7679940-1-BLK

Matrix: Solid

LCS Sample Id: 7679940-1-BKS

Prep Method: SW5030B

Date Prep: 06.13.19

LCSD Sample Id: 7679940-1-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	0.102	102	0.0977	98	70-130	4	35	mg/kg	06.13.19 10:44	
Toluene	<0.00200	0.100	0.0954	95	0.0911	91	70-130	5	35	mg/kg	06.13.19 10:44	
Ethylbenzene	<0.00200	0.100	0.103	103	0.0975	98	70-130	5	35	mg/kg	06.13.19 10:44	
m,p-Xylenes	<0.00401	0.200	0.206	103	0.194	97	70-130	6	35	mg/kg	06.13.19 10:44	
o-Xylene	<0.00200	0.100	0.101	101	0.0943	94	70-130	7	35	mg/kg	06.13.19 10:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		100		98		70-130	%	06.13.19 10:44
4-Bromofluorobenzene	108		100		96		70-130	%	06.13.19 10:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3092321

Parent Sample Id: 627089-021

Matrix: Soil

MS Sample Id: 627089-021 S

Prep Method: SW5030B

Date Prep: 06.13.19

MSD Sample Id: 627089-021 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	0.200	0.140	70	0.168	84	70-130	18	35	mg/kg	06.13.19 11:22	
Toluene	<0.00200	0.200	0.144	72	0.148	74	70-130	3	35	mg/kg	06.13.19 11:22	
Ethylbenzene	<0.00200	0.200	0.155	78	0.156	78	70-130	1	35	mg/kg	06.13.19 11:22	
m,p-Xylenes	<0.00399	0.399	0.315	79	0.309	77	70-130	2	35	mg/kg	06.13.19 11:22	
o-Xylene	<0.00200	0.200	0.161	81	0.155	78	70-130	4	35	mg/kg	06.13.19 11:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		100		70-130	%	06.13.19 11:22
4-Bromofluorobenzene	104		101		70-130	%	06.13.19 11:22

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



Page 1 of 1

Work Order Comments									
Program: UST/PST		☐ RP	☐ Brownfields	☐ RC	☐ \$fund	☐			
State of Project:									
Reporting: Level II		☐ Level III	☐ ST/UST	☐ RP	☐ Level IV	☐			
Deliverables: EDD		☐	ADAPT	☐	Other:				

[illegible]

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>Dawn Gipe</i>	<i>Earl A. Gipe</i>	6/12/19 @ 0600	2 <i>Earl A. Gipe</i>	<i>Earl A. Gipe</i>	6/12/19 0800
3			4		
5			6		6/13/19 1730



Work Order No: 481517

Page 2 of 2

Work Order Comments									
Program: UST/PST	☐ RP	☐ Brownfields	☐ RC	☐ \$perfund	☐				
State of Project:									
Reporting: Level II	☐ Level III	☐ ST/UST	☐ RP	☐ Level IV	☐				
Deliverables: EDD	☐	Adapt	☐	Other:					

[illegible][illegible]

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
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																														

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	6/12/19 @ 0800	2 <i>[Signature]</i>	<i>[Signature]</i>	6/12/19 0800
3			4	<i>[Signature]</i>	6/13/19
5			6		



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/13/2019 11:20:00 AM

Work Order #: 627517

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.4
#2 *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

Brianna Teel

Date: 06/13/2019

Checklist reviewed by:

Jessica Kramer

Jessica Kramer

Date: 06/13/2019

Analytical Report 627520

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108H

012919032

14-JUN-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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

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

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



14-JUN-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **627520**

PLU 23 DTD 108H

Project Address: Delaware Basin

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) 627520. 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. 627520 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Assistant

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 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	06-10-19 11:45	1 ft	627520-001
FS02	S	06-10-19 12:40	1 - 3 ft	627520-002
FS03	S	06-10-19 12:00	3 ft	627520-003
FS04	S	06-10-19 12:05	3 ft	627520-004
SW01	S	06-10-19 15:00	0 - 3 ft	627520-005
FS05	S	06-11-19 10:10	0 - 2 ft	627520-006
FS06	S	06-11-19 10:50	0 - 2 ft	627520-007
FS07	S	06-11-19 12:45	0 - 1 ft	627520-008
FS08	S	06-11-19 14:45	2 ft	627520-009
SW02	S	06-11-19 14:55	0 - 2 ft	627520-010
FS09	S	06-11-19 15:45	2 - 2.5 ft	627520-011
FS10	S	06-11-19 15:50	2.5 ft	627520-012
FS11	S	06-11-19 15:55	2.5 ft	627520-013
FS12	S	06-11-19 16:00	2.5 ft	627520-014
FS13	S	06-11-19 16:15	2.5 - 3 ft	627520-015
FS14	S	06-11-19 16:30	1.5 ft	627520-016
FS15	S	06-11-19 16:35	1.5 ft	627520-017
FS16	S	06-11-19 16:40	1.5 ft	627520-018
PH10	S	06-10-19 16:10	4.5 ft	627520-019
PH10A	S	06-10-19 17:05	10 ft	627520-020



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 23 DTD 108H*

Project ID: 012919032
Work Order Number(s): 627520

Report Date: 14-JUN-19
Date Received: 06/13/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3092253 Chloride by EPA 300

Lab Sample ID 627520-011 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 627520-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

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

Batch: LBA-3092269 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 627520-017.

Batch: LBA-3092341 BTEX by EPA 8021B

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



Certificate of Analysis Summary 627520

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Thu Jun-13-19 11:20 am
Report Date: 14-JUN-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	627520-001	627520-002	627520-003	627520-004	627520-005	627520-006
	Field Id:	FS01	FS02	FS03	FS04	SW01	FS05
	Depth:	1- ft	1-3 ft	3- ft	3- ft	0-3 ft	0-2 ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jun-10-19 11:45	Jun-10-19 12:40	Jun-10-19 12:00	Jun-10-19 12:05	Jun-10-19 15:00	Jun-11-19 10:10
BTEX by EPA 8021B	Extracted:	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00
	Analyzed:	Jun-13-19 22:55	Jun-13-19 23:14	Jun-13-19 23:33	Jun-13-19 23:52	Jun-14-19 00:11	Jun-14-19 00:30
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00400 0.00400	<0.00397 0.00397	<0.00401 0.00401	<0.00402 0.00402	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300	Extracted:	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00
	Analyzed:	Jun-13-19 15:11	Jun-13-19 15:26	Jun-13-19 15:30	Jun-13-19 15:35	Jun-13-19 15:40	Jun-13-19 15:55
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		353 4.98	11.6 5.04	9.42 5.00	108 4.95	14.1 5.02	1130 4.95
TPH by SW8015 Mod	Extracted:	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *
	Analyzed:	Jun-13-19 12:53	Jun-13-19 14:08	Jun-13-19 14:33	Jun-13-19 14:57	Jun-13-19 15:23	Jun-13-19 15:48
	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
Motor Oil Range Hydrocarbons (MRO)		<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
Total GRO-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

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 627520

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Thu Jun-13-19 11:20 am
Report Date: 14-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627520-007	627520-008	627520-009	627520-010	627520-011	627520-012
	<i>Field Id:</i>	FS06	FS07	FS08	SW02	FS09	FS10
	<i>Depth:</i>	0-2 ft	0-1 ft	2- ft	0-2 ft	2-2.5 ft	2.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-11-19 10:50	Jun-11-19 12:45	Jun-11-19 14:45	Jun-11-19 14:55	Jun-11-19 15:45	Jun-11-19 15:50
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00
	<i>Analyzed:</i>	Jun-14-19 00:49	Jun-14-19 01:08	Jun-14-19 01:27	Jun-14-19 01:46	Jun-14-19 02:48	Jun-14-19 03:07
	<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	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00399 0.00399	<0.00402 0.00402	<0.00398 0.00398	<0.00401 0.00401	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00
	<i>Analyzed:</i>	Jun-13-19 15:59	Jun-13-19 16:04	Jun-13-19 16:09	Jun-13-19 16:14	Jun-13-19 16:19	Jun-13-19 16:33
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		15.0 4.98	35.8 5.00	14.6 4.99	27.0 4.96	6.77 5.03	23.9 4.99
TPH by SW8015 Mod	<i>Extracted:</i>	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *
	<i>Analyzed:</i>	Jun-13-19 16:13	Jun-13-19 16:38	Jun-13-19 17:03	Jun-13-19 17:29	Jun-13-19 19:20	Jun-13-19 19:45
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 627520

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Thu Jun-13-19 11:20 am
Report Date: 14-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627520-013	627520-014	627520-015	627520-016	627520-017	627520-018
	<i>Field Id:</i>	FS11	FS12	FS13	FS14	FS15	FS16
	<i>Depth:</i>	2.5- ft	2.5- ft	2.5-3 ft	1.5- ft	1.5- ft	1.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-11-19 15:55	Jun-11-19 16:00	Jun-11-19 16:15	Jun-11-19 16:30	Jun-11-19 16:35	Jun-11-19 16:40
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00
	<i>Analyzed:</i>	Jun-14-19 03:26	Jun-14-19 03:45	Jun-14-19 04:04	Jun-14-19 04:23	Jun-14-19 04:42	Jun-14-19 05:01
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00402 0.00402	<0.00400 0.00400	<0.00402 0.00402	<0.00400 0.00400	<0.00402 0.00402	<0.00399 0.00399
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00	Jun-13-19 14:00
	<i>Analyzed:</i>	Jun-13-19 16:38	Jun-13-19 16:53	Jun-13-19 16:58	Jun-13-19 17:02	Jun-13-19 17:07	Jun-13-19 17:12
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		20.7 4.96	104 5.00	30.3 5.02	<5.02 5.02	26.3 4.96	142 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *
	<i>Analyzed:</i>	Jun-13-19 20:10	Jun-13-19 20:35	Jun-13-19 20:59	Jun-13-19 21:24	Jun-13-19 21:48	Jun-13-19 22:12
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<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
Total GRO-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

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 627520

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Thu Jun-13-19 11:20 am
Report Date: 14-JUN-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	627520-019	627520-020				
	Field Id:	PH10	PH10A				
	Depth:	4.5- ft	10- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jun-10-19 16:10	Jun-10-19 17:05				
BTEX by EPA 8021B	Extracted:	Jun-13-19 14:00	Jun-13-19 14:00				
	Analyzed:	Jun-14-19 05:20	Jun-14-19 05:39				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00199 0.00199	<0.00200 0.00200				
Toluene		<0.00199 0.00199	<0.00200 0.00200				
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200				
m,p-Xylenes		<0.00398 0.00398	<0.00401 0.00401				
o-Xylene		<0.00199 0.00199	<0.00200 0.00200				
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200				
Total BTEX		<0.00199 0.00199	<0.00200 0.00200				
Chloride by EPA 300	Extracted:	Jun-13-19 14:00	Jun-13-19 14:00				
	Analyzed:	Jun-13-19 17:17	Jun-13-19 17:22				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		4080 25.0	137 5.00				
TPH by SW8015 Mod	Extracted:	*** ** *	*** ** *				
	Analyzed:	Jun-13-19 22:37	Jun-13-19 23:01				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0				
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0				
Total TPH		<15.0 15.0	<15.0 15.0				
Total GRO-DRO		<15.0 15.0	<15.0 15.0				

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS01**
Lab Sample Id: 627520-001

Matrix: Soil
Date Collected: 06.10.19 11.45

Date Received: 06.13.19 11.20
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	353	4.98	mg/kg	06.13.19 15.11		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 12.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 12.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 12.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 12.53	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 12.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	06.13.19 12.53	
o-Terphenyl	84-15-1	116	%	70-135	06.13.19 12.53	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS01**
Lab Sample Id: 627520-001

Matrix: Soil
Date Collected: 06.10.19 11.45

Date Received: 06.13.19 11.20
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

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	06.13.19 22.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 22.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 22.55	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.13.19 22.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 22.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 22.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 22.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	06.13.19 22.55		
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.13.19 22.55		



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS02**
Lab Sample Id: 627520-002

Matrix: Soil
Date Collected: 06.10.19 12.40

Date Received: 06.13.19 11.20
Sample Depth: 1 - 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.6	5.04	mg/kg	06.13.19 15.26		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 14.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 14.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 14.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 14.08	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 14.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	06.13.19 14.08	
o-Terphenyl	84-15-1	113	%	70-135	06.13.19 14.08	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS02**
Lab Sample Id: 627520-002

Matrix: Soil
Date Collected: 06.10.19 12.40

Date Received: 06.13.19 11.20
Sample Depth: 1 - 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

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	06.13.19 23.14	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.13.19 23.14	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.13.19 23.14	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.13.19 23.14	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.13.19 23.14	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.13.19 23.14	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.13.19 23.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.13.19 23.14		
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.13.19 23.14		



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS03**
Lab Sample Id: 627520-003

Matrix: Soil
Date Collected: 06.10.19 12.00

Date Received: 06.13.19 11.20
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.42	5.00	mg/kg	06.13.19 15.30		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 14.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 14.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 14.33	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 14.33	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 14.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	06.13.19 14.33	
o-Terphenyl	84-15-1	73	%	70-135	06.13.19 14.33	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS03**
Lab Sample Id: 627520-003

Matrix: Soil
Date Collected: 06.10.19 12.00

Date Received: 06.13.19 11.20
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: DVM

Date Prep: 06.13.19 14.00

Basis: Wet Weight

Seq Number: 3092341

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.13.19 23.33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.13.19 23.33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.13.19 23.33	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.13.19 23.33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.13.19 23.33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.13.19 23.33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.13.19 23.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.13.19 23.33		
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.13.19 23.33		



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS04**
Lab Sample Id: 627520-004

Matrix: Soil
Date Collected: 06.10.19 12.05

Date Received: 06.13.19 11.20
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	108	4.95	mg/kg	06.13.19 15.35		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 14.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 14.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 14.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 14.57	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 14.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	06.13.19 14.57	
o-Terphenyl	84-15-1	105	%	70-135	06.13.19 14.57	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS04**
Lab Sample Id: 627520-004

Matrix: Soil
Date Collected: 06.10.19 12.05

Date Received: 06.13.19 11.20
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.13.19 23.52	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.13.19 23.52	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.13.19 23.52	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.13.19 23.52	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.13.19 23.52	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.13.19 23.52	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.13.19 23.52	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		90	%	70-130	06.13.19 23.52	
4-Bromofluorobenzene	460-00-4		117	%	70-130	06.13.19 23.52	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW01**
Lab Sample Id: 627520-005

Matrix: Soil
Date Collected: 06.10.19 15.00

Date Received: 06.13.19 11.20
Sample Depth: 0 - 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.1	5.02	mg/kg	06.13.19 15.40		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 15.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 15.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 15.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 15.23	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 15.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	06.13.19 15.23	
o-Terphenyl	84-15-1	86	%	70-135	06.13.19 15.23	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW01**
Lab Sample Id: 627520-005

Matrix: Soil
Date Collected: 06.10.19 15.00

Date Received: 06.13.19 11.20
Sample Depth: 0 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: DVM

Date Prep: 06.13.19 14.00

Basis: Wet Weight

Seq Number: 3092341

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.14.19 00.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.14.19 00.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.14.19 00.11	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.14.19 00.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.14.19 00.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.14.19 00.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.14.19 00.11	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		91	%	70-130	06.14.19 00.11	
4-Bromofluorobenzene	460-00-4		113	%	70-130	06.14.19 00.11	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS05**
Lab Sample Id: 627520-006

Matrix: Soil
Date Collected: 06.11.19 10.10

Date Received: 06.13.19 11.20
Sample Depth: 0 - 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1130	4.95	mg/kg	06.13.19 15.55		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 15.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 15.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 15.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 15.48	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 15.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	06.13.19 15.48	
o-Terphenyl	84-15-1	111	%	70-135	06.13.19 15.48	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS05**
Lab Sample Id: 627520-006

Matrix: Soil
Date Collected: 06.11.19 10.10

Date Received: 06.13.19 11.20
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.14.19 00.30	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.14.19 00.30	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.14.19 00.30	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.14.19 00.30	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.14.19 00.30	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.14.19 00.30	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.14.19 00.30	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4		119	%	70-130	06.14.19 00.30	
1,4-Difluorobenzene	540-36-3		91	%	70-130	06.14.19 00.30	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS06**
Lab Sample Id: 627520-007

Matrix: Soil
Date Collected: 06.11.19 10.50

Date Received: 06.13.19 11.20
Sample Depth: 0 - 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.0	4.98	mg/kg	06.13.19 15.59		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 16.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 16.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 16.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 16.13	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 16.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	06.13.19 16.13	
o-Terphenyl	84-15-1	84	%	70-135	06.13.19 16.13	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS06**
Lab Sample Id: 627520-007

Matrix: Soil
Date Collected: 06.11.19 10.50

Date Received: 06.13.19 11.20
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

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	06.14.19 00.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.14.19 00.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.14.19 00.49	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.14.19 00.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.14.19 00.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.14.19 00.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.14.19 00.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.14.19 00.49		
4-Bromofluorobenzene	460-00-4	117	%	70-130	06.14.19 00.49		



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS07**
Lab Sample Id: 627520-008

Matrix: Soil
Date Collected: 06.11.19 12.45

Date Received: 06.13.19 11.20
Sample Depth: 0 - 1 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	35.8	5.00	mg/kg	06.13.19 16.04		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 16.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 16.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 16.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 16.38	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 16.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	06.13.19 16.38	
o-Terphenyl	84-15-1	83	%	70-135	06.13.19 16.38	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS07**
Lab Sample Id: 627520-008

Matrix: Soil
Date Collected: 06.11.19 12.45

Date Received: 06.13.19 11.20
Sample Depth: 0 - 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

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	06.14.19 01.08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.14.19 01.08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.14.19 01.08	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.14.19 01.08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.14.19 01.08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.14.19 01.08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.14.19 01.08	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		90	%	70-130	06.14.19 01.08	
4-Bromofluorobenzene	460-00-4		124	%	70-130	06.14.19 01.08	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS08**
Lab Sample Id: 627520-009

Matrix: Soil
Date Collected: 06.11.19 14.45

Date Received: 06.13.19 11.20
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.6	4.99	mg/kg	06.13.19 16.09		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 17.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 17.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 17.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 17.03	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 17.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	06.13.19 17.03	
o-Terphenyl	84-15-1	76	%	70-135	06.13.19 17.03	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS08**
Lab Sample Id: 627520-009

Matrix: Soil
Date Collected: 06.11.19 14.45

Date Received: 06.13.19 11.20
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.14.19 01.27	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.14.19 01.27	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.14.19 01.27	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.14.19 01.27	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.14.19 01.27	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.14.19 01.27	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.14.19 01.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	06.14.19 01.27		
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.14.19 01.27		



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW02**
Lab Sample Id: 627520-010

Matrix: Soil
Date Collected: 06.11.19 14.55

Date Received: 06.13.19 11.20
Sample Depth: 0 - 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.0	4.96	mg/kg	06.13.19 16.14		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.13.19 17.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.13.19 17.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	06.13.19 17.29	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.13.19 17.29	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	06.13.19 17.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	06.13.19 17.29	
o-Terphenyl	84-15-1	122	%	70-135	06.13.19 17.29	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW02**
Lab Sample Id: 627520-010

Matrix: Soil
Date Collected: 06.11.19 14.55

Date Received: 06.13.19 11.20
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.14.19 01.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.14.19 01.46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.14.19 01.46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.14.19 01.46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.14.19 01.46	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.14.19 01.46	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.14.19 01.46	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4		123	%	70-130	06.14.19 01.46	
1,4-Difluorobenzene	540-36-3		90	%	70-130	06.14.19 01.46	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS09**
Lab Sample Id: 627520-011

Matrix: Soil
Date Collected: 06.11.19 15.45

Date Received: 06.13.19 11.20
Sample Depth: 2 - 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.77	5.03	mg/kg	06.13.19 16.19		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 19.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 19.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 19.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 19.20	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 19.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	06.13.19 19.20	
o-Terphenyl	84-15-1	79	%	70-135	06.13.19 19.20	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS09**
Lab Sample Id: 627520-011

Matrix: Soil
Date Collected: 06.11.19 15.45

Date Received: 06.13.19 11.20
Sample Depth: 2 - 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

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	06.14.19 02.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.14.19 02.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.14.19 02.48	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.14.19 02.48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.14.19 02.48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.14.19 02.48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.14.19 02.48	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4		110	%	70-130	06.14.19 02.48	
1,4-Difluorobenzene	540-36-3		90	%	70-130	06.14.19 02.48	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS10**
Lab Sample Id: 627520-012

Matrix: Soil
Date Collected: 06.11.19 15.50

Date Received: 06.13.19 11.20
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.9	4.99	mg/kg	06.13.19 16.33		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 19.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 19.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 19.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 19.45	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 19.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	06.13.19 19.45	
o-Terphenyl	84-15-1	74	%	70-135	06.13.19 19.45	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS10**
Lab Sample Id: 627520-012

Matrix: Soil
Date Collected: 06.11.19 15.50

Date Received: 06.13.19 11.20
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

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	06.14.19 03.07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.14.19 03.07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.14.19 03.07	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.14.19 03.07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.14.19 03.07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.14.19 03.07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.14.19 03.07	U	1
		% Recovery					
Surrogate	Cas Number		Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	06.14.19 03.07		
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.14.19 03.07		



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS11**
Lab Sample Id: 627520-013

Matrix: Soil
Date Collected: 06.11.19 15.55

Date Received: 06.13.19 11.20
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.7	4.96	mg/kg	06.13.19 16.38		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 20.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 20.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 20.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 20.10	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 20.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	06.13.19 20.10	
o-Terphenyl	84-15-1	112	%	70-135	06.13.19 20.10	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS11**
Lab Sample Id: 627520-013

Matrix: Soil
Date Collected: 06.11.19 15.55

Date Received: 06.13.19 11.20
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.14.19 03.26	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.14.19 03.26	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.14.19 03.26	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.14.19 03.26	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.14.19 03.26	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.14.19 03.26	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.14.19 03.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	130	%	70-130	06.14.19 03.26		
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.14.19 03.26		



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS12**
Lab Sample Id: 627520-014

Matrix: Soil
Date Collected: 06.11.19 16.00

Date Received: 06.13.19 11.20
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	104	5.00	mg/kg	06.13.19 16.53		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 20.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 20.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 20.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 20.35	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 20.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	06.13.19 20.35	
o-Terphenyl	84-15-1	98	%	70-135	06.13.19 20.35	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS12**
Lab Sample Id: 627520-014

Matrix: Soil
Date Collected: 06.11.19 16.00

Date Received: 06.13.19 11.20
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

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	06.14.19 03.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.14.19 03.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.14.19 03.45	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.14.19 03.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.14.19 03.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.14.19 03.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.14.19 03.45	U	1
		% Recovery					
Surrogate	Cas Number		Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.14.19 03.45		
4-Bromofluorobenzene	460-00-4	119	%	70-130	06.14.19 03.45		



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS13**
Lab Sample Id: 627520-015

Matrix: Soil
Date Collected: 06.11.19 16.15

Date Received: 06.13.19 11.20
Sample Depth: 2.5 - 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.3	5.02	mg/kg	06.13.19 16.58		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 20.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 20.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 20.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 20.59	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 20.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	06.13.19 20.59	
o-Terphenyl	84-15-1	90	%	70-135	06.13.19 20.59	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS13**
Lab Sample Id: 627520-015

Matrix: Soil
Date Collected: 06.11.19 16.15

Date Received: 06.13.19 11.20
Sample Depth: 2.5 - 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.14.19 04.04	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.14.19 04.04	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.14.19 04.04	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.14.19 04.04	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.14.19 04.04	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.14.19 04.04	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.14.19 04.04	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		92	%	70-130	06.14.19 04.04	
4-Bromofluorobenzene	460-00-4		129	%	70-130	06.14.19 04.04	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS14**
Lab Sample Id: 627520-016

Matrix: Soil
Date Collected: 06.11.19 16.30

Date Received: 06.13.19 11.20
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.02	5.02	mg/kg	06.13.19 17.02	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 21.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 21.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 21.24	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 21.24	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 21.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	06.13.19 21.24	
o-Terphenyl	84-15-1	91	%	70-135	06.13.19 21.24	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS14**
Lab Sample Id: 627520-016

Matrix: Soil
Date Collected: 06.11.19 16.30

Date Received: 06.13.19 11.20
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

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	06.14.19 04.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.14.19 04.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.14.19 04.23	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.14.19 04.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.14.19 04.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.14.19 04.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.14.19 04.23	U	1
		% Recovery					
Surrogate	Cas Number		Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	126	%	70-130	06.14.19 04.23		
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.14.19 04.23		



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS15**
Lab Sample Id: 627520-017

Matrix: Soil
Date Collected: 06.11.19 16.35

Date Received: 06.13.19 11.20
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.3	4.96	mg/kg	06.13.19 17.07		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 21.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 21.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 21.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 21.48	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 21.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	06.13.19 21.48	
o-Terphenyl	84-15-1	139	%	70-135	06.13.19 21.48	**



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS15**
Lab Sample Id: 627520-017

Matrix: Soil
Date Collected: 06.11.19 16.35

Date Received: 06.13.19 11.20
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.14.19 04.42	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.14.19 04.42	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.14.19 04.42	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.14.19 04.42	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.14.19 04.42	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.14.19 04.42	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.14.19 04.42	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		91	%	70-130	06.14.19 04.42	
4-Bromofluorobenzene	460-00-4		121	%	70-130	06.14.19 04.42	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS16**
Lab Sample Id: 627520-018

Matrix: Soil
Date Collected: 06.11.19 16.40

Date Received: 06.13.19 11.20
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	142	5.00	mg/kg	06.13.19 17.12		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 22.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 22.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 22.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 22.12	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 22.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	06.13.19 22.12	
o-Terphenyl	84-15-1	97	%	70-135	06.13.19 22.12	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS16**
Lab Sample Id: 627520-018

Matrix: Soil
Date Collected: 06.11.19 16.40

Date Received: 06.13.19 11.20
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

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	06.14.19 05.01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.14.19 05.01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.14.19 05.01	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.14.19 05.01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.14.19 05.01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.14.19 05.01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.14.19 05.01	U	1
		% Recovery					
Surrogate	Cas Number		Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	06.14.19 05.01		
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.14.19 05.01		



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH10**
Lab Sample Id: 627520-019

Matrix: Soil
Date Collected: 06.10.19 16.10

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4080	25.0	mg/kg	06.13.19 17.17		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 22.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 22.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 22.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 22.37	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 22.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	06.13.19 22.37	
o-Terphenyl	84-15-1	84	%	70-135	06.13.19 22.37	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH10**
Lab Sample Id: 627520-019

Matrix: Soil
Date Collected: 06.10.19 16.10

Date Received: 06.13.19 11.20
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.14.19 05.20	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.14.19 05.20	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.14.19 05.20	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.14.19 05.20	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.14.19 05.20	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.14.19 05.20	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.14.19 05.20	U	1
		% Recovery					
Surrogate	Cas Number		Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	06.14.19 05.20		
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.14.19 05.20		



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH10A**
Lab Sample Id: 627520-020

Matrix: Soil
Date Collected: 06.10.19 17.05

Date Received: 06.13.19 11.20
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092253

Date Prep: 06.13.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	137	5.00	mg/kg	06.13.19 17.22		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092269

Date Prep: 06.13.19 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 23.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.13.19 23.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 23.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.13.19 23.01	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.13.19 23.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	06.13.19 23.01	
o-Terphenyl	84-15-1	91	%	70-135	06.13.19 23.01	



Certificate of Analytical Results 627520



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH10A**
Lab Sample Id: 627520-020

Matrix: Soil
Date Collected: 06.10.19 17.05

Date Received: 06.13.19 11.20
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092341

Date Prep: 06.13.19 14.00

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	06.14.19 05.39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.14.19 05.39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.14.19 05.39	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.14.19 05.39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.14.19 05.39	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.14.19 05.39	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.14.19 05.39	U	1
		% Recovery					
Surrogate	Cas Number		Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	125	%	70-130	06.14.19 05.39		
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.14.19 05.39		

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit

SQL Sample Quantitation Limit

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample

BLK

Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample

BKSD/LCSD

Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate

MS

Matrix Spike

MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



QC Summary 627520

LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: Chloride by EPA 300

Seq Number: 3092253

MB Sample Id: 7679882-1-BLK

Matrix: Solid

LCS Sample Id: 7679882-1-BKS

Prep Method: E300P

Date Prep: 06.13.19

LCSD Sample Id: 7679882-1-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	242	97	90-110	1	20	mg/kg	06.13.19 15:01	

Analytical Method: Chloride by EPA 300

Seq Number: 3092253

Parent Sample Id: 627520-001

Matrix: Soil

MS Sample Id: 627520-001 S

Prep Method: E300P

Date Prep: 06.13.19

MSD Sample Id: 627520-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	353	249	577	90	574	89	90-110	1	20	mg/kg	06.13.19 15:16	X

Analytical Method: Chloride by EPA 300

Seq Number: 3092253

Parent Sample Id: 627520-011

Matrix: Soil

MS Sample Id: 627520-011 S

Prep Method: E300P

Date Prep: 06.13.19

MSD Sample Id: 627520-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.77	252	265	102	267	103	90-110	1	20	mg/kg	06.13.19 16:24	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092269

MB Sample Id: 7679868-1-BLK

Matrix: Solid

LCS Sample Id: 7679868-1-BKS

Prep Method: TX1005P

Date Prep: 06.13.19

LCSD Sample Id: 7679868-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	958	96	916	92	70-135	4	20	mg/kg	06.13.19 12:03	
Diesel Range Organics (DRO)	<8.13	1000	882	88	896	90	70-135	2	20	mg/kg	06.13.19 12:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		98		94		70-135	%	06.13.19 12:03
o-Terphenyl	80		95		93		70-135	%	06.13.19 12:03

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

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

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

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



QC Summary 627520

LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092269

Parent Sample Id: 627520-001

Matrix: Soil

MS Sample Id: 627520-001 S

Prep Method: TX1005P

Date Prep: 06.13.19

MSD Sample Id: 627520-001 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)	12.0	1000	991	98	970	96	70-135	2	20	mg/kg	06.13.19 13:18	
Diesel Range Organics (DRO)	12.4	1000	988	98	960	95	70-135	3	20	mg/kg	06.13.19 13:18	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		99		70-135	%	06.13.19 13:18
o-Terphenyl	103		99		70-135	%	06.13.19 13:18

Analytical Method: BTEX by EPA 8021B

Seq Number: 3092341

MB Sample Id: 7679947-1-BLK

Matrix: Solid

LCS Sample Id: 7679947-1-BKS

Prep Method: SW5030B

Date Prep: 06.13.19

LCSD Sample Id: 7679947-1-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	0.0825	83	0.0793	80	70-130	4	35	mg/kg	06.13.19 20:56	
Toluene	<0.00200	0.100	0.0875	88	0.0881	89	70-130	1	35	mg/kg	06.13.19 20:56	
Ethylbenzene	<0.00200	0.100	0.101	101	0.103	104	70-130	2	35	mg/kg	06.13.19 20:56	
m,p-Xylenes	<0.00401	0.200	0.198	99	0.206	104	70-130	4	35	mg/kg	06.13.19 20:56	
o-Xylene	<0.00200	0.100	0.0959	96	0.0992	100	70-130	3	35	mg/kg	06.13.19 20:56	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		91		89		70-130	%	06.13.19 20:56
4-Bromofluorobenzene	111		105		109		70-130	%	06.13.19 20:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3092341

Parent Sample Id: 627520-003

Matrix: Soil

MS Sample Id: 627520-003 S

Prep Method: SW5030B

Date Prep: 06.13.19

MSD Sample Id: 627520-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0827	83	0.0734	73	70-130	12	35	mg/kg	06.13.19 21:34	
Toluene	<0.00200	0.100	0.0918	92	0.0822	82	70-130	11	35	mg/kg	06.13.19 21:34	
Ethylbenzene	<0.00200	0.100	0.107	107	0.0945	95	70-130	12	35	mg/kg	06.13.19 21:34	
m,p-Xylenes	<0.00401	0.200	0.214	107	0.189	95	70-130	12	35	mg/kg	06.13.19 21:34	
o-Xylene	<0.00200	0.100	0.104	104	0.0917	92	70-130	13	35	mg/kg	06.13.19 21:34	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		89		70-130	%	06.13.19 21:34
4-Bromofluorobenzene	110		107		70-130	%	06.13.19 21:34

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.

02756

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	8104 E. Greene Street
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	Caldwell NM 86720
Phone:	(432) 236-3849	Email:	kyler.littrell@xtoenergy.com dmoir@ltenv.com dan.moir@ltenv.com dmohr@ltenv.com sephill@ltenv.com

Work Order Comments	
Program: UST/PST State of Project: Reporting Level II Deliverables: EDD	☐ RP ☐ Growfields ☐ RC ☐ \$perfund ☐ Level III ☐ \$T/UST ☐ RP ☒ Level IV
Adapt	Other:

Project Name:	PLU 28 DTD 108A		Turn Around
Project Number:	b2a19032		Routine ☐
P.O. Number:	228-5287		Rush: <i>same day</i>
Sampler's Name:	Anna Byes		Due Date:

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):		00.0			Thermometer		
Received Intact:		Yes	No				
Cooler Custody Seals:		Yes	No	N/A	Correction Factor:		
Sample Custody Seals:		Yes	No	N/A	Total Containers:		

[illegible][illegible]

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 SiO ₂ 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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>Clara Brown</i>	<i>[Signature]</i>	6/12/19 12:45	2 <i>[Signature]</i>	<i>[Signature]</i>	6/13/19
3 <i>[Signature]</i>	<i>[Signature]</i>	6/12/19 14:05	4 <i>[Signature]</i>	<i>[Signature]</i>	11:20
5 <i>[Signature]</i>	<i>[Signature]</i>		6 <i>[Signature]</i>	<i>[Signature]</i>	



Chain of Custody

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

Work Order No. 427517
427520

Project Manager:	DAN MOIR	Bill to: (if different)	XTD Energy (Lubbock)
Company Name:	LT Environmental Inc	Company Name:	XTD Energy
Address:	3300 North A Street	Address:	844 E. Green Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Lubbock, NM 88220
Phone:	(432) 236-3849	Email:	dbyes@ltenv.com

Project Name:	PLU 23 DTD 1084	Turn Around	☐
Project Number:	012919032	Routine	☐
P.O. Number:	24P-5284	Rush	☐
Sampler's Name:	Anna Byes	Due Date:	

Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):	0.0004	Thermometer ID:	12
Received Intact:	Yes ☒ No ☐	Correction Factor:	
Cooler Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	
Sample Custody Seals:	Yes ☒ No ☐ N/A		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Work Order Notes
FS09	S	6/11	1545	2-2.5'	1	TPH (EPA 8015)	
FS10	S		1550	2.5'	1	BTEX (EPA 8021)	
FS11	S		1555	2.5'	1	Chloride (EPA 800.0)	
FS12	S		1600	2.5'	1		
FS13	S		1615	2.5-3'	1		
FS14	S		1630	1.5'	1		
FS15	S		1635	1.5'	1		
FS16	S		1640	1.5'	1		
PH10	S	6/10	1610	4.5'	1		
PH10A	S	6/10	1705	10'	1		

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

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
1. Anna Byes	[Signature]	6/2/19 12:45	2. [Signature]	[Signature]	6/2/19 11:30
3. [Signature]	[Signature]	6/2/19 14:05	4. [Signature]	[Signature]	
5. [Signature]	[Signature]		6. [Signature]	[Signature]	



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/13/2019 11:20:00 AM

Work Order #: 627520

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.4
#2 *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

Brianna Teel

Date: 06/13/2019

Checklist reviewed by:

Jessica Kramer

Jessica Kramer

Date: 06/13/2019

Analytical Report 627897

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108H

012919032

19-JUN-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):

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

Xenco-Dallas (EPA Lab Code: TX01468):

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

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

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

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

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



19-JUN-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **627897**

PLU 23 DTD 108H

Project Address: Delaware Basin

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) 627897. 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. 627897 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Assistant

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 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS21	S	06-12-19 11:30	2.5 - 3.5 ft	627897-001
FS18	S	06-12-19 09:40	2.5 ft	627897-002
PH11	S	06-12-19 13:35	0.5 ft	627897-003
PH12	S	06-12-19 16:40	0.5 ft	627897-004
FS22	S	06-12-19 13:00	2.0 ft	627897-005
SW03	S	06-12-19 09:57	0 - 2.5 ft	627897-006
FS17	S	06-12-19 09:45	2.5 ft	627897-007
FS20	S	06-12-19 11:25	2.5 - 3.5 ft	627897-008
PH12A	S	06-12-19 16:55	4.5 ft	627897-009
PH11A	S	06-12-19 13:47	4.5 ft	627897-010
FS19	S	06-12-19 09:35	1 - 2.5 ft	627897-011



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 23 DTD 108H*

Project ID: 012919032
Work Order Number(s): 627897

Report Date: 19-JUN-19
Date Received: 06/17/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3092646 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 627897-001 S, 627897-001 SD, 627897-003, 627897-001, 627897-004, 627897-005, 627897-007, 627897-009, 627897-011.

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 627897-001 SD.

Batch: LBA-3092723 BTEX by EPA 8021B

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



Certificate of Analysis Summary 627897

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Mon Jun-17-19 07:25 am
Report Date: 19-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627897-001	627897-002	627897-003	627897-004	627897-005	627897-006
	<i>Field Id:</i>	FS21	FS18	PH11	PH12	FS22	SW03
	<i>Depth:</i>	2.5-3.5 ft	2.5- ft	0.5- ft	0.5- ft	2.0- ft	0-2.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-12-19 11:30	Jun-12-19 09:40	Jun-12-19 13:35	Jun-12-19 16:40	Jun-12-19 13:00	Jun-12-19 09:57
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00
	<i>Analyzed:</i>	Jun-17-19 20:59	Jun-17-19 21:35	Jun-17-19 21:55	Jun-17-19 22:15	Jun-17-19 22:35	Jun-17-19 22:55
	<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	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00401 0.00401	<0.00399 0.00399	<0.00398 0.00398	<0.00397 0.00397	<0.00400 0.00400	<0.00402 0.00402
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Chloride by EPA 300	<i>Extracted:</i>	Jun-17-19 14:02	Jun-17-19 14:02	Jun-17-19 14:02	Jun-17-19 14:02	Jun-17-19 14:02	Jun-17-19 14:02
	<i>Analyzed:</i>	Jun-18-19 13:47	Jun-18-19 13:53	Jun-18-19 13:58	Jun-18-19 14:04	Jun-18-19 14:21	Jun-18-19 14:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.03 5.03	<5.02 5.02	34.0 5.02	58.2 5.00	51.3 5.00	19.0 4.97
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00
	<i>Analyzed:</i>	Jun-17-19 16:16	Jun-17-19 17:32	Jun-17-19 17:57	Jun-17-19 18:22	Jun-17-19 18:47	Jun-17-19 19:12
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		18.3 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		18.3 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total GRO-DRO		18.3 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 627897

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Mon Jun-17-19 07:25 am
Report Date: 19-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627897-007	627897-008	627897-009	627897-010	627897-011	
	<i>Field Id:</i>	FS17	FS20	PH12A	PH11A	FS19	
	<i>Depth:</i>	2.5- ft	2.5-3.5 ft	4.5- ft	4.5- ft	1-2.5 ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Jun-12-19 09:45	Jun-12-19 11:25	Jun-12-19 16:55	Jun-12-19 13:47	Jun-12-19 09:35	
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	
	<i>Analyzed:</i>	Jun-17-19 23:15	Jun-17-19 23:35	Jun-17-19 23:55	Jun-18-19 00:15	Jun-18-19 01:25	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
m,p-Xylenes		<0.00402 0.00402	<0.00401 0.00401	<0.00399 0.00399	<0.00398 0.00398	<0.00400 0.00400	
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Chloride by EPA 300	<i>Extracted:</i>	Jun-17-19 14:02	Jun-17-19 14:02	Jun-17-19 14:02	Jun-17-19 14:02	Jun-17-19 14:02	
	<i>Analyzed:</i>	Jun-18-19 14:32	Jun-18-19 14:37	Jun-18-19 14:43	Jun-18-19 14:49	Jun-18-19 15:06	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		8.62 5.04	11.4 4.98	<5.01 5.01	18.8 5.00	13.5 4.96	
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	
	<i>Analyzed:</i>	Jun-17-19 19:37	Jun-17-19 20:02	Jun-17-19 20:27	Jun-17-19 20:52	Jun-17-19 21:42	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<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	
Motor Oil Range Hydrocarbons (MRO)		<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	
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS21**
Lab Sample Id: 627897-001

Matrix: Soil
Date Collected: 06.12.19 11.30

Date Received: 06.17.19 07.25
Sample Depth: 2.5 - 3.5 ft

Analytical Method: Chloride by EPA 300
Tech: SPC
Analyst: SPC
Seq Number: 3092682

Date Prep: 06.17.19 14.02

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.03	5.03	mg/kg	06.18.19 13.47	U	1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 16.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	18.3	15.0	mg/kg	06.17.19 16.16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 16.16	U	1
Total TPH	PHC635	18.3	15.0	mg/kg	06.17.19 16.16		1
Total GRO-DRO	PHC628	18.3	15.0	mg/kg	06.17.19 16.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	150	%	70-135	06.17.19 16.16	**
o-Terphenyl	84-15-1	131	%	70-135	06.17.19 16.16	



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS21**
Lab Sample Id: 627897-001

Matrix: Soil
Date Collected: 06.12.19 11.30

Date Received: 06.17.19 07.25
Sample Depth: 2.5 - 3.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: DVM

Date Prep: 06.17.19 12.00

Basis: Wet Weight

Seq Number: 3092723

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.19 20.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.19 20.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.19 20.59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.17.19 20.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.19 20.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.19 20.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.19 20.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.17.19 20.59		
4-Bromofluorobenzene	460-00-4	113	%	70-130	06.17.19 20.59		



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS18**
Lab Sample Id: 627897-002

Matrix: Soil
Date Collected: 06.12.19 09.40

Date Received: 06.17.19 07.25
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300
Tech: SPC
Analyst: SPC
Seq Number: 3092682

Date Prep: 06.17.19 14.02

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.02	5.02	mg/kg	06.18.19 13.53	U	1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 17.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 17.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 17.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 17.32	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 17.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	134	%	70-135	06.17.19 17.32	
o-Terphenyl	84-15-1	101	%	70-135	06.17.19 17.32	



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS18**
Lab Sample Id: 627897-002

Matrix: Soil
Date Collected: 06.12.19 09.40

Date Received: 06.17.19 07.25
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092723

Date Prep: 06.17.19 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.19 21.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.19 21.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.19 21.35	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.17.19 21.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.19 21.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.19 21.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.19 21.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.17.19 21.35		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.17.19 21.35		



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH11**
Lab Sample Id: 627897-003

Matrix: Soil
Date Collected: 06.12.19 13.35

Date Received: 06.17.19 07.25
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300
Tech: SPC
Analyst: SPC
Seq Number: 3092682

Date Prep: 06.17.19 14.02

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.0	5.02	mg/kg	06.18.19 13.58		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.17.19 17.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.17.19 17.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	06.17.19 17.57	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.17.19 17.57	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	06.17.19 17.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	139	%	70-135	06.17.19 17.57	**
o-Terphenyl	84-15-1	122	%	70-135	06.17.19 17.57	



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH11**
Lab Sample Id: 627897-003

Matrix: Soil
Date Collected: 06.12.19 13.35

Date Received: 06.17.19 07.25
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092723

Date Prep: 06.17.19 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.19 21.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.19 21.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.19 21.55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.19 21.55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.17.19 21.55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.17.19 21.55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.17.19 21.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.17.19 21.55		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.17.19 21.55		



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH12**
Lab Sample Id: 627897-004

Matrix: Soil
Date Collected: 06.12.19 16.40

Date Received: 06.17.19 07.25
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3092682

Date Prep: 06.17.19 14.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	58.2	5.00	mg/kg	06.18.19 14.04		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 18.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 18.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 18.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 18.22	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 18.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	137	%	70-135	06.17.19 18.22	**
o-Terphenyl	84-15-1	113	%	70-135	06.17.19 18.22	



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH12**
Lab Sample Id: 627897-004

Matrix: Soil
Date Collected: 06.12.19 16.40

Date Received: 06.17.19 07.25
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092723

Date Prep: 06.17.19 12.00

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	06.17.19 22.15	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.17.19 22.15	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.17.19 22.15	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.17.19 22.15	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.17.19 22.15	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.17.19 22.15	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.17.19 22.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.17.19 22.15		
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.17.19 22.15		



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS22
Lab Sample Id: 627897-005

Matrix: Soil
Date Collected: 06.12.19 13.00

Date Received: 06.17.19 07.25
Sample Depth: 2.0 ft

Analytical Method: Chloride by EPA 300
Tech: SPC
Analyst: SPC
Seq Number: 3092682

Date Prep: 06.17.19 14.02
Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	51.3	5.00	mg/kg	06.18.19 14.21		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3092646

Date Prep: 06.17.19 12.00
Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 18.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 18.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 18.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 18.47	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 18.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	143	%	70-135	06.17.19 18.47	**
o-Terphenyl	84-15-1	117	%	70-135	06.17.19 18.47	



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS22
Lab Sample Id: 627897-005

Matrix: Soil
Date Collected: 06.12.19 13.00

Date Received: 06.17.19 07.25
Sample Depth: 2.0 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092723

Date Prep: 06.17.19 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.19 22.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.19 22.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.19 22.35	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.17.19 22.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.19 22.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.19 22.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.19 22.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.17.19 22.35		
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.17.19 22.35		



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW03**
Lab Sample Id: 627897-006

Matrix: Soil
Date Collected: 06.12.19 09.57

Date Received: 06.17.19 07.25
Sample Depth: 0 - 2.5 ft

Analytical Method: Chloride by EPA 300
Tech: SPC
Analyst: SPC
Seq Number: 3092682

Date Prep: 06.17.19 14.02

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.0	4.97	mg/kg	06.18.19 14.26		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 19.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 19.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 19.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 19.12	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 19.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	134	%	70-135	06.17.19 19.12	
o-Terphenyl	84-15-1	114	%	70-135	06.17.19 19.12	



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW03**
Lab Sample Id: 627897-006

Matrix: Soil
Date Collected: 06.12.19 09.57

Date Received: 06.17.19 07.25
Sample Depth: 0 - 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092723

Date Prep: 06.17.19 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.17.19 22.55	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.17.19 22.55	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.17.19 22.55	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.17.19 22.55	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.17.19 22.55	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.17.19 22.55	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.17.19 22.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.17.19 22.55		
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.17.19 22.55		



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS17
Lab Sample Id: 627897-007

Matrix: Soil
Date Collected: 06.12.19 09.45

Date Received: 06.17.19 07.25
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300
Tech: SPC
Analyst: SPC
Seq Number: 3092682

Date Prep: 06.17.19 14.02

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.62	5.04	mg/kg	06.18.19 14.32		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 19.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 19.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 19.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 19.37	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 19.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	150	%	70-135	06.17.19 19.37	**
o-Terphenyl	84-15-1	133	%	70-135	06.17.19 19.37	



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS17**
Lab Sample Id: 627897-007

Matrix: Soil
Date Collected: 06.12.19 09.45

Date Received: 06.17.19 07.25
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092723

Date Prep: 06.17.19 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.17.19 23.15	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.17.19 23.15	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.17.19 23.15	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.17.19 23.15	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.17.19 23.15	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.17.19 23.15	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.17.19 23.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.17.19 23.15		
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.17.19 23.15		



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS20**
Lab Sample Id: 627897-008

Matrix: Soil
Date Collected: 06.12.19 11.25

Date Received: 06.17.19 07.25
Sample Depth: 2.5 - 3.5 ft

Analytical Method: Chloride by EPA 300
Tech: SPC
Analyst: SPC
Seq Number: 3092682

Date Prep: 06.17.19 14.02

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.4	4.98	mg/kg	06.18.19 14.37		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 20.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 20.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 20.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 20.02	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 20.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	06.17.19 20.02	
o-Terphenyl	84-15-1	112	%	70-135	06.17.19 20.02	



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS20**
Lab Sample Id: 627897-008

Matrix: Soil
Date Collected: 06.12.19 11.25

Date Received: 06.17.19 07.25
Sample Depth: 2.5 - 3.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092723

Date Prep: 06.17.19 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.19 23.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.19 23.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.19 23.35	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.17.19 23.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.19 23.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.19 23.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.19 23.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.17.19 23.35		
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.17.19 23.35		



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH12A**
Lab Sample Id: 627897-009

Matrix: Soil
Date Collected: 06.12.19 16.55

Date Received: 06.17.19 07.25
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300
Tech: SPC
Analyst: SPC
Seq Number: 3092682

Date Prep: 06.17.19 14.02

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.01	5.01	mg/kg	06.18.19 14.43	U	1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 20.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 20.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 20.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 20.27	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 20.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	144	%	70-135	06.17.19 20.27	**
o-Terphenyl	84-15-1	117	%	70-135	06.17.19 20.27	



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH12A**
Lab Sample Id: 627897-009

Matrix: Soil
Date Collected: 06.12.19 16.55

Date Received: 06.17.19 07.25
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092723

Date Prep: 06.17.19 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.19 23.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.19 23.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.19 23.55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.17.19 23.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.19 23.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.19 23.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.19 23.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.17.19 23.55		
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.17.19 23.55		



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH11A**
Lab Sample Id: 627897-010

Matrix: Soil
Date Collected: 06.12.19 13.47

Date Received: 06.17.19 07.25
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300
Tech: SPC
Analyst: SPC
Seq Number: 3092682

Date Prep: 06.17.19 14.02

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.8	5.00	mg/kg	06.18.19 14.49		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 20.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 20.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 20.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 20.52	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 20.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	06.17.19 20.52	
o-Terphenyl	84-15-1	117	%	70-135	06.17.19 20.52	



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH11A**
Lab Sample Id: 627897-010

Matrix: Soil
Date Collected: 06.12.19 13.47

Date Received: 06.17.19 07.25
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092723

Date Prep: 06.17.19 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.18.19 00.15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.18.19 00.15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.18.19 00.15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.18.19 00.15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.18.19 00.15	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.18.19 00.15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.18.19 00.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.18.19 00.15		
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.18.19 00.15		



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS19**
Lab Sample Id: 627897-011

Matrix: Soil
Date Collected: 06.12.19 09.35

Date Received: 06.17.19 07.25
Sample Depth: 1 - 2.5 ft

Analytical Method: Chloride by EPA 300
Tech: SPC
Analyst: SPC
Seq Number: 3092682

Date Prep: 06.17.19 14.02

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.5	4.96	mg/kg	06.18.19 15.06		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 21.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 21.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 21.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 21.42	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 21.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	143	%	70-135	06.17.19 21.42	**
o-Terphenyl	84-15-1	112	%	70-135	06.17.19 21.42	



Certificate of Analytical Results 627897



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS19**
Lab Sample Id: 627897-011

Matrix: Soil
Date Collected: 06.12.19 09.35

Date Received: 06.17.19 07.25
Sample Depth: 1 - 2.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: DVM

Date Prep: 06.17.19 12.00

Basis: Wet Weight

Seq Number: 3092723

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.18.19 01.25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.18.19 01.25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.18.19 01.25	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.18.19 01.25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.18.19 01.25	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.18.19 01.25	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.18.19 01.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.18.19 01.25		
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.18.19 01.25		

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit

MQL Method Quantitation Limit

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample

BLK

Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample

BKSD/LCSD

Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate

MS

Matrix Spike

MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



QC Summary 627897

LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: Chloride by EPA 300

Seq Number: 3092682

MB Sample Id: 7680070-1-BLK

Matrix: Solid

LCS Sample Id: 7680070-1-BKS

Prep Method: E300P

Date Prep: 06.17.19

LCSD Sample Id: 7680070-1-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	254	102	90-110	0	20	mg/kg	06.18.19 13:19	

Analytical Method: Chloride by EPA 300

Seq Number: 3092682

Parent Sample Id: 627895-001

Matrix: Soil

MS Sample Id: 627895-001 S

Prep Method: E300P

Date Prep: 06.17.19

MSD Sample Id: 627895-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	144	252	416	108	421	110	90-110	1	20	mg/kg	06.18.19 13:36	

Analytical Method: Chloride by EPA 300

Seq Number: 3092682

Parent Sample Id: 627897-010

Matrix: Soil

MS Sample Id: 627897-010 S

Prep Method: E300P

Date Prep: 06.17.19

MSD Sample Id: 627897-010 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	250	285	106	285	106	90-110	0	20	mg/kg	06.18.19 14:54	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092646

MB Sample Id: 7680153-1-BLK

Matrix: Solid

LCS Sample Id: 7680153-1-BKS

Prep Method: TX1005P

Date Prep: 06.17.19

LCSD Sample Id: 7680153-1-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	1020	102	1030	103	70-135	1	20	mg/kg	06.17.19 15:17	
Diesel Range Organics (DRO)	<8.13	1000	988	99	1050	105	70-135	6	20	mg/kg	06.17.19 15:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		116		118		70-135	%	06.17.19 15:17
o-Terphenyl	108		94		105		70-135	%	06.17.19 15:17

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

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

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

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



QC Summary 627897

LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092646

Parent Sample Id: 627897-001

Matrix: Soil

MS Sample Id: 627897-001 S

Prep Method: TX1005P

Date Prep: 06.17.19

MSD Sample Id: 627897-001 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)	12.9	1000	1200	119	1170	116	70-135	3	20	mg/kg	06.17.19 16:41	
Diesel Range Organics (DRO)	18.3	1000	1190	117	1150	113	70-135	3	20	mg/kg	06.17.19 16:41	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	147	**	151	**	70-135	%	06.17.19 16:41
o-Terphenyl	126		145	**	70-135	%	06.17.19 16:41

Analytical Method: BTEX by EPA 8021B

Seq Number: 3092723

MB Sample Id: 7680199-1-BLK

Matrix: Solid

LCS Sample Id: 7680199-1-BKS

Prep Method: SW5030B

Date Prep: 06.17.19

LCSD Sample Id: 7680199-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0789	78	0.0923	92	70-130	16	35	mg/kg	06.17.19 17:27	
Toluene	<0.00202	0.101	0.0746	74	0.0849	85	70-130	13	35	mg/kg	06.17.19 17:27	
Ethylbenzene	<0.00202	0.101	0.0815	81	0.0920	92	70-130	12	35	mg/kg	06.17.19 17:27	
m,p-Xylenes	<0.00102	0.202	0.165	82	0.184	92	70-130	11	35	mg/kg	06.17.19 17:27	
o-Xylene	<0.00202	0.101	0.0799	79	0.0895	90	70-130	11	35	mg/kg	06.17.19 17:27	

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	%	06.17.19 17:27
4-Bromofluorobenzene	109		100		95		70-130	%	06.17.19 17:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3092723

Parent Sample Id: 627897-001

Matrix: Soil

MS Sample Id: 627897-001 S

Prep Method: SW5030B

Date Prep: 06.17.19

MSD Sample Id: 627897-001 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	0.0773	78	0.0926	93	70-130	18	35	mg/kg	06.17.19 18:08	
Toluene	<0.00199	0.0996	0.0988	99	0.0858	86	70-130	14	35	mg/kg	06.17.19 18:08	
Ethylbenzene	<0.00199	0.0996	0.118	118	0.0937	94	70-130	23	35	mg/kg	06.17.19 18:08	
m,p-Xylenes	<0.00101	0.199	0.238	120	0.186	93	70-130	25	35	mg/kg	06.17.19 18:08	
o-Xylene	<0.00199	0.0996	0.114	114	0.0901	90	70-130	23	35	mg/kg	06.17.19 18:08	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		101		70-130	%	06.17.19 18:08
4-Bromofluorobenzene	116		94		70-130	%	06.17.19 18:08

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: 407897

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page 1 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc.	Company Name:	KTD Energy
Address:	3300 North A Street	Address:	6104 E Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 236 3819	Email:	abyers@xenco.com

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

Project Name:	PLU 23 DTD 108H	Turn Around	☐
Project Number:	012919032	Routine	☐
P.O. Number:	200-5287	Rush: <i>same day</i>	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT		Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):	4.24.0	Thermometer ID	K8		
Received intact:	Yes ☒ No ☐	Correction Factor:	-0.2		
Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:	N/A		
Sample Custody Seals:	Yes ☒ No ☐				

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Work Order Notes
FS21	S	6/12	1130	2.5-3.5'	1	9PH (EPA 8015)	
FS10	S		0940	2.5'	1	BTEX (EPA 8024)	
PH11	S		1335	0.5'	1	Chloride (EPA 300.0)	
PH12	S		1640	0.5'	1		
FS22	S		1300	2.0'	1		
SW03	S		0957	0-2.5'	1		
FS17	S		0945	2.5'	1		
FS20	S		1125	2.5-3.5'	1		
PH12A	S		1655	4.5'	1		
PH11A	S		1347	4.5'	1		

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

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
1. <i>Anna Byers</i>	<i>Anna Byers</i>	6/13/14 @ 1545	2	<i>Anna Byers</i>	6/17/14
3			4		0735
5			6		

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 3442 Lubbock TX (806) 704 4306

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

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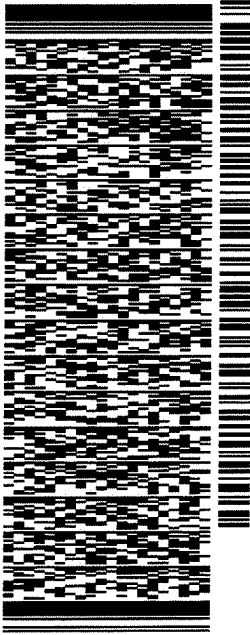
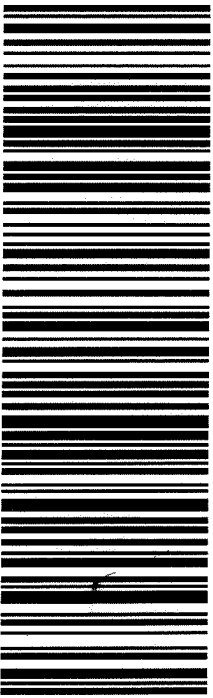
Project Manager:	Don Moir	Bill to: (if different)	Kyle Lithell
Company Name:	LT Environmental, Inc.	Company Name:	XTD Energy
Address:	3300 North A Street	Address:	8204 E. Green Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 286 3849	Email:	dmoyers@ltenv.com

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

[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	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	Ti	U																	
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.																																					
1631 / 245.1 / 7470 / 7471 : Hg																																					

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>June Byers</i>	<i>[Signature]</i>	6/5/19 @ 15:45 ²		<i>[Signature]</i>	6/11/19 @ 17:22
3			4		
5			6		

ORIGIN ID: CACA (281) 240-4200 SAMPLE CUSTODY SAMPLE CUSTODY 1089 N CANAL ST CARLSBAD, NM 88220 UNITED STATES US		SHIP DATE: 14JUN19 ACTWGT: 56.00 LB CAD: 114488676/NIN/ET4100 DIMS: 21x14x14 IN BILL SENDER
TO SAMPLE RECEIVING MIDLAND FEDEX OFFICE PRINT & SHIP CENTER FEDEX OFFICE PRINT & SHIP CENTER 200 W INTERSTATE 20 MIDLAND TX 79701 REF: (432) 704-5440 INV: PO: DEPT:		
 		
TRK# 7754 8000 4696 0201	SATURDAY HOLD PRIORITY OVERNIGHT HLD MAFKI TX-US LBB	41 MAFA
		

565J1/D210/23AD

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.

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/17/2019 07:25:00 AM

Work Order #: 627897

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4
#2 *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)?	Yes
#18 Water VOC samples have zero headspace?	Yes

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 06/17/2019

Checklist reviewed by:



Kalei Stout

Date: 06/17/2019

Analytical Report 628025

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 1081 H

012919032

20-JUN-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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

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

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



20-JUN-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **628025**

PLU 23 DTD 1081 H

Project Address: Delaware Basin

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) 628025. 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. 628025 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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



Sample Cross Reference 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS30	S	06-14-19 17:20	2.5 ft	628025-001
FS31	S	06-14-19 17:19	2.5 ft	628025-002
FS32	S	06-14-19 17:17	2.5 ft	628025-003
FS33	S	06-14-19 17:15	2.5 ft	628025-004
FS34	S	06-14-19 17:13	2.5 ft	628025-005
FS35	S	06-14-19 17:11	2.5 ft	628025-006
FS36	S	06-14-19 17:09	2.5 ft	628025-007
FS37	S	06-14-19 17:07	2.5 ft	628025-008
FS38	S	06-14-19 17:05	2.5 ft	628025-009
FS39	S	06-14-19 17:03	2.5 ft	628025-010
FS40	S	06-14-19 17:01	2.5 ft	628025-011
FS41	S	06-14-19 16:59	2.5 ft	628025-012
FS42	S	06-14-19 16:57	2.5 ft	628025-013
FS43	S	06-14-19 16:55	2.5 ft	628025-014



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 23 DTD 1081 H*

Project ID: 012919032
Work Order Number(s): 628025

Report Date: 20-JUN-19
Date Received: 06/19/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3092982 BTEX by EPA 8021B

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

Samples affected are: 628025-010,628025-009.

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



Certificate of Analysis Summary 628025

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 1081 H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 20-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	628025-001	628025-002	628025-003	628025-004	628025-005	628025-006
	<i>Field Id:</i>	FS30	FS31	FS32	FS33	FS34	FS35
	<i>Depth:</i>	2.5- ft	2.5- ft	2.5- ft	2.5- ft	2.5- ft	2.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-14-19 17:20	Jun-14-19 17:19	Jun-14-19 17:17	Jun-14-19 17:15	Jun-14-19 17:13	Jun-14-19 17:11
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-19-19 14:00	Jun-19-19 14:00	Jun-19-19 14:00	Jun-19-19 14:00	Jun-19-19 14:00	Jun-19-19 14:00
	<i>Analyzed:</i>	Jun-20-19 03:43	Jun-20-19 04:03	Jun-20-19 04:23	Jun-20-19 04:43	Jun-20-19 06:21	Jun-20-19 06:41
	<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	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00398 0.00398	<0.00399 0.00399	<0.00397 0.00397	<0.00402 0.00402	<0.00401 0.00401
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jun-19-19 15:35	Jun-19-19 15:35	Jun-19-19 15:35	Jun-19-19 15:35	Jun-19-19 15:35	Jun-19-19 15:35
	<i>Analyzed:</i>	Jun-19-19 17:47	Jun-19-19 18:09	Jun-19-19 18:16	Jun-19-19 18:24	Jun-19-19 18:31	Jun-19-19 18:53
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		24.9 5.01	21.2 5.03	31.0 5.02	17.0 5.02	49.4 4.95	38.3 4.98
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-19-19 12:00	Jun-19-19 12:00	Jun-19-19 12:00	Jun-19-19 12:00	Jun-19-19 12:00	Jun-19-19 12:00
	<i>Analyzed:</i>	Jun-19-19 13:21	Jun-19-19 14:36	Jun-19-19 15:01	Jun-19-19 15:27	Jun-19-19 15:52	Jun-19-19 16:17
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<14.9 14.9	<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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 628025

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 1081 H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 20-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	628025-007	628025-008	628025-009	628025-010	628025-011	628025-012
	<i>Field Id:</i>	FS36	FS37	FS38	FS39	FS40	FS41
	<i>Depth:</i>	2.5- ft	2.5- ft	2.5- ft	2.5- ft	2.5- ft	2.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-14-19 17:09	Jun-14-19 17:07	Jun-14-19 17:05	Jun-14-19 17:03	Jun-14-19 17:01	Jun-14-19 16:59
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-19-19 14:00	Jun-19-19 14:00	Jun-19-19 14:00	Jun-19-19 14:00	Jun-19-19 14:00	Jun-19-19 14:00
	<i>Analyzed:</i>	Jun-20-19 07:01	Jun-20-19 07:21	Jun-20-19 07:41	Jun-20-19 08:01	Jun-20-19 08:21	Jun-20-19 08:50
	<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	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
m,p-Xylenes		<0.00399 0.00399	<0.00400 0.00400	<0.00398 0.00398	<0.00397 0.00397	<0.00402 0.00402	<0.00403 0.00403
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Chloride by EPA 300	<i>Extracted:</i>	Jun-19-19 15:35	Jun-19-19 15:35	Jun-19-19 15:35	Jun-19-19 15:35	Jun-19-19 15:35	Jun-19-19 15:35
	<i>Analyzed:</i>	Jun-19-19 19:00	Jun-19-19 19:07	Jun-19-19 19:14	Jun-19-19 19:22	Jun-19-19 19:29	Jun-19-19 19:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		5.09 4.98	20.1 4.97	13.0 5.03	45.5 5.04	42.1 4.99	<4.96 4.96
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-19-19 12:00	Jun-19-19 12:00	Jun-19-19 12:00	Jun-19-19 12:00	Jun-19-19 12:00	Jun-19-19 12:00
	<i>Analyzed:</i>	Jun-19-19 16:43	Jun-19-19 17:08	Jun-19-19 17:34	Jun-19-19 17:59	Jun-19-19 18:50	Jun-19-19 19:16
	<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)		<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
Motor Oil Range Hydrocarbons (MRO)		<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
Total GRO-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

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 628025

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 1081 H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 20-JUN-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	628025-013	628025-014				
	Field Id:	FS42	FS43				
	Depth:	2.5- ft	2.5- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jun-14-19 16:57	Jun-14-19 16:55				
BTEX by EPA 8021B	Extracted:	Jun-19-19 14:00	Jun-19-19 14:00				
	Analyzed:	Jun-20-19 09:11	Jun-20-19 09:31				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00198 0.00198	<0.00200 0.00200				
	Toluene	<0.00198 0.00198	<0.00200 0.00200				
	Ethylbenzene	<0.00198 0.00198	<0.00200 0.00200				
	m,p-Xylenes	<0.00397 0.00397	<0.00400 0.00400				
	o-Xylene	<0.00198 0.00198	<0.00200 0.00200				
	Total Xylenes	<0.00198 0.00198	<0.00200 0.00200				
	Total BTEX	<0.00198 0.00198	<0.00200 0.00200				
Chloride by EPA 300	Extracted:	Jun-19-19 15:35	Jun-19-19 15:35				
	Analyzed:	Jun-19-19 19:58	Jun-19-19 20:20				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	684 4.96	44.2 4.97				
TPH by SW8015 Mod	Extracted:	Jun-19-19 12:00	Jun-19-19 12:00				
	Analyzed:	Jun-19-19 19:41	Jun-19-19 20:07				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0	<14.9 14.9				
	Diesel Range Organics (DRO)	<15.0 15.0	<14.9 14.9				
	Motor Oil Range Hydrocarbons (MRO)	<15.0 15.0	<14.9 14.9				
	Total TPH	<15.0 15.0	<14.9 14.9				
	Total GRO-DRO	<15.0 15.0	<14.9 14.9				

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

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS30**
Lab Sample Id: 628025-001

Matrix: Soil
Date Collected: 06.14.19 17.20

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.9	5.01	mg/kg	06.19.19 17.47		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 13.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 13.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 13.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 13.21	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 13.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	06.19.19 13.21	
o-Terphenyl	84-15-1	93	%	70-135	06.19.19 13.21	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS30**
Lab Sample Id: 628025-001

Matrix: Soil
Date Collected: 06.14.19 17.20

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

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	06.20.19 03.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 03.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 03.43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.20.19 03.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 03.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 03.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 03.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	06.20.19 03.43		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.19 03.43		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS31**
Lab Sample Id: 628025-002

Matrix: Soil
Date Collected: 06.14.19 17.19

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.2	5.03	mg/kg	06.19.19 18.09		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 14.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 14.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 14.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 14.36	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 14.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	06.19.19 14.36	
o-Terphenyl	84-15-1	90	%	70-135	06.19.19 14.36	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS31**
Lab Sample Id: 628025-002

Matrix: Soil
Date Collected: 06.14.19 17.19

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.19 04.03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.19 04.03	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.19 04.03	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.19 04.03	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.19 04.03	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.19 04.03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.19 04.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.19 04.03		
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.20.19 04.03		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: FS32
Lab Sample Id: 628025-003

Matrix: Soil
Date Collected: 06.14.19 17.17

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.0	5.02	mg/kg	06.19.19 18.16		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.19.19 15.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.19.19 15.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	06.19.19 15.01	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.19.19 15.01	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	06.19.19 15.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	06.19.19 15.01	
o-Terphenyl	84-15-1	91	%	70-135	06.19.19 15.01	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS32**
Lab Sample Id: 628025-003

Matrix: Soil
Date Collected: 06.14.19 17.17

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

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	06.20.19 04.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 04.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 04.23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.20.19 04.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 04.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 04.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 04.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.19 04.23		
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.20.19 04.23		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: FS33
Lab Sample Id: 628025-004

Matrix: Soil
Date Collected: 06.14.19 17.15

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3092943

Prep Method: E300P
% Moisture:
Date Prep: 06.19.19 15.35
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.0	5.02	mg/kg	06.19.19 18.24		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3092946

Prep Method: TX1005P
% Moisture:
Date Prep: 06.19.19 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 15.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 15.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 15.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 15.27	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 15.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	06.19.19 15.27	
o-Terphenyl	84-15-1	89	%	70-135	06.19.19 15.27	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS33**
Lab Sample Id: 628025-004

Matrix: Soil
Date Collected: 06.14.19 17.15

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

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	06.20.19 04.43	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.20.19 04.43	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.20.19 04.43	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.20.19 04.43	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.20.19 04.43	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.20.19 04.43	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.20.19 04.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	06.20.19 04.43		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.19 04.43		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS34**
Lab Sample Id: 628025-005

Matrix: Soil
Date Collected: 06.14.19 17.13

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	49.4	4.95	mg/kg	06.19.19 18.31		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 15.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 15.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 15.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 15.52	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 15.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	06.19.19 15.52	
o-Terphenyl	84-15-1	95	%	70-135	06.19.19 15.52	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS34**
Lab Sample Id: 628025-005

Matrix: Soil
Date Collected: 06.14.19 17.13

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.19 06.21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.19 06.21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.19 06.21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.19 06.21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.19 06.21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.19 06.21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.19 06.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.19 06.21		
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.20.19 06.21		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: FS35
Lab Sample Id: 628025-006

Matrix: Soil
Date Collected: 06.14.19 17.11

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	38.3	4.98	mg/kg	06.19.19 18.53		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 16.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 16.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 16.17	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 16.17	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 16.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	06.19.19 16.17	
o-Terphenyl	84-15-1	84	%	70-135	06.19.19 16.17	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS35**
Lab Sample Id: 628025-006

Matrix: Soil
Date Collected: 06.14.19 17.11

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

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	06.20.19 06.41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 06.41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 06.41	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.20.19 06.41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 06.41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 06.41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 06.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	06.20.19 06.41		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.19 06.41		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS36**
Lab Sample Id: 628025-007

Matrix: Soil
Date Collected: 06.14.19 17.09

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.09	4.98	mg/kg	06.19.19 19.00		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 16.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 16.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 16.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 16.43	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 16.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	06.19.19 16.43	
o-Terphenyl	84-15-1	98	%	70-135	06.19.19 16.43	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS36**
Lab Sample Id: 628025-007

Matrix: Soil
Date Collected: 06.14.19 17.09

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

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	06.20.19 07.01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 07.01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 07.01	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.20.19 07.01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 07.01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 07.01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 07.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	06.20.19 07.01		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.19 07.01		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: FS37
Lab Sample Id: 628025-008

Matrix: Soil
Date Collected: 06.14.19 17.07

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.1	4.97	mg/kg	06.19.19 19.07		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 17.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 17.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 17.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 17.08	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 17.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	06.19.19 17.08	
o-Terphenyl	84-15-1	92	%	70-135	06.19.19 17.08	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS37**
Lab Sample Id: 628025-008

Matrix: Soil
Date Collected: 06.14.19 17.07

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

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	06.20.19 07.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 07.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 07.21	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.20.19 07.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 07.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 07.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 07.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	06.20.19 07.21		
1,4-Difluorobenzene	540-36-3	98	%	70-130	06.20.19 07.21		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS38**
Lab Sample Id: 628025-009

Matrix: Soil
Date Collected: 06.14.19 17.05

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.0	5.03	mg/kg	06.19.19 19.14		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 17.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 17.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 17.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 17.34	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 17.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	06.19.19 17.34	
o-Terphenyl	84-15-1	97	%	70-135	06.19.19 17.34	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS38**
Lab Sample Id: 628025-009

Matrix: Soil
Date Collected: 06.14.19 17.05

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.19 07.41	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.19 07.41	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.19 07.41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.19 07.41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.19 07.41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.19 07.41	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.19 07.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	162	%	70-130	06.20.19 07.41	**	
1,4-Difluorobenzene	540-36-3	109	%	70-130	06.20.19 07.41		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS39**
Lab Sample Id: 628025-010

Matrix: Soil
Date Collected: 06.14.19 17.03

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.5	5.04	mg/kg	06.19.19 19.22		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 17.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 17.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 17.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 17.59	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 17.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	06.19.19 17.59	
o-Terphenyl	84-15-1	99	%	70-135	06.19.19 17.59	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS39**
Lab Sample Id: 628025-010

Matrix: Soil
Date Collected: 06.14.19 17.03

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

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	06.20.19 08.01	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.20.19 08.01	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.20.19 08.01	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.20.19 08.01	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.20.19 08.01	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.20.19 08.01	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.20.19 08.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	145	%	70-130	06.20.19 08.01	**	
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.20.19 08.01		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS40**
Lab Sample Id: 628025-011

Matrix: Soil
Date Collected: 06.14.19 17.01

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.1	4.99	mg/kg	06.19.19 19.29		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 18.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 18.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 18.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 18.50	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 18.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	06.19.19 18.50	
o-Terphenyl	84-15-1	91	%	70-135	06.19.19 18.50	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS40**
Lab Sample Id: 628025-011

Matrix: Soil
Date Collected: 06.14.19 17.01

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.19 08.21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.19 08.21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.19 08.21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.19 08.21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.19 08.21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.19 08.21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.19 08.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	06.20.19 08.21		
1,4-Difluorobenzene	540-36-3	99	%	70-130	06.20.19 08.21		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS41**
Lab Sample Id: 628025-012

Matrix: Soil
Date Collected: 06.14.19 16.59

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	06.19.19 19.51	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 19.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 19.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 19.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 19.16	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 19.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	06.19.19 19.16	
o-Terphenyl	84-15-1	103	%	70-135	06.19.19 19.16	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS41**
Lab Sample Id: 628025-012

Matrix: Soil
Date Collected: 06.14.19 16.59

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.20.19 08.50	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.20.19 08.50	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.20.19 08.50	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.20.19 08.50	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.20.19 08.50	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.20.19 08.50	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.20.19 08.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.20.19 08.50		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.19 08.50		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS42**
Lab Sample Id: 628025-013

Matrix: Soil
Date Collected: 06.14.19 16.57

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	684	4.96	mg/kg	06.19.19 19.58		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.19.19 19.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.19.19 19.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.19.19 19.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.19.19 19.41	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.19.19 19.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	06.19.19 19.41	
o-Terphenyl	84-15-1	95	%	70-135	06.19.19 19.41	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS42**
Lab Sample Id: 628025-013

Matrix: Soil
Date Collected: 06.14.19 16.57

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Prep Method: SW5030B

% Moisture:

Date Prep: 06.19.19 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.20.19 09.11	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.20.19 09.11	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.20.19 09.11	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.20.19 09.11	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.20.19 09.11	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.20.19 09.11	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.20.19 09.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.20.19 09.11		
1,4-Difluorobenzene	540-36-3	106	%	70-130	06.20.19 09.11		



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS43**
Lab Sample Id: 628025-014

Matrix: Soil
Date Collected: 06.14.19 16.55

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092943

Date Prep: 06.19.19 15.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.2	4.97	mg/kg	06.19.19 20.20		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092946

Date Prep: 06.19.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.19.19 20.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.19.19 20.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	06.19.19 20.07	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.19.19 20.07	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	06.19.19 20.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	06.19.19 20.07	
o-Terphenyl	84-15-1	94	%	70-135	06.19.19 20.07	



Certificate of Analytical Results 628025



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1081 H

Sample Id: **FS43**
Lab Sample Id: 628025-014

Matrix: Soil
Date Collected: 06.14.19 16.55

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092982

Date Prep: 06.19.19 14.00

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	06.20.19 09.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 09.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 09.31	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.20.19 09.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 09.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 09.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 09.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.20.19 09.31		
1,4-Difluorobenzene	540-36-3	107	%	70-130	06.20.19 09.31		

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit

MQL Method Quantitation Limit

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample

BLK

Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample

BKSD/LCSD

Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate

MS

Matrix Spike

MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



QC Summary 628025

LT Environmental, Inc.

PLU 23 DTD 1081 H

Analytical Method: Chloride by EPA 300

Seq Number: 3092943

MB Sample Id: 7680337-1-BLK

Matrix: Solid

LCS Sample Id: 7680337-1-BKS

Prep Method: E300P

Date Prep: 06.19.19

LCSD Sample Id: 7680337-1-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	242	97	242	97	90-110	0	20	mg/kg	06.19.19 17:33	

Analytical Method: Chloride by EPA 300

Seq Number: 3092943

Parent Sample Id: 628025-001

Matrix: Soil

MS Sample Id: 628025-001 S

Prep Method: E300P

Date Prep: 06.19.19

MSD Sample Id: 628025-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	24.9	251	282	102	283	103	90-110	0	20	mg/kg	06.19.19 17:54	

Analytical Method: Chloride by EPA 300

Seq Number: 3092943

Parent Sample Id: 628025-011

Matrix: Soil

MS Sample Id: 628025-011 S

Prep Method: E300P

Date Prep: 06.19.19

MSD Sample Id: 628025-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	42.1	250	293	100	292	100	90-110	0	20	mg/kg	06.19.19 19:36	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092946

MB Sample Id: 7680347-1-BLK

Matrix: Solid

LCS Sample Id: 7680347-1-BKS

Prep Method: TX1005P

Date Prep: 06.19.19

LCSD Sample Id: 7680347-1-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)	10.1	1000	855	86	813	81	70-135	5	20	mg/kg	06.19.19 12:31	
Diesel Range Organics (DRO)	<8.13	1000	844	84	807	81	70-135	4	20	mg/kg	06.19.19 12:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		94		85		70-135	%	06.19.19 12:31
o-Terphenyl	92		99		86		70-135	%	06.19.19 12:31

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

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

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

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



QC Summary 628025

LT Environmental, Inc.

PLU 23 DTD 1081 H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092946

Parent Sample Id: 628025-001

Matrix: Soil

MS Sample Id: 628025-001 S

Prep Method: TX1005P

Date Prep: 06.19.19

MSD Sample Id: 628025-001 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)	13.7	999	927	91	944	93	70-135	2	20	mg/kg	06.19.19 13:46	
Diesel Range Organics (DRO)	8.15	999	914	91	933	93	70-135	2	20	mg/kg	06.19.19 13:46	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		94		70-135	%	06.19.19 13:46
o-Terphenyl	93		91		70-135	%	06.19.19 13:46

Analytical Method: BTEX by EPA 8021B

Seq Number: 3092982

MB Sample Id: 7680353-1-BLK

Matrix: Solid

LCS Sample Id: 7680353-1-BKS

Prep Method: SW5030B

Date Prep: 06.19.19

LCSD Sample Id: 7680353-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000616	0.100	0.0777	78	0.0832	83	70-130	7	35	mg/kg	06.19.19 23:14	
Toluene	0.000706	0.100	0.0770	77	0.0832	83	70-130	8	35	mg/kg	06.19.19 23:14	
Ethylbenzene	0.00295	0.100	0.0836	84	0.0948	95	70-130	13	35	mg/kg	06.19.19 23:14	
m,p-Xylenes	0.00128	0.201	0.171	85	0.186	93	70-130	8	35	mg/kg	06.19.19 23:14	
o-Xylene	0.000855	0.100	0.0859	86	0.0960	96	70-130	11	35	mg/kg	06.19.19 23:14	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		103		102		70-130	%	06.19.19 23:14
4-Bromofluorobenzene	111		105		105		70-130	%	06.19.19 23:14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3092982

Parent Sample Id: 627512-001

Matrix: Soil

MS Sample Id: 627512-001 S

Prep Method: SW5030B

Date Prep: 06.19.19

MSD Sample Id: 627512-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000616	0.0998	0.0852	85	0.0791	79	70-130	7	35	mg/kg	06.20.19 12:30	
Toluene	0.000567	0.0998	0.0808	80	0.0792	79	70-130	2	35	mg/kg	06.20.19 12:30	
Ethylbenzene	0.00512	0.0998	0.0829	78	0.0834	79	70-130	1	35	mg/kg	06.20.19 12:30	
m,p-Xylenes	<0.00101	0.200	0.143	72	0.124	63	70-130	14	35	mg/kg	06.20.19 12:30	X
o-Xylene	0.00245	0.0998	0.0824	80	0.0840	82	70-130	2	35	mg/kg	06.20.19 12:30	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		99		70-130	%	06.20.19 12:30
4-Bromofluorobenzene	98		97		70-130	%	06.20.19 12:30

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

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

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

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

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 888-8888
Hobbs, NM (575) 392-7550

Page 1 of 5
www.xenco.com

Project Manager:	Dan Moore		Bill to: (if different)	Kyle Lillard
Company Name:	LT Environmental		Company Name:	XTB
Address:	3300 North A Street		Address:	364 E. Green Street
City, State ZIP:	Midland TX 79705		City, State ZIP:	Carlsbad NM 88720
Phone:	432 336 3849	Email:	dymora@ltenv.com	

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

Project Name:	PLU 23 DTD 1081#	Turn Around	
Project Number:	012919032	Routine	☐
P.O. Number:	ZRP-5287	Rush: same day	
Sampler's Name:	Ama Bayera	Due Date:	

SAMPLE RECEIPT			
Temperature (°C):	26.04	Temp Blank:	Yes (No) Wet Ice: Yes No
Received Intact:	Yes No	Thermometer ID:	22
Cooler Custody Seals:	Yes No N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Total Containers:	

Number of Containers									
(EPA 8015)									
X(EPA 8021)									
Under (EPA 300.0)									

ANALYSIS REQUEST										Work Order Notes
										TAT starts the day received by the lab, if received by 4:30pm

[illegible]

Circle Method(s) and Metal(s) to be analyzed	8RCRA TCLP / SPLP	13PPM 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	200.8 / 6020: 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
Total 200.7 / 6010			1631 / 245.1 / 7470 / 7471 : Hg

Notice: 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 of 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 of Xencio. 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
1 <i>[Signature]</i>	<i>[Signature]</i>	6/17/19	2	<i>[Signature]</i>	6/19/19
3 <i>[Signature]</i>	<i>[Signature]</i>	6/17/19 15:30	6		6/19/19
5					11:00



Page 2 of 2

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

[illegible]

Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Number	TPH	BTE	Chl	Sample Comments
FS40		S	6/14	1701	2.5'	1				
FS41		S		1654		1				
FS42		S	↑	1657		1				
FS43		S	↑	1655		1				

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
1 <i>Don Byers</i>	<i>[Signature]</i>	6/17/19	2	<i>[Signature]</i>	6/16/19
3 <i>[Signature]</i>	<i>[Signature]</i>	6/17/19 15:30	6		1/21



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/19/2019 11:40:00 AM

Work Order #: 628025

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.4
#2 *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

Brianna Teel

Date: 06/19/2019

Checklist reviewed by:

Jessica Kramer

Jessica Kramer

Date: 06/19/2019

Analytical Report 628185

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108H

012919032

21-JUN-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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

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

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



21-JUN-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **628185**

PLU 23 DTD 108H

Project Address: Delaware Basin

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) 628185. 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. 628185 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Assistant

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 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW04	S	06-14-19 16:10	0 - 2.5 ft	628185-001
SW05	S	06-14-19 16:15	0 - 2.5 ft	628185-002
SW06	S	06-14-19 12:30	0 - 2.5 ft	628185-003
SW07	S	06-14-19 12:35	0 - 2.5 ft	628185-004
FS23	S	06-14-19 09:25	2.5 - 3.5 ft	628185-005
FS24	S	06-14-19 09:30	2.5 ft	628185-006
FS25	S	06-14-19 09:35	2.5 ft	628185-007
FS26	S	06-14-19 09:40	2.5 ft	628185-008
FS27	S	06-14-19 09:45	2.5 ft	628185-009
FS28	S	06-14-19 09:50	2.5 ft	628185-010
FS29	S	06-14-19 09:55	2.5 ft	628185-011



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 23 DTD 108H*

Project ID: 012919032
Work Order Number(s): 628185

Report Date: 21-JUN-19
Date Received: 06/19/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3092907 BTEX by EPA 8021B

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



Certificate of Analysis Summary 628185

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 21-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	628185-001	628185-002	628185-003	628185-004	628185-005	628185-006
	<i>Field Id:</i>	SW04	SW05	SW06	SW07	FS23	FS24
	<i>Depth:</i>	0-2.5 ft	0-2.5 ft	0-2.5 ft	0-2.5 ft	2.5-3.5 ft	2.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-14-19 16:10	Jun-14-19 16:15	Jun-14-19 12:30	Jun-14-19 12:35	Jun-14-19 09:25	Jun-14-19 09:30
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00
	<i>Analyzed:</i>	Jun-20-19 01:37	Jun-20-19 01:59	Jun-20-19 02:21	Jun-20-19 02:43	Jun-20-19 03:05	Jun-20-19 03:27
	<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	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00398 0.00398	<0.00401 0.00401	<0.00402 0.00402	<0.00399 0.00399	<0.00400 0.00400
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jun-19-19 16:10	Jun-19-19 16:10	Jun-19-19 16:10	Jun-19-19 16:10	Jun-19-19 16:10	Jun-19-19 16:10
	<i>Analyzed:</i>	Jun-19-19 22:52	Jun-19-19 22:59	Jun-19-19 23:06	Jun-19-19 23:14	Jun-19-19 23:21	Jun-19-19 23:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.05 5.05	<4.98 4.98	7.46 5.01	<5.03 5.03	57.3 5.03	79.2 4.96
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-20-19 11:50	Jun-20-19 11:50	Jun-20-19 11:50	Jun-20-19 11:50	Jun-20-19 11:50	Jun-20-19 11:50
	<i>Analyzed:</i>	Jun-21-19 01:41	Jun-21-19 02:54	Jun-21-19 03:19	Jun-21-19 03:43	Jun-21-19 04:07	Jun-21-19 04:32
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<14.7 14.7	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<14.7 14.7	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<14.7 14.7	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<14.9 14.9	<14.7 14.7	<15.0 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<14.9 14.9	<14.7 14.7	<15.0 15.0	<15.0 15.0

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 628185

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 21-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	628185-007	628185-008	628185-009	628185-010	628185-011	
	<i>Field Id:</i>	FS25	FS26	FS27	FS28	FS29	
	<i>Depth:</i>	2.5- ft	2.5- ft	2.5- ft	2.5- ft	2.5- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Jun-14-19 09:35	Jun-14-19 09:40	Jun-14-19 09:45	Jun-14-19 09:50	Jun-14-19 09:55	
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00	
	<i>Analyzed:</i>	Jun-20-19 03:49	Jun-20-19 04:12	Jun-20-19 04:34	Jun-20-19 04:56	Jun-20-19 06:30	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	
m,p-Xylenes		<0.00398 0.00398	<0.00401 0.00401	<0.00402 0.00402	<0.00402 0.00402	<0.00400 0.00400	
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	
Chloride by EPA 300	<i>Extracted:</i>	Jun-19-19 16:10	Jun-19-19 16:10	Jun-19-19 16:10	Jun-19-19 16:10	Jun-19-19 16:10	
	<i>Analyzed:</i>	Jun-19-19 23:50	Jun-19-19 23:57	Jun-20-19 00:19	Jun-20-19 00:26	Jun-20-19 00:34	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		14.2 4.95	11.8 4.98	<5.00 5.00	133 5.04	<4.98 4.98	
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-20-19 11:50	Jun-20-19 11:50	Jun-20-19 11:50	Jun-20-19 11:50	Jun-20-19 11:50	
	<i>Analyzed:</i>	Jun-21-19 04:56	Jun-21-19 05:21	Jun-21-19 05:45	Jun-21-19 06:09	Jun-21-19 06:58	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	

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Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW04**
Lab Sample Id: 628185-001

Matrix: Soil
Date Collected: 06.14.19 16.10

Date Received: 06.19.19 11.40
Sample Depth: 0 - 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092962

Date Prep: 06.19.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.05	5.05	mg/kg	06.19.19 22.52	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093110

Date Prep: 06.20.19 11.50

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 01.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 01.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 01.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 01.41	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 01.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	06.21.19 01.41	
o-Terphenyl	84-15-1	78	%	70-135	06.21.19 01.41	



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW04**
Lab Sample Id: 628185-001

Matrix: Soil
Date Collected: 06.14.19 16.10

Date Received: 06.19.19 11.40
Sample Depth: 0 - 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092907

Date Prep: 06.19.19 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	06.20.19 01.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 01.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 01.37	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.20.19 01.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 01.37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 01.37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 01.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.19 01.37		
4-Bromofluorobenzene	460-00-4	79	%	70-130	06.20.19 01.37		



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW05**
Lab Sample Id: 628185-002

Matrix: Soil
Date Collected: 06.14.19 16.15

Date Received: 06.19.19 11.40
Sample Depth: 0 - 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092962

Date Prep: 06.19.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	06.19.19 22.59	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093110

Date Prep: 06.20.19 11.50

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 02.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 02.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 02.54	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 02.54	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 02.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	06.21.19 02.54	
o-Terphenyl	84-15-1	85	%	70-135	06.21.19 02.54	



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW05**
Lab Sample Id: 628185-002

Matrix: Soil
Date Collected: 06.14.19 16.15

Date Received: 06.19.19 11.40
Sample Depth: 0 - 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092907

Date Prep: 06.19.19 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	06.20.19 01.59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.19 01.59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.19 01.59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.19 01.59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.19 01.59	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.19 01.59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.19 01.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	06.20.19 01.59		
1,4-Difluorobenzene	540-36-3	108	%	70-130	06.20.19 01.59		



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW06**
Lab Sample Id: 628185-003

Matrix: Soil
Date Collected: 06.14.19 12.30

Date Received: 06.19.19 11.40
Sample Depth: 0 - 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092962

Date Prep: 06.19.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.46	5.01	mg/kg	06.19.19 23.06		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093110

Date Prep: 06.20.19 11.50

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.21.19 03.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.21.19 03.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	06.21.19 03.19	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.21.19 03.19	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	06.21.19 03.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	06.21.19 03.19	
o-Terphenyl	84-15-1	75	%	70-135	06.21.19 03.19	



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW06**
Lab Sample Id: 628185-003

Matrix: Soil
Date Collected: 06.14.19 12.30

Date Received: 06.19.19 11.40
Sample Depth: 0 - 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092907

Date Prep: 06.19.19 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	06.20.19 02.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 02.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 02.21	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.20.19 02.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 02.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 02.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 02.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	06.20.19 02.21		
4-Bromofluorobenzene	460-00-4	101	%	70-130	06.20.19 02.21		



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW07**
Lab Sample Id: 628185-004

Matrix: Soil
Date Collected: 06.14.19 12.35

Date Received: 06.19.19 11.40
Sample Depth: 0 - 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092962

Date Prep: 06.19.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.03	5.03	mg/kg	06.19.19 23.14	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093110

Date Prep: 06.20.19 11.50

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.7	14.7	mg/kg	06.21.19 03.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.7	14.7	mg/kg	06.21.19 03.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.7	14.7	mg/kg	06.21.19 03.43	U	1
Total TPH	PHC635	<14.7	14.7	mg/kg	06.21.19 03.43	U	1
Total GRO-DRO	PHC628	<14.7	14.7	mg/kg	06.21.19 03.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	06.21.19 03.43	
o-Terphenyl	84-15-1	85	%	70-135	06.21.19 03.43	



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW07**
Lab Sample Id: 628185-004

Matrix: Soil
Date Collected: 06.14.19 12.35

Date Received: 06.19.19 11.40
Sample Depth: 0 - 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092907

Date Prep: 06.19.19 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.19 02.43	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.19 02.43	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.19 02.43	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.19 02.43	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.19 02.43	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.19 02.43	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.19 02.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	06.20.19 02.43		
4-Bromofluorobenzene	460-00-4	101	%	70-130	06.20.19 02.43		



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS23
Lab Sample Id: 628185-005

Matrix: Soil
Date Collected: 06.14.19 09.25

Date Received: 06.19.19 11.40
Sample Depth: 2.5 - 3.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092962

Date Prep: 06.19.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	57.3	5.03	mg/kg	06.19.19 23.21		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093110

Date Prep: 06.20.19 11.50

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 04.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 04.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 04.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 04.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 04.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	06.21.19 04.07	
o-Terphenyl	84-15-1	70	%	70-135	06.21.19 04.07	



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS23**
Lab Sample Id: 628185-005

Matrix: Soil
Date Collected: 06.14.19 09.25

Date Received: 06.19.19 11.40
Sample Depth: 2.5 - 3.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092907

Date Prep: 06.19.19 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	06.20.19 03.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 03.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 03.05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.20.19 03.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 03.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 03.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 03.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	06.20.19 03.05		
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.20.19 03.05		



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS24**
Lab Sample Id: 628185-006

Matrix: Soil
Date Collected: 06.14.19 09.30

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092962

Date Prep: 06.19.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	79.2	4.96	mg/kg	06.19.19 23.28		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093110

Date Prep: 06.20.19 11.50

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 04.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 04.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 04.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 04.32	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 04.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	06.21.19 04.32	
o-Terphenyl	84-15-1	76	%	70-135	06.21.19 04.32	



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS24**
Lab Sample Id: 628185-006

Matrix: Soil
Date Collected: 06.14.19 09.30

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092907

Date Prep: 06.19.19 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	06.20.19 03.27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 03.27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 03.27	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.20.19 03.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 03.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 03.27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 03.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	06.20.19 03.27		
1,4-Difluorobenzene	540-36-3	107	%	70-130	06.20.19 03.27		



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS25
Lab Sample Id: 628185-007

Matrix: Soil
Date Collected: 06.14.19 09.35

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092962

Date Prep: 06.19.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.2	4.95	mg/kg	06.19.19 23.50		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093110

Date Prep: 06.20.19 11.50

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 04.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 04.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 04.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 04.56	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 04.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	06.21.19 04.56	
o-Terphenyl	84-15-1	80	%	70-135	06.21.19 04.56	



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS25
Lab Sample Id: 628185-007

Matrix: Soil
Date Collected: 06.14.19 09.35

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092907

Date Prep: 06.19.19 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	06.20.19 03.49	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.19 03.49	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.19 03.49	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.19 03.49	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.19 03.49	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.19 03.49	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.19 03.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.20.19 03.49		
1,4-Difluorobenzene	540-36-3	107	%	70-130	06.20.19 03.49		



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS26**
Lab Sample Id: 628185-008

Matrix: Soil
Date Collected: 06.14.19 09.40

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092962

Date Prep: 06.19.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.8	4.98	mg/kg	06.19.19 23.57		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093110

Date Prep: 06.20.19 11.50

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 05.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 05.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 05.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 05.21	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 05.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	06.21.19 05.21	
o-Terphenyl	84-15-1	93	%	70-135	06.21.19 05.21	



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS26**
Lab Sample Id: 628185-008

Matrix: Soil
Date Collected: 06.14.19 09.40

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092907

Date Prep: 06.19.19 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	06.20.19 04.12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 04.12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 04.12	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.20.19 04.12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 04.12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 04.12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 04.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	06.20.19 04.12		
1,4-Difluorobenzene	540-36-3	107	%	70-130	06.20.19 04.12		



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS27
Lab Sample Id: 628185-009

Matrix: Soil
Date Collected: 06.14.19 09.45

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092962

Date Prep: 06.19.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	06.20.19 00.19	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093110

Date Prep: 06.20.19 11.50

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 05.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 05.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 05.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 05.45	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 05.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	06.21.19 05.45	
o-Terphenyl	84-15-1	77	%	70-135	06.21.19 05.45	



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS27
Lab Sample Id: 628185-009

Matrix: Soil
Date Collected: 06.14.19 09.45

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092907

Date Prep: 06.19.19 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.19 04.34	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.19 04.34	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.19 04.34	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.19 04.34	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.19 04.34	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.19 04.34	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.19 04.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	06.20.19 04.34		
1,4-Difluorobenzene	540-36-3	107	%	70-130	06.20.19 04.34		



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS28**
Lab Sample Id: 628185-010

Matrix: Soil
Date Collected: 06.14.19 09.50

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092962

Date Prep: 06.19.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	133	5.04	mg/kg	06.20.19 00.26		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093110

Date Prep: 06.20.19 11.50

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 06.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 06.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 06.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 06.09	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 06.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	06.21.19 06.09	
o-Terphenyl	84-15-1	72	%	70-135	06.21.19 06.09	



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS28**
Lab Sample Id: 628185-010

Matrix: Soil
Date Collected: 06.14.19 09.50

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092907

Date Prep: 06.19.19 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.19 04.56	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.19 04.56	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.19 04.56	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.19 04.56	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.19 04.56	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.19 04.56	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.19 04.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.20.19 04.56		
1,4-Difluorobenzene	540-36-3	108	%	70-130	06.20.19 04.56		



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS29**
Lab Sample Id: 628185-011

Matrix: Soil
Date Collected: 06.14.19 09.55

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092962

Date Prep: 06.19.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	06.20.19 00.34	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093110

Date Prep: 06.20.19 11.50

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.21.19 06.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.21.19 06.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	06.21.19 06.58	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.21.19 06.58	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	06.21.19 06.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	06.21.19 06.58	
o-Terphenyl	84-15-1	83	%	70-135	06.21.19 06.58	



Certificate of Analytical Results 628185



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS29**
Lab Sample Id: 628185-011

Matrix: Soil
Date Collected: 06.14.19 09.55

Date Received: 06.19.19 11.40
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3092907

Date Prep: 06.19.19 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	06.20.19 06.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 06.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 06.30	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.20.19 06.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 06.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 06.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 06.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	06.20.19 06.30		
1,4-Difluorobenzene	540-36-3	105	%	70-130	06.20.19 06.30		

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit

MQL Method Quantitation Limit

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample

BLK

Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample

BKSD/LCSD

Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate

MS

Matrix Spike

MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



QC Summary 628185

LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: Chloride by EPA 300

Seq Number: 3092962

MB Sample Id: 7680340-1-BLK

Matrix: Solid

LCS Sample Id: 7680340-1-BKS

Prep Method: E300P

Date Prep: 06.19.19

LCSD Sample Id: 7680340-1-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	246	98	246	98	90-110	0	20	mg/kg	06.19.19 21:32	

Analytical Method: Chloride by EPA 300

Seq Number: 3092962

Parent Sample Id: 628183-003

Matrix: Soil

MS Sample Id: 628183-003 S

Prep Method: E300P

Date Prep: 06.19.19

MSD Sample Id: 628183-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	201	252	441	95	441	95	90-110	0	20	mg/kg	06.19.19 21:54	

Analytical Method: Chloride by EPA 300

Seq Number: 3092962

Parent Sample Id: 628185-006

Matrix: Soil

MS Sample Id: 628185-006 S

Prep Method: E300P

Date Prep: 06.19.19

MSD Sample Id: 628185-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	79.2	248	333	102	332	102	90-110	0	20	mg/kg	06.19.19 23:35	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3093110

MB Sample Id: 7680420-1-BLK

Matrix: Solid

LCS Sample Id: 7680420-1-BKS

Prep Method: TX1005P

Date Prep: 06.20.19

LCSD Sample Id: 7680420-1-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	964	96	922	92	70-135	4	20	mg/kg	06.21.19 00:52	
Diesel Range Organics (DRO)	<8.13	1000	953	95	926	93	70-135	3	20	mg/kg	06.21.19 00:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		102		99		70-135	%	06.21.19 00:52
o-Terphenyl	84		101		104		70-135	%	06.21.19 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. = Log(Sample Duplicate) - Log(Original Sample)

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

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



QC Summary 628185

LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3093110

Parent Sample Id: 628185-001

Matrix: Soil

MS Sample Id: 628185-001 S

Prep Method: TX1005P

Date Prep: 06.20.19

MSD Sample Id: 628185-001 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	1000	808	81	858	86	70-135	6	20	mg/kg	06.21.19 02:05	
Diesel Range Organics (DRO)	10.7	1000	778	77	824	81	70-135	6	20	mg/kg	06.21.19 02:05	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	73		86		70-135	%	06.21.19 02:05
o-Terphenyl	71		87		70-135	%	06.21.19 02:05

Analytical Method: BTEX by EPA 8021B

Seq Number: 3092907

MB Sample Id: 7680319-1-BLK

Matrix: Solid

LCS Sample Id: 7680319-1-BKS

Prep Method: SW5030B

Date Prep: 06.19.19

LCSD Sample Id: 7680319-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0830	82	0.0880	88	70-130	6	35	mg/kg	06.19.19 23:22	
Toluene	<0.00201	0.101	0.0799	79	0.0843	84	70-130	5	35	mg/kg	06.19.19 23:22	
Ethylbenzene	<0.00201	0.101	0.0884	88	0.0933	93	70-130	5	35	mg/kg	06.19.19 23:22	
m,p-Xylenes	<0.00402	0.201	0.177	88	0.187	94	70-130	5	35	mg/kg	06.19.19 23:22	
o-Xylene	<0.00201	0.101	0.0845	84	0.0885	89	70-130	5	35	mg/kg	06.19.19 23:22	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		102		101		70-130	%	06.19.19 23:22
4-Bromofluorobenzene	95		98		97		70-130	%	06.19.19 23:22

Analytical Method: BTEX by EPA 8021B

Seq Number: 3092907

Parent Sample Id: 628185-001

Matrix: Soil

MS Sample Id: 628185-001 S

Prep Method: SW5030B

Date Prep: 06.19.19

MSD Sample Id: 628185-001 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	0.103	104	0.0922	92	70-130	11	35	mg/kg	06.20.19 00:06	
Toluene	<0.00198	0.0992	0.0967	97	0.0872	87	70-130	10	35	mg/kg	06.20.19 00:06	
Ethylbenzene	<0.00198	0.0992	0.106	107	0.0936	94	70-130	12	35	mg/kg	06.20.19 00:06	
m,p-Xylenes	<0.00397	0.198	0.212	107	0.186	93	70-130	13	35	mg/kg	06.20.19 00:06	
o-Xylene	<0.00198	0.0992	0.102	103	0.0893	89	70-130	13	35	mg/kg	06.20.19 00:06	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		103		70-130	%	06.20.19 00:06
4-Bromofluorobenzene	109		92		70-130	%	06.20.19 00:06

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:

6028/85

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

www.xenco.com Page 1 of 2

Project Manager:	Don Meir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental	Company Name:	XTP
Address:	3500 North A Street	Address:	3104 E. Green Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 236 3849	Email:	aboyers@ltenv.com

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

Project Name:	PLU 23 DTD 108H	Turn Around	☐
Project Number:	012919032	Routine	☐
P.O. Number:	RRP-5287	Rush:	same day
Sampler's Name:	Anna Byers	Due Date:	

Temp Blank:	Yes ☒ No ☐	Well Ice:	Yes ☒ No ☐
Temperature (°C):	0.5/0.3	Thermometer:	100
Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.7
Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:	
Sample Custody Seals:	Yes ☒ No ☐		

SAMPLE RECEIPT		ANALYSIS REQUEST		Work Order Notes	
Temp Blank:	Yes ☒ No ☐	Number of Containers		TAT starts the day received by the lab, if received by 4:30pm	
Temperature (°C):	0.5/0.3	TPH (EPA 8015)			
Received Intact:	Yes ☒ No ☐	BTEX (EPA 8021)			
Cooler Custody Seals:	Yes ☒ No ☐	Chloride (EPA 300.0)			
Sample Custody Seals:	Yes ☒ No ☐				

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Analysis Request	Work Order Notes
SW04	S	6/14	1610	0-2.5'	1					
SW05	S	6/14	1615	0-2.5'	1					
SW06	S	6/14	1230	0-2.5'	1					
SW07	S	6/14	1235	0-2.5'	1					
FS23	S	6/14	0925	2.5-3.5'	1					
FS24	S	6/14	0930	2.5'	1					
FS25	S	6/14	0935	2.5'	1					
FS26	S	6/14	0940	2.5'	1					
FS27	S	6/14	0945	2.5'	1					
FS28	S	6/14	0950	2.5'	1					

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	B	Cd	Ca	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Ti	U												

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Paul H. Miller	06/17/19 16:30	Paul H. Miller	Paul H. Miller	6/17/19 16:40
	Paul H. Miller	6/18/19 14:00		Paul H. Miller	6/19/19



Chain of Custody

Work Order No

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0390 San Antonio, TX (210) 509-3334
Midland, TX (432-/04-5440) EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 888-3922
Hobbs, NM (575-392-7550)

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Page 2 of 2

Project Manager:	Dan Meir		Bill to: (if different)	Kyle Kyle Littrell
Company Name:	V-TECH Environmental		Company Name:	KTD
Address:	3300 North A Street		Address:	9101 E Greene Street
City, State ZIP:	Midland TX 79705		City, State ZIP:	Carlsbad NM 88220
Phone:	432 236 3849	Email:	dmeir@ktdenv.com	

Work Order Comments	
Program: UST/ST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRAP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other:	

Project Name:	FLV 23 DTD 108H			Turn Around
Project Number:	012919032			Routine ☐
P.O. Number:	2EP-5287			Rush: <i>same day</i>
Sampler's Name:	Anna Byers			Due Date:

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	18.4/5		☒		Thermometer ID:		
Received Intact:	Yes No						
Cooler Custody Seals:	Yes No N/A				Correction Factor:		
Sample Custody Seals:	Yes No N/A				Total Containers:		

[illegible][illegible]

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	SiO ₂	Na	Sr	Ti	Sn	U	Zn
TCLP / SPLP 6010: 8RCRA			Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Ti	U										
			1631 / 245.1 / 7470 / 7471 : Hg																										

Notice: Signature of this document and the return shipment 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
1 <i>Quincy Byers</i>	<i>Paul J. [Signature]</i>	06/17/19 @ 16:30	2 <i>Paul J. [Signature]</i>	<i>Paul J. [Signature]</i>	6/17/19 16:40
3 <i>[Signature]</i>	<i>Paul J. [Signature]</i>	06/18/19 14:00	4 <i>[Signature]</i>	<i>Paul J. [Signature]</i>	6/19/19
5 <i>[Signature]</i>			6		



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/19/2019 11:40:00 AM

Work Order #: 628185

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Brianna Teel

Date: 06/19/2019

Checklist reviewed by:

Jessica Kramer

Jessica Kramer

Date: 06/19/2019

Analytical Report 628181

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD

012919032

21-JUN-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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

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

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



21-JUN-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **628181**

PLU 23 DTD

Project Address: Delaware Basin

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) 628181. 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. 628181 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Assistant

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 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH13	S	06-17-19 10:40	3 ft	628181-001
PH13A	S	06-17-19 10:45	4.5 ft	628181-002
PH14	S	06-17-19 11:00	3 ft	628181-003
PH14A	S	06-17-19 11:05	4.5 ft	628181-004
PH15	S	06-17-19 11:30	3 ft	628181-005
PH15A	S	06-17-19 11:40	4.5 ft	628181-006
PH16	S	06-17-19 11:55	0.5 ft	628181-007
PH16A	S	06-17-19 12:05	4.5 ft	628181-008
SW08	S	06-17-19 10:10	0 - 25 ft	628181-009



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 23 DTD*

Project ID: 012919032
Work Order Number(s): 628181

Report Date: 21-JUN-19
Date Received: 06/19/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3093077 BTEX by EPA 8021B

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



Certificate of Analysis Summary 628181

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 21-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	628181-001	628181-002	628181-003	628181-004	628181-005	628181-006
	<i>Field Id:</i>	PH13	PH13A	PH14	PH14A	PH15	PH15A
	<i>Depth:</i>	3- ft	4.5- ft	3- ft	4.5- ft	3- ft	4.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-17-19 10:40	Jun-17-19 10:45	Jun-17-19 11:00	Jun-17-19 11:05	Jun-17-19 11:30	Jun-17-19 11:40
BTEX by EPA 8021B	<i>Extracted:</i>	Jun-19-19 16:00	Jun-19-19 16:00	Jun-19-19 16:00	Jun-19-19 16:00	Jun-19-19 16:00	Jun-19-19 16:00
	<i>Analyzed:</i>	Jun-20-19 17:16	Jun-20-19 17:36	Jun-20-19 17:56	Jun-20-19 18:16	Jun-20-19 18:36	Jun-20-19 18:57
	<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	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00399 0.00399	<0.00398 0.00398	<0.00398 0.00398	<0.00400 0.00400	<0.00401 0.00401	<0.00402 0.00402
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Chloride by EPA 300	<i>Extracted:</i>	Jun-19-19 15:50	Jun-19-19 15:50	Jun-19-19 15:50	Jun-19-19 15:50	Jun-19-19 15:50	Jun-19-19 15:50
	<i>Analyzed:</i>	Jun-19-19 17:57	Jun-19-19 18:02	Jun-19-19 18:16	Jun-19-19 18:21	Jun-19-19 18:36	Jun-19-19 18:40
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<4.99 4.99	<4.96 4.96	8.31 5.01	10.2 5.04	16.6 5.02	41.3 5.02
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00
	<i>Analyzed:</i>	Jun-20-19 03:07	Jun-20-19 03:31	Jun-20-19 03:55	Jun-20-19 04:19	Jun-20-19 04:44	Jun-20-19 05:08
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 628181

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD



Project Id: 012919032
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 21-JUN-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	628181-007	628181-008	628181-009			
	Field Id:	PH16	PH16A	SW08			
	Depth:	0.5- ft	4.5- ft	0-25 ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	Jun-17-19 11:55	Jun-17-19 12:05	Jun-17-19 10:10			
BTEX by EPA 8021B	Extracted:	Jun-19-19 16:00	Jun-19-19 16:00	Jun-19-19 16:00			
	Analyzed:	Jun-20-19 20:37	Jun-20-19 21:04	Jun-20-19 21:27			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
		mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00201 0.00201	0.0514 0.00200	<0.00200 0.00200			
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200			
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200			
m,p-Xylenes		<0.00402 0.00402	<0.00401 0.00401	<0.00399 0.00399			
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200			
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200			
Total BTEX		<0.00201 0.00201	0.0514 0.00200	<0.00200 0.00200			
Chloride by EPA 300	Extracted:	Jun-19-19 15:50	Jun-19-19 15:50	Jun-19-19 15:50			
	Analyzed:	Jun-19-19 18:45	Jun-19-19 18:50	Jun-19-19 18:55			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
		mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		<5.05 5.05	9.69 4.98	15.9 5.03			
TPH by SW8015 Mod	Extracted:	Jun-19-19 17:00	Jun-19-19 17:00	Jun-19-19 17:00			
	Analyzed:	Jun-20-19 05:57	Jun-20-19 06:21	Jun-20-19 06:46			
	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			
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0			

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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 Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH13**
Lab Sample Id: 628181-001

Matrix: Soil
Date Collected: 06.17.19 10.40

Date Received: 06.19.19 11.40
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092944

Date Prep: 06.19.19 15.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	06.19.19 17.57	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092947

Date Prep: 06.19.19 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.20.19 03.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.20.19 03.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.20.19 03.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.20.19 03.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.20.19 03.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	06.20.19 03.07	
o-Terphenyl	84-15-1	97	%	70-135	06.20.19 03.07	



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH13**
Lab Sample Id: 628181-001

Matrix: Soil
Date Collected: 06.17.19 10.40

Date Received: 06.19.19 11.40
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3093077

Date Prep: 06.19.19 16.00

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	06.20.19 17.16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 17.16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 17.16	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.20.19 17.16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 17.16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 17.16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 17.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.20.19 17.16		
1,4-Difluorobenzene	540-36-3	109	%	70-130	06.20.19 17.16		



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH13A**
Lab Sample Id: 628181-002

Matrix: Soil
Date Collected: 06.17.19 10.45

Date Received: 06.19.19 11.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092944

Date Prep: 06.19.19 15.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	06.19.19 18.02	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092947

Date Prep: 06.19.19 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.20.19 03.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.20.19 03.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.20.19 03.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.20.19 03.31	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.20.19 03.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	06.20.19 03.31	
o-Terphenyl	84-15-1	83	%	70-135	06.20.19 03.31	



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH13A**
Lab Sample Id: 628181-002

Matrix: Soil
Date Collected: 06.17.19 10.45

Date Received: 06.19.19 11.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3093077

Date Prep: 06.19.19 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.19 17.36	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.19 17.36	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.19 17.36	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.19 17.36	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.19 17.36	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.19 17.36	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.19 17.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.20.19 17.36		
1,4-Difluorobenzene	540-36-3	108	%	70-130	06.20.19 17.36		



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH14**
Lab Sample Id: 628181-003

Matrix: Soil
Date Collected: 06.17.19 11.00

Date Received: 06.19.19 11.40
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092944

Date Prep: 06.19.19 15.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.31	5.01	mg/kg	06.19.19 18.16		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092947

Date Prep: 06.19.19 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.20.19 03.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.20.19 03.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.20.19 03.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.20.19 03.55	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.20.19 03.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	06.20.19 03.55	
o-Terphenyl	84-15-1	93	%	70-135	06.20.19 03.55	



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH14**
Lab Sample Id: 628181-003

Matrix: Soil
Date Collected: 06.17.19 11.00

Date Received: 06.19.19 11.40
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3093077

Date Prep: 06.19.19 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.19 17.56	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.19 17.56	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.19 17.56	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.19 17.56	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.19 17.56	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.19 17.56	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.19 17.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.20.19 17.56		
1,4-Difluorobenzene	540-36-3	108	%	70-130	06.20.19 17.56		



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH14A**
Lab Sample Id: 628181-004

Matrix: Soil
Date Collected: 06.17.19 11.05

Date Received: 06.19.19 11.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092944

Date Prep: 06.19.19 15.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.2	5.04	mg/kg	06.19.19 18.21		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092947

Date Prep: 06.19.19 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.20.19 04.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.20.19 04.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.20.19 04.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.20.19 04.19	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.20.19 04.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	06.20.19 04.19	
o-Terphenyl	84-15-1	98	%	70-135	06.20.19 04.19	



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH14A**
Lab Sample Id: 628181-004

Matrix: Soil
Date Collected: 06.17.19 11.05

Date Received: 06.19.19 11.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3093077

Date Prep: 06.19.19 16.00

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	06.20.19 18.16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 18.16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 18.16	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.20.19 18.16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 18.16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 18.16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 18.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	06.20.19 18.16		
4-Bromofluorobenzene	460-00-4	102	%	70-130	06.20.19 18.16		



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH15**
Lab Sample Id: 628181-005

Matrix: Soil
Date Collected: 06.17.19 11.30

Date Received: 06.19.19 11.40
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092944

Date Prep: 06.19.19 15.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.6	5.02	mg/kg	06.19.19 18.36		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092947

Date Prep: 06.19.19 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.20.19 04.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.20.19 04.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	06.20.19 04.44	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.20.19 04.44	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	06.20.19 04.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	06.20.19 04.44	
o-Terphenyl	84-15-1	90	%	70-135	06.20.19 04.44	



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH15**
Lab Sample Id: 628181-005

Matrix: Soil
Date Collected: 06.17.19 11.30

Date Received: 06.19.19 11.40
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3093077

Date Prep: 06.19.19 16.00

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	06.20.19 18.36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 18.36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 18.36	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.20.19 18.36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 18.36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 18.36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 18.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.20.19 18.36		
1,4-Difluorobenzene	540-36-3	108	%	70-130	06.20.19 18.36		



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH15A**
Lab Sample Id: 628181-006

Matrix: Soil
Date Collected: 06.17.19 11.40

Date Received: 06.19.19 11.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092944

Date Prep: 06.19.19 15.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	41.3	5.02	mg/kg	06.19.19 18.40		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092947

Date Prep: 06.19.19 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.20.19 05.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.20.19 05.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.20.19 05.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.20.19 05.08	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.20.19 05.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	06.20.19 05.08	
o-Terphenyl	84-15-1	81	%	70-135	06.20.19 05.08	



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH15A**
Lab Sample Id: 628181-006

Matrix: Soil
Date Collected: 06.17.19 11.40

Date Received: 06.19.19 11.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3093077

Date Prep: 06.19.19 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.19 18.57	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.19 18.57	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.19 18.57	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.19 18.57	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.19 18.57	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.19 18.57	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.19 18.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	06.20.19 18.57		
4-Bromofluorobenzene	460-00-4	102	%	70-130	06.20.19 18.57		



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH16**
Lab Sample Id: 628181-007

Matrix: Soil
Date Collected: 06.17.19 11.55

Date Received: 06.19.19 11.40
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092944

Date Prep: 06.19.19 15.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.05	5.05	mg/kg	06.19.19 18.45	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092947

Date Prep: 06.19.19 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.20.19 05.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.20.19 05.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.20.19 05.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.20.19 05.57	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.20.19 05.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	06.20.19 05.57	
o-Terphenyl	84-15-1	87	%	70-135	06.20.19 05.57	



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH16**
Lab Sample Id: 628181-007

Matrix: Soil
Date Collected: 06.17.19 11.55

Date Received: 06.19.19 11.40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3093077

Date Prep: 06.19.19 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.19 20.37	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.19 20.37	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.19 20.37	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.19 20.37	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.19 20.37	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.19 20.37	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.19 20.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	06.20.19 20.37		
1,4-Difluorobenzene	540-36-3	106	%	70-130	06.20.19 20.37		



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH16A**
Lab Sample Id: 628181-008

Matrix: Soil
Date Collected: 06.17.19 12.05

Date Received: 06.19.19 11.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092944

Date Prep: 06.19.19 15.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.69	4.98	mg/kg	06.19.19 18.50		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092947

Date Prep: 06.19.19 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.20.19 06.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.20.19 06.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.20.19 06.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.20.19 06.21	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.20.19 06.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	06.20.19 06.21	
o-Terphenyl	84-15-1	87	%	70-135	06.20.19 06.21	



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **PH16A**
Lab Sample Id: 628181-008

Matrix: Soil
Date Collected: 06.17.19 12.05

Date Received: 06.19.19 11.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3093077

Date Prep: 06.19.19 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0514	0.00200	mg/kg	06.20.19 21.04		1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 21.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 21.04	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.20.19 21.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 21.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 21.04	U	1
Total BTEX		0.0514	0.00200	mg/kg	06.20.19 21.04		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.20.19 21.04		
1,4-Difluorobenzene	540-36-3	111	%	70-130	06.20.19 21.04		



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **SW08**
Lab Sample Id: 628181-009

Matrix: Soil
Date Collected: 06.17.19 10.10

Date Received: 06.19.19 11.40
Sample Depth: 0 - 25 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092944

Date Prep: 06.19.19 15.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.9	5.03	mg/kg	06.19.19 18.55		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092947

Date Prep: 06.19.19 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.20.19 06.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.20.19 06.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.20.19 06.46	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.20.19 06.46	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.20.19 06.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	06.20.19 06.46	
o-Terphenyl	84-15-1	80	%	70-135	06.20.19 06.46	



Certificate of Analytical Results 628181



LT Environmental, Inc., Arvada, CO

PLU 23 DTD

Sample Id: **SW08**
Lab Sample Id: 628181-009

Matrix: Soil
Date Collected: 06.17.19 10.10

Date Received: 06.19.19 11.40
Sample Depth: 0 - 25 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: DVM

Seq Number: 3093077

Date Prep: 06.19.19 16.00

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	06.20.19 21.27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.19 21.27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.19 21.27	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.20.19 21.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.19 21.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.19 21.27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.19 21.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	06.20.19 21.27		
4-Bromofluorobenzene	460-00-4	106	%	70-130	06.20.19 21.27		

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit

MQL Method Quantitation Limit

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample

BLK

Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample

BKSD/LCSD

Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate

MS

Matrix Spike

MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



QC Summary 628181

LT Environmental, Inc.

PLU 23 DTD

Analytical Method: Chloride by EPA 300

Seq Number: 3092944

MB Sample Id: 7680338-1-BLK

Matrix: Solid

LCS Sample Id: 7680338-1-BKS

Prep Method: E300P

Date Prep: 06.19.19

LCSD Sample Id: 7680338-1-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	250	100	251	100	90-110	0	20	mg/kg	06.19.19 16:44	

Analytical Method: Chloride by EPA 300

Seq Number: 3092944

Parent Sample Id: 628030-008

Matrix: Soil

MS Sample Id: 628030-008 S

Prep Method: E300P

Date Prep: 06.19.19

MSD Sample Id: 628030-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.1	250	280	104	279	103	90-110	0	20	mg/kg	06.19.19 16:59	

Analytical Method: Chloride by EPA 300

Seq Number: 3092944

Parent Sample Id: 628181-002

Matrix: Soil

MS Sample Id: 628181-002 S

Prep Method: E300P

Date Prep: 06.19.19

MSD Sample Id: 628181-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.96	248	259	104	257	104	90-110	1	20	mg/kg	06.19.19 18:07	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092947

MB Sample Id: 7680348-1-BLK

Matrix: Solid

LCS Sample Id: 7680348-1-BKS

Prep Method: TX1005P

Date Prep: 06.19.19

LCSD Sample Id: 7680348-1-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	916	92	963	96	70-135	5	20	mg/kg	06.19.19 23:53	
Diesel Range Organics (DRO)	<8.13	1000	873	87	876	88	70-135	0	20	mg/kg	06.19.19 23:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		101		105		70-135	%	06.19.19 23:53
o-Terphenyl	103		94		99		70-135	%	06.19.19 23:53

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

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

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

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



QC Summary 628181

LT Environmental, Inc.

PLU 23 DTD

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092947

Parent Sample Id: 628180-001

Matrix: Soil

MS Sample Id: 628180-001 S

Prep Method: TX1005P

Date Prep: 06.19.19

MSD Sample Id: 628180-001 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)	14.4	998	958	95	998	99	70-135	4	20	mg/kg	06.20.19 01:06	
Diesel Range Organics (DRO)	11.5	998	893	88	1020	101	70-135	13	20	mg/kg	06.20.19 01:06	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		96		70-135	%	06.20.19 01:06
o-Terphenyl	84		94		70-135	%	06.20.19 01:06

Analytical Method: BTEX by EPA 8021B

Seq Number: 3093077

MB Sample Id: 7680360-1-BLK

Matrix: Solid

LCS Sample Id: 7680360-1-BKS

Prep Method: SW5030B

Date Prep: 06.19.19

LCSD Sample Id: 7680360-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000606	0.100	0.0780	78	0.0833	83	70-130	7	35	mg/kg	06.20.19 10:41	
Toluene	0.000616	0.100	0.0767	77	0.0813	81	70-130	6	35	mg/kg	06.20.19 10:41	
Ethylbenzene	0.00182	0.100	0.0837	84	0.0900	90	70-130	7	35	mg/kg	06.20.19 10:41	
m,p-Xylenes	0.00108	0.200	0.165	83	0.175	88	70-130	6	35	mg/kg	06.20.19 10:41	
o-Xylene	0.000557	0.100	0.0813	81	0.0862	86	70-130	6	35	mg/kg	06.20.19 10:41	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		103		103		70-130	%	06.20.19 10:41
4-Bromofluorobenzene	102		96		98		70-130	%	06.20.19 10:41

Analytical Method: BTEX by EPA 8021B

Seq Number: 3093077

Parent Sample Id: 628180-001

Matrix: Soil

MS Sample Id: 628180-001 S

Prep Method: SW5030B

Date Prep: 06.19.19

MSD Sample Id: 628180-001 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	0.0692	69	0.0651	65	70-130	6	35	mg/kg	06.21.19 00:18	X
Toluene	<0.00200	0.0998	0.0653	65	0.0680	68	70-130	4	35	mg/kg	06.21.19 00:18	X
Ethylbenzene	<0.00200	0.0998	0.0681	68	0.0758	76	70-130	11	35	mg/kg	06.21.19 00:18	X
m,p-Xylenes	<0.00101	0.200	0.133	67	0.150	75	70-130	12	35	mg/kg	06.21.19 00:18	X
o-Xylene	<0.000344	0.0998	0.0672	67	0.0765	77	70-130	13	35	mg/kg	06.21.19 00:18	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		100		70-130	%	06.21.19 00:18
4-Bromofluorobenzene	103		112		70-130	%	06.21.19 00:18

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) 794-1296
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Chain of Custody

Work Order No:

1628181

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrell
Company Name:	LT Environmental	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E. Greave Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Louisbad NM 88220
Phone:	432 236 3849	Email:	abyers@ltenv.com

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

Project Name:	PLU 23 DTD	Turn Around	☐
Project Number:	012919032	Routine	☐
P.O. Number:	2RP-5287	Rush: same day	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT		Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):		US 10/3	Thermometer: <i>PP</i>		
Received intact:		Yes ☒ No ☐	Correction Factor:		
Cooler Custody Seals:		Yes ☒ No ☐ N/A	Total Containers:		
Sample Custody Seals:		Yes ☒ No ☐ N/A			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Work Order Notes
PH13	S	6/17	1040	3'	1	TPH (EPA 8015)	TAT starts the day received by the lab, if received by 4:30pm
PH13A	S		1045	4.5'	1	BTEX (EPA 8021)	
PH14	S		1100	3'	1	Chloride (EPA 300.0)	
PH14A	S		1105	4.5'	1		
PH15	S		1130	3'	1		
PH15A	S		1140	4.5'	1		
PH16	S		1155	0.5'	1		
PH16A	S		1205	4.5'	1		
Success	S		1010	0-2.5'	1		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 AI 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
1 Anna Byers		6/18/19 @ 0945		Food Ex	6/18/19 14:00
3					6/19/19
5					1/20



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/19/2019 11:40:00 AM

Work Order #: 628181

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Brianna Teel

Date: 06/19/2019

Checklist reviewed by:

Jessica Kramer

Jessica Kramer

Date: 06/19/2019