

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	NAB1921742793
District RP	2RP-5551
Facility ID	
Application ID	pAB1921742256

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) NAB1921742793
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.181450° Longitude -103.833297°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU Big Sinks 25 Federal Battery	Site Type Bulk Storage and Separation Facility
Date Release Discovered 7/7/2019	API# (if applicable) 30-015-39018 (PLU CVX JV BS 5H)

Unit Letter	Section	Township	Range	County
O	25	24S	30E	Eddy

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

**** Legal description lists as a Federal Surface Owner**

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) 67.65	Volume Recovered (bbls) 55
	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

A hole developed in a line riser due to corrosion at the south side of the tank battery. Fluids were released to the well pad and to a small area of ROW near the source. A vacuum truck recovered free fluids from the ground surface. The line was isolated. The damaged section of riser was removed and scheduled for repair. Additional third party resources have been retained to assist with remediation.

Form C-141

State of New Mexico
Oil Conservation Division

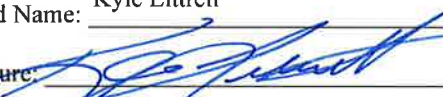
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of a volume of 25 barrels or more
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice provided by Amy Ruth to Mike Bratcher, Rob Hamlet, Victoria Venegas, and Jim Griswold (NMOCD), Jim Amos and Deborah McKinney (BLM), and Ryan Mann (SLO) on 7/7/2019 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 Supervisor</u> Date: <u>7/17/2019</u> Telephone: <u>432-221-7331</u>
<u>OCD Only</u> Received by: <u>Amalia Bustamante</u> Date: <u>8/5/2019</u>	

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Site Assessment/Characterization

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

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

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

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

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

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

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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 SupervisorSignature:  Date: 01/22/2020email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331**OCD Only**Received by: Cristina Eads Date: 03/16/2020

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Closure

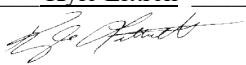
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled 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: 01/22/2020

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

OCD Only

Received by: Cristina Eads Date: 03/16/2020

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: Denied Date: 03/16/2020

Printed Name: Cristina Eads Title: Environmental Specialist



LT Environmental, Inc.

3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

January 22, 2020

Mr. Mike Bratcher
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210**RE: Closure Request
Poker Lake Unit Big Sinks 25 Federal Battery
Remediation Permit Number 2RP-5551
Incident Number NAB1921742793
Eddy County, New Mexico**

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, excavation, and soil sampling activities at the Poker Lake Unit (PLU) Big Sinks 25 Federal Battery (Site) located in Unit O, Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil following a release of produced water at the Site. Based on the results of the soil sampling events, XTO is submitting this Closure Request and requesting no further action (NFA) for Remediation Permit (RP) Number 2RP-5551.

RELEASE BACKGROUND

On July 7, 2019, a hole developed in a line riser due to corrosion at the south side of the tank battery, resulting in the release of 67.65 barrels (bbls) of produced water onto the caliche well pad and onto the adjacent developed right-of-way (ROW). The point of release is located on state-owned land and the release flowed north onto federally-owned land. A vacuum truck was dispatched to the Site to recover freestanding fluids and approximately 55 bbls of produced water were recovered. The damaged section of the riser was removed for repair. 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 July 17, 2019 and was assigned RP Number 2RP-5551.

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 greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest permitted groundwater





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well with depth to groundwater data is the New Mexico Office of State Engineers (NMOSE) well C 03716 located approximately 1.33 miles southwest of the Site (Figure 1). NMOSE wells C 03894, C 03558, and C 03702 are closer to the Site, however, these wells were not used because depth to groundwater data was unavailable. The NMOSE well C 03716 has a depth to groundwater of 425 feet bgs and a total depth of 600 feet bgs. Ground surface elevation at the groundwater well location is 3,405 feet above mean sea level (amsl), which is approximately 54 feet lower in elevation than the Site. The closest continuously-flowing water or significant watercourse to the Site is a freshwater emergent wetland located approximately 1.23 miles northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a 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
- Chloride: 20,000 mg/kg

SITE ASSESSMENT, EXCAVATION, AND DELINEATION ACTIVITIES

On July 9, 2019, LTE personnel inspected the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected eight preliminary soil samples (SS01 through SS08) from within the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of impacted soil. Soil from the preliminary soil samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization 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. Photographic documentation was conducted during excavation activities. Photographs are included in Attachment 1.

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





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procedures to Xenco Laboratories (Xenco) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, TPH-oil range organics (ORO) following EPA Method 8015M/D, and chloride following EPA Method 300.0.

Based on field screening results, visual observations, and laboratory analytical results for preliminary soil sample SS02, excavation activities appeared to be warranted. Laboratory analytical results for the preliminary soil samples are presented on Figure 2 and summarized in Table 1.

On October 22, 2019, LTE personnel oversaw excavation of impacted soil based on visual staining. Excavation occurred in the southern area of the release extent, in the developed ROW south of the point of release, via track-mounted backhoe. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. The extent of the excavation is presented on Figure 3. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. Four sidewall samples (SW01 through SW04) and two floor samples (FS01 and FS02) were collected. 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. The excavation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico. The excavation extent and excavation soil sample locations are depicted on Figure 3.

On December 20, 2019, and January 9, 2020, LTE personnel returned to the Site to oversee additional soil assessment activities on pad. Eight delineation potholes were advanced at preliminary soil sample locations SS01 through SS08 via track-mounted backhoe. Potholes PH01 through PH08 were advanced to depths of approximately three feet to four feet bgs to further assess the lateral extent of impacted soil. Two delineation soil samples were collected from each potholes at depths ranging from two feet to four feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole were documented on lithologic/soil sampling logs and are included as Attachment 2. The delineation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico. The potholes were backfilled with the soil removed. The delineation soil sample locations are depicted on Figure 4.

Additionally, LTE personnel oversaw the scraping of the pad in the area of preliminary soil sample SS02 via a track-mounted backhoe on January 17, 2020. One composite floor sample (FS03) was collected from the scraped area from a depth of approximately 0.5 feet bgs to confirm the presence or absence of impacts. The 5-point composite sample was collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the sample by thoroughly mixing. The excavation soil sample was collected, handled, and analyzed as described above at





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Xenco in Carlsbad, New Mexico. The scraped area and soil sample location are depicted on Figure 3.

The final excavation extent in the ROW measured approximately 340 square feet in area and the scraped area on pad measured approximately 200 square feet in area. A total of approximately 60 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the R360 landfill facility located in Hobbs, New Mexico.

ANALYTICAL RESULTS

Field screening results and visual observations indicated that excavation activities appeared to be warranted in the southern area of the release extent, south of the point of release. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in preliminary soil samples SS01 and SS03 through SS08. Laboratory analytical results for preliminary soil sample SS02 indicated that TPH-GRO and TPH-DRO concentrations exceeded the Closure Criteria, with a concentration of 1,230 mg/kg.

Following the excavation and scraping of impacted soil, LTE collected confirmation soil samples within the excavation extent and scraped area. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in excavation soil samples SW01 through SW04 and FS01 through FS03. Laboratory analytical results are summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

CONCLUSIONS

During site assessment activities, soil in the southern area of the release extent, south of the point of release, was determined to be impacted based on visual observations and field screening results. Additionally, preliminary soil sample SS02 was collected from within the release extent at a depth of 0.5 feet bgs to assess the presence or absence of impacted soil. Laboratory analytical results indicated that TPH-GRO and TPH-DRO concentrations exceeded the Closure Criteria.

Soil in the southern area of the release extent was removed to a depth of approximately five feet bgs. Surficial soil in the area of preliminary soil sample SS02 was scraped. Following the remediation activities in these areas, LTE collected confirmation soil samples at depths ranging from approximately 0.5 foot to five feet bgs. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in excavation soil samples SW01 through SW03 and FS01 through FS03.

Initial response effort and excavation activities have mitigated impacts at this Site. XTO requests NFA for RP Number 2RP-5551.





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

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads "Carol Ann Whaley".

Carol Ann Whaley
Staff Geologist

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

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Ryann Mann – State Land Office
U.S. Bureau of Land Management – New Mexico Office
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

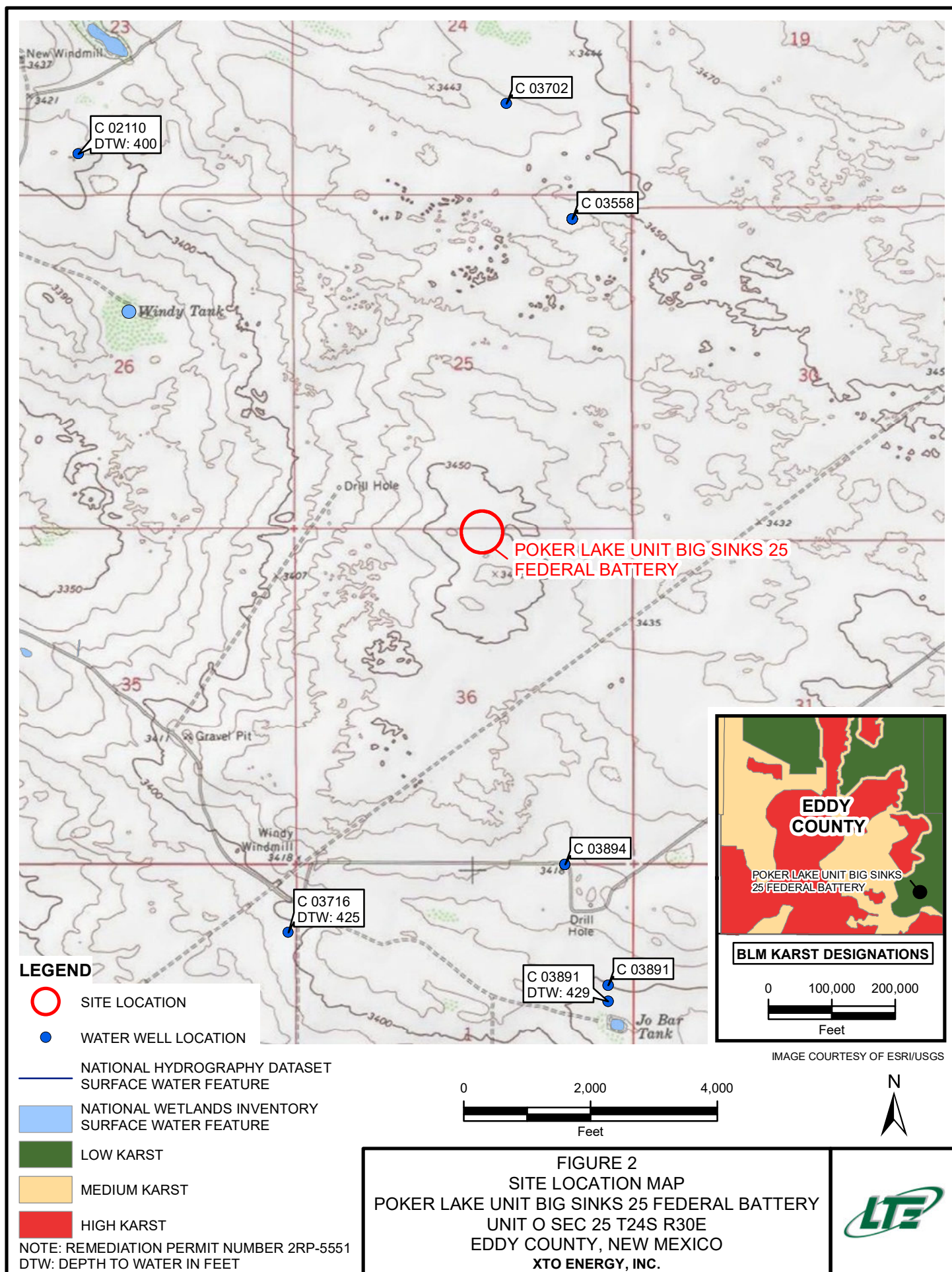
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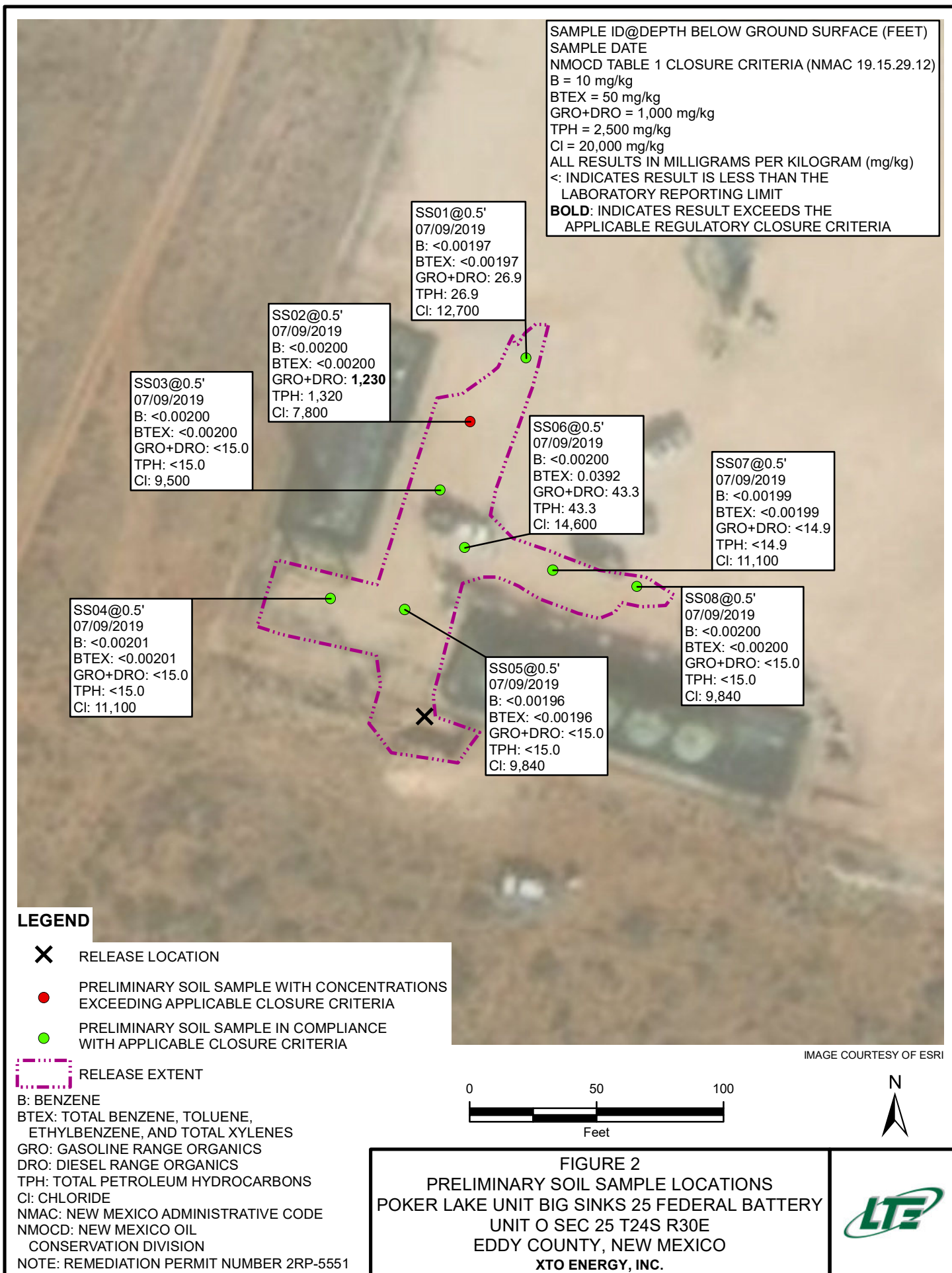
Figure 1 Site Location Map
Figure 2 Preliminary Soil Sample Locations
Figure 3 Excavation Soil Sample Locations
Figure 4 Delineation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Photographic Log
Attachment 2 Lithologic/Soil Sampling Logs
Attachment 3 Laboratory Analytical Reports

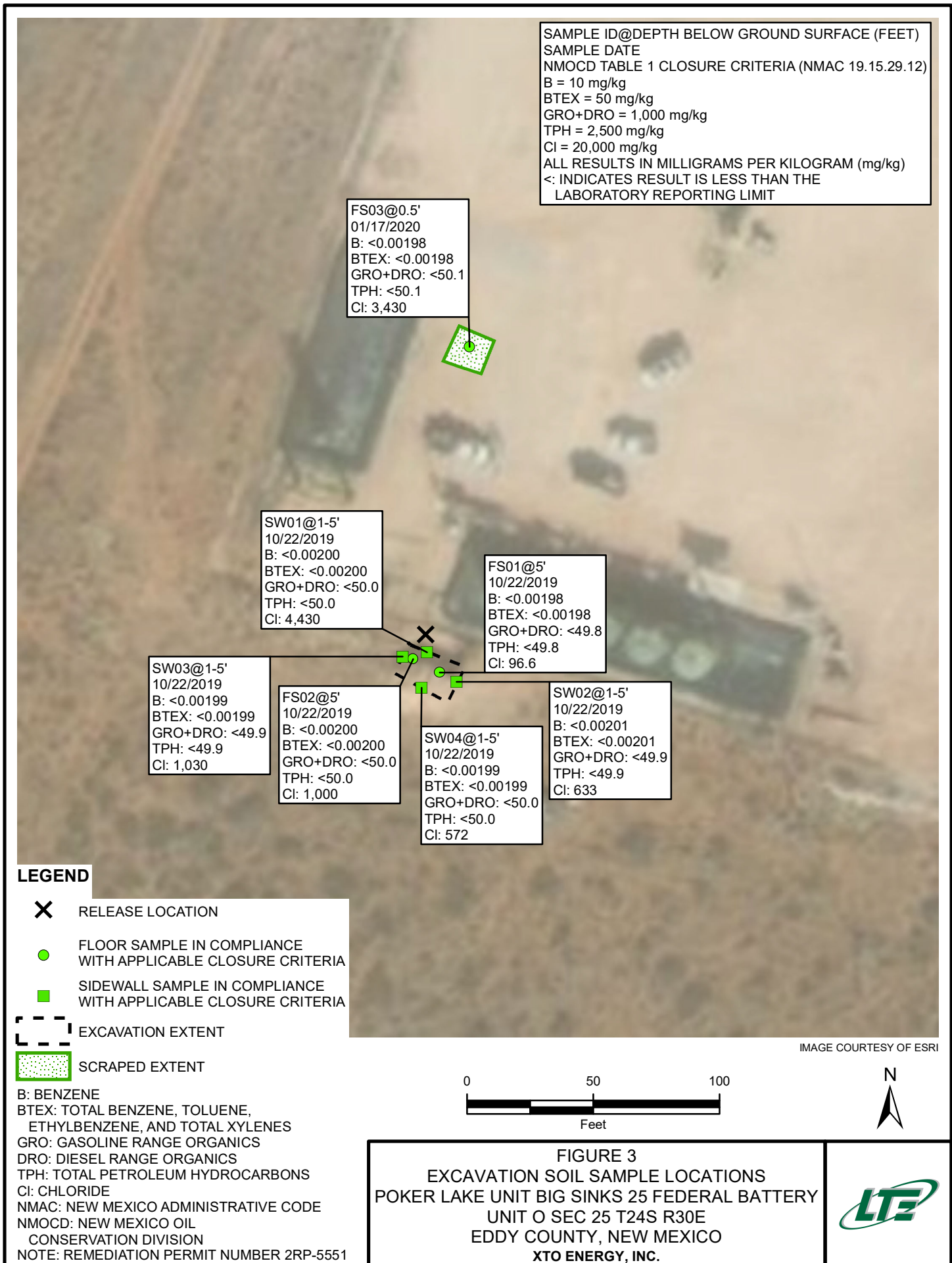


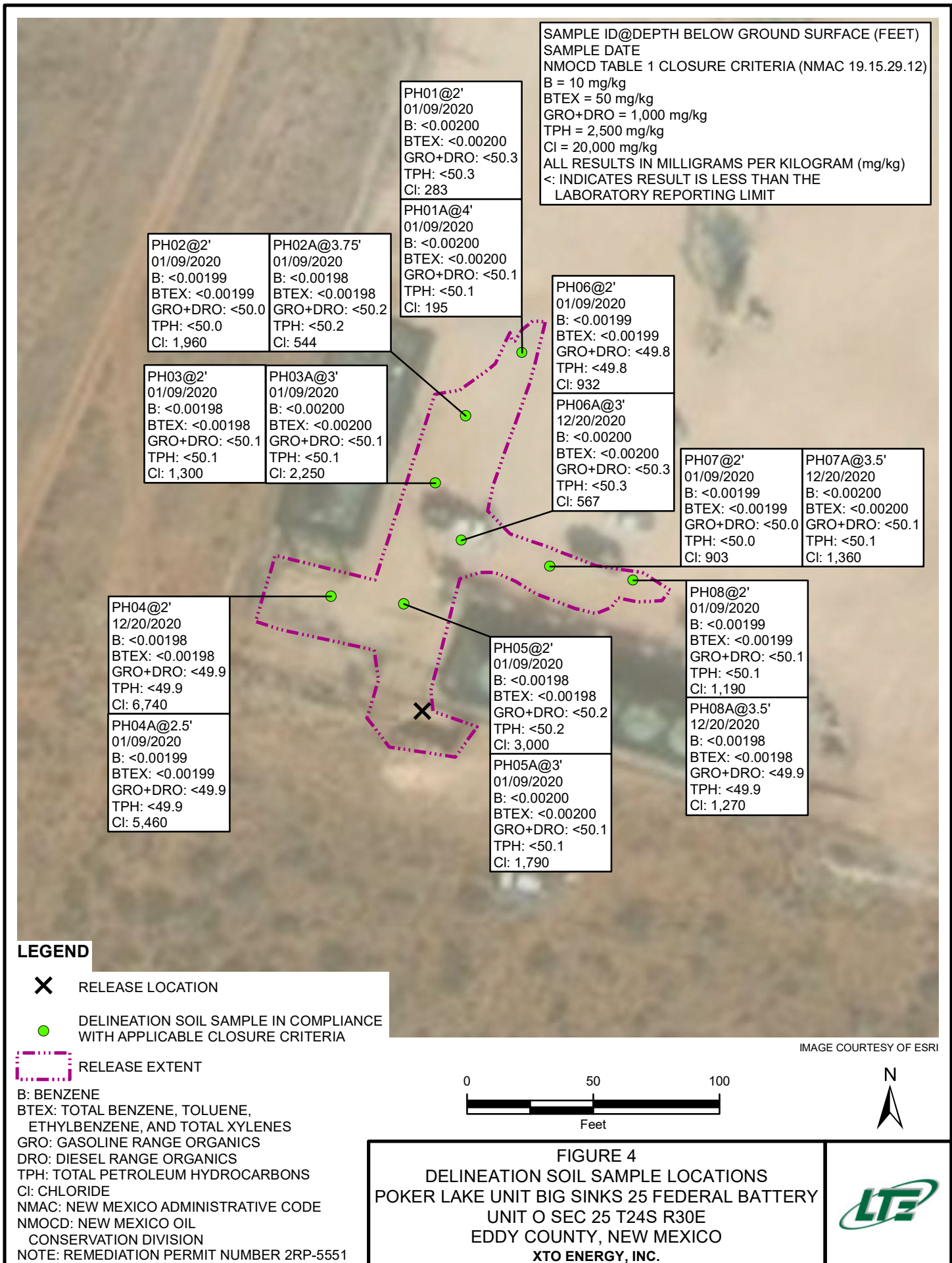
FIGURES











TABLE



TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
REMEDIATION PERMIT NUMBER 2RP-5551
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000
SS01	0.5	07/09/2019	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	<15.0	26.9	<15.0	26.9	26.9	12,700
SS02	0.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	17.3	1,210	90.1	1,230	1,320	7,800
SS03	0.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	9,500
SS04	0.5	07/09/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	11,100
SS05	0.5	07/09/2019	<0.00196	<0.00196	<0.00196	<0.00196	<0.00196	<15.0	<15.0	<15.0	<15.0	<15.0	9,840
SS06	0.5	07/09/2019	<0.00200	0.0160	0.00480	0.0184	0.0392	<15.0	43.3	<15.0	43.3	43.3	14,600
SS07	0.5	07/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	11,100
SS08	0.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	9,840
FS01	5	10/22/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	96.6
FS02	5	10/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1,000
FS03	0.5	01/17/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	3,430
SW01	1 - 5	10/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	4,430
SW02	1 - 5	10/22/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	633
SW03	1 - 5	10/22/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	1,030
SW04	1 - 5	10/22/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	572
PH01	2	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	283
PH01A	4	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	195
PH02	2	01/09/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	1,960
PH02A	3.75	01/09/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	544
PH03	2	01/09/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	1,300
PH03A	3	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	2,250
PH04	2	12/20/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	6,740
PH04A	2.5	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	5,460
PH05	2	01/09/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	3,000
PH05A	3	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,790



**TABLE 1
SOIL ANALYTICAL RESULTS**

**POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
REMEDATION PERMIT NUMBER 2RP-5551
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000
PH06	2	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	932
PH06A	3	12/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	567
PH07	2	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	903
PH07A	3.5	12/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,360
PH08	2	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	1,190
PH08A	3.5	12/20/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	1,270

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

MRO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

NE - not established

TPH - total petroleum hydrocarbons

Bold - indicates result exceeds the applicable regulatory standard

< - indicates result is below laboratory reporting limits

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



ATTACHMENT 1: PHOTOGRAPHIC LOG





View of surficial soil staining in the southern area of the release extent, south of the point of release, during site assessment activities.

Project: 012919149	XTO Energy, Inc. Poker Lake Unit Big Sinks 25 Federal Battery	 Advancing Opportunity
July 9, 2019	Photographic Log	



Southern view of scraped area on caliche well pad during confirmation soil sampling activities.

Project: 012919149	XTO Energy, Inc. Poker Lake Unit Big Sinks 25 Federal Battery	 Advancing Opportunity
January 17, 2020	Photographic Log	





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

Compliance · Engineering · Remediation

Identifier:

PH01

Date:

1/19/20

Project Name:

PLU Big Sinks
25 Fed Battery

RP Number:

2RP-5551

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Ellie

Method: Buck hole

Lat/Long:

Field Screening:

TPH + Chloride

Hole Diameter:

Total Depth:

4'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					1			
1000	D	235	0.5	N	PH01	2	2ft	S sand - trace silt, brown, no odor
					3			
1005	D	7160	0.2	N	PH01A	4	4ft	S sand, no odor, brown
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
					12			



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

Compliance · Engineering · Remediation

Identifier:

PH02

Date:

1/9/20

Project Name:

PLU Big Sinks
25 Fed Battery

RP Number:

22P-5551

LITHOLOGIC / SOIL SAMPLING LOG

Logged By:

Ellie N

Method: Backhoe

Lat/Long:

Field Screening:

TPH + Chbride

Hole Diameter:

Total Depth:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					1			
1025	D	1,629	0.0	N	PH02	2	2ft	S sand, trace caliche, no odor, brown to light brown
					3	2.5ft		
1036	D	392	0.0	N	PH02A	4	3.25ft	S caliche, no odor
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
					12			



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

Compliance · Engineering · Remediation

Identifier:

PLU3

Date:

1/9/20

Project Name:

PLU Big Sinks
25 Fed Battery

RP Number:

ZRP-5551

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

TPH + Chloride

Logged By: Ellie N

Method: Buck hoe

Hole Diameter:

Total Depth:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					1			
1050	D	1,719	0.0	N	PH03	2	28t	S sand, coarse-fine, no odor, tan
1055	D	851	0.0	N	PH03A	3	38t	S caliche, no odor
					4			
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
					12			



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

Compliance · Engineering · Remediation

Identifier: PH04	Date: 12/20/2019
Project Name: PLU Big Sinks 25 Federal Battery	RP Number: 2RP-5551

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:	Field Screening: PID/HACH	Hole Diameter: 4"	Total Depth: 2.5
-----------	------------------------------	----------------------	---------------------

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	820	0.2	no	PH04	0			
dry	696	0.3	no	PH04A	2	2'	SP-SC	SAND, with clay, red-brown, low plasticity, non-cemented
						2.5'	cche	CALICHE, with silt, tan, cemented
								Total Depth 2.5 foot bgs
					4			
					6			
					8			
					10			



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

Compliance · Engineering · Remediation

Identifier:

PH05

Date:

1/9/20

Project Name:

PLU Big Sinks
25 Fed Battery

RP Number:

2RP-5551

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

TPH + chloride

Logged By: Ellie N.

Method: Backhoe

Hole Diameter:

Total Depth:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
11	1,008	0.2	N	PH05	1			caliche, no odor ↓
0	1,008	0.0	N	PH05A	2	28d	S	
					3	38d	S	
					4			
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
					12			

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH06		Date: 12/20/2019		
				Project Name: PLU Big Sinks 25 Federal Battery		RP Number: 2RP-5551		
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: WM		Method: backhoe		
Lat/Long:		Field Screening: PID/HACH		Hole Diameter: 4"		Total Depth: 3'		
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	528	0.7	no	PH06	0			
dry	148	0.8	no	PH06A	2	2'	SP-SC	SAND, with clay, red-brown, low plasticity, non-cemented
						3'	cche	CALICHE, with silt, tan, cemented
					4			Total Depth 3 foot bgs
					6			
					8			
					10			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH07	Date: 12/20/2019					
		Project Name: PLU Big Sinks 25 Federal Battery	RP Number: 2RP-5551					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: WM	Method: backhoe					
Lat/Long:		Field Screening: PID/HACH	Hole Diameter: 4"					
Total Depth: 3.5'								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	630	0.1	no	PH07	0			
					2	2'	SP-SC	SAND, with clay, red-brown, low plasticity, non-cemented
dry	304	0.4	no	PH07A		3.5'	cche	CALICHE, with silt, tan, cemented
					4			Total Depth 3.5 foot bgs
					6			
					8			
					10			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH08	Date: 12/20/2019					
		Project Name: PLU Big Sinks 25 Federal Battery	RP Number: 2RP-5551					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: WM	Method: backhoe					
Lat/Long:		Field Screening: PID/HACH	Hole Diameter: 4"					
Total Depth: 3.5'								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	820	0.2	no	PH08	0			
					2	2'	SP-SC	SAND, with clay, red-brown, low plasticity, non-cemented
dry	696	0.3	no	PH08A		3.5'	cche	CALICHE, with silt, tan, cemented
					4			Total Depth 3.5 foot bgs
					6			
					8			
					10			

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS



Analytical Report 630600

for
LT Environmental, Inc.

Project Manager: Dan Moir
PLU BIG SINKS FED BATTERY

16-JUL-19

Collected By: Client



1089 N Canal Street
Carlsbad, NM 88220

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

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

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



16-JUL-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **630600**

PLU BIG SINKS FED BATTERY

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) 630600. 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. 630600 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 630600****LT Environmental, Inc., Arvada, CO**

PLU BIG SINKS FED BATTERY

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	07-09-19 13:10	0.5 ft	630600-001
SS02	S	07-09-19 13:15	0.5 ft	630600-002
SS03	S	07-09-19 13:20	0.5 ft	630600-003
SS04	S	07-09-19 13:25	0.5 ft	630600-004
SS05	S	07-09-19 13:30	0.5 ft	630600-005
SS06	S	07-09-19 13:35	0.5 ft	630600-006
SS07	S	07-09-19 13:40	0.5 ft	630600-007
SS08	S	07-09-19 13:45	0.5 ft	630600-008



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU BIG SINKS FED BATTERY

Project ID:

Work Order Number(s): 630600

Report Date: 16-JUL-19

Date Received: 07/11/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095520 BTEX by EPA 8021B

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



Certificate of Analysis Summary 630600

LT Environmental, Inc., Arvada, CO

Project Name: PLU BIG SINKS FED BATTERY

Project Id:

Contact: Dan Moir

Project Location: Delaware Basin

Date Received in Lab: Thu Jul-11-19 12:48 pm

Report Date: 16-JUL-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	630600-001	630600-002	630600-003	630600-004	630600-005	630600-006
	Field Id:	SS01	SS02	SS03	SS04	SS05	SS06
	Depth:	0.5- ft	0.5- ft	0.5- ft	0.5- ft	0.5- ft	0.5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jul-09-19 13:10	Jul-09-19 13:15	Jul-09-19 13:20	Jul-09-19 13:25	Jul-09-19 13:30	Jul-09-19 13:35
BTEX by EPA 8021B SUB: T104704400-18-16	Extracted:	Jul-13-19 15:20	Jul-13-19 15:20	Jul-13-19 15:20	Jul-13-19 15:20	Jul-13-19 15:20	Jul-13-19 15:20
	Analyzed:	Jul-15-19 05:52	Jul-15-19 06:14	Jul-16-19 11:21	Jul-15-19 06:58	Jul-15-19 07:20	Jul-15-19 07:42
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00197 0.00197	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00196 0.00196	<0.00200 0.00200
Toluene		<0.00197 0.00197	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00196 0.00196	0.0160 0.00200
Ethylbenzene		<0.00197 0.00197	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00196 0.00196	0.00480 0.00200
m,p-Xylenes		<0.00394 0.00394	<0.00401 0.00401	<0.00400 0.00400	<0.00402 0.00402	<0.00393 0.00393	0.0129 0.00399
o-Xylene		<0.00197 0.00197	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00196 0.00196	0.00548 0.00200
Total Xylenes		<0.00197 0.00197	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00196 0.00196	0.0184 0.00200
Total BTEX		<0.00197 0.00197	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00196 0.00196	0.0392 0.00200
Chloride by EPA 300 SUB: T104704400-18-16	Extracted:	Jul-15-19 11:00	Jul-15-19 11:00	Jul-15-19 11:00	Jul-15-19 11:00	Jul-15-19 11:00	Jul-15-19 11:15
	Analyzed:	Jul-15-19 16:59	Jul-15-19 17:06	Jul-15-19 17:13	Jul-15-19 17:21	Jul-15-19 17:28	Jul-15-19 18:33
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		12700 99.2	7800 49.6	9500 49.9	11100 50.0	9840 50.0	14600 99.4
TPH by SW8015 Mod SUB: T104704400-18-16	Extracted:	Jul-14-19 08:00	Jul-14-19 08:00	Jul-14-19 08:00	Jul-14-19 08:00	Jul-14-19 08:00	Jul-14-19 08:00
	Analyzed:	Jul-14-19 11:04	Jul-14-19 12:16	Jul-14-19 12:41	Jul-14-19 13:05	Jul-14-19 13:30	Jul-14-19 13:54
	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	17.3 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		26.9 15.0	1210 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	43.3 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	90.1 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		26.9 15.0	1320 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	43.3 15.0
Total GRO-DRO		26.9 15.0	1230 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	43.3 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
Project Assistant



Certificate of Analysis Summary 630600

LT Environmental, Inc., Arvada, CO

Project Name: PLU BIG SINKS FED BATTERY

Project Id:

Contact: Dan Moir

Project Location: Delaware Basin

Date Received in Lab: Thu Jul-11-19 12:48 pm

Report Date: 16-JUL-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	630600-007	630600-008				
	Field Id:	SS07	SS08				
	Depth:	0.5- ft	0.5- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jul-09-19 13:40	Jul-09-19 13:45				
BTEX by EPA 8021B SUB: T104704400-18-16	Extracted:	Jul-13-19 15:20	Jul-13-19 15:20				
	Analyzed:	Jul-15-19 08:04	Jul-15-19 08:26				
	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	<0.00400 0.00400				
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 SUB: T104704400-18-16	Extracted:	Jul-15-19 11:15	Jul-15-19 11:15				
	Analyzed:	Jul-16-19 16:44	Jul-15-19 18:48				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		11100 D 100	9840 50.1				
TPH by SW8015 Mod SUB: T104704400-18-16	Extracted:	Jul-14-19 08:00	Jul-14-19 08:00				
	Analyzed:	Jul-14-19 14:19	Jul-14-19 14:43				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	<15.0 15.0				
Diesel Range Organics (DRO)		<14.9 14.9	<15.0 15.0				
Motor Oil Range Hydrocarbons (MRO)		<14.9 14.9	<15.0 15.0				
Total TPH		<14.9 14.9	<15.0 15.0				
Total GRO-DRO		<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
Project Assistant



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS01** Matrix: Soil Date Received: 07.11.19 12.48
 Lab Sample Id: 630600-001 Date Collected: 07.09.19 13.10 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.15.19 11.00 Basis: Wet Weight
 Seq Number: 3095416 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12700	99.2	mg/kg	07.15.19 16.59		20

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.14.19 08.00 Basis: Wet Weight
 Seq Number: 3095300 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 11.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	26.9	15.0	mg/kg	07.14.19 11.04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 11.04	U	1
Total TPH	PHC635	26.9	15.0	mg/kg	07.14.19 11.04		1
Total GRO-DRO	PHC628	26.9	15.0	mg/kg	07.14.19 11.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	07.14.19 11.04	
o-Terphenyl	84-15-1	120	%	70-135	07.14.19 11.04	



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS01**
 Lab Sample Id: 630600-001

Matrix: Soil
 Date Collected: 07.09.19 13.10

Date Received: 07.11.19 12.48
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: AMB

Analyst: AMB

Seq Number: 3095520

Prep Method: SW5030B

% Moisture:

Date Prep: 07.13.19 15.20

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1
Toluene	108-88-3	<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1
Ethylbenzene	100-41-4	<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1
m,p-Xylenes	179601-23-1	<0.00394	0.00394	mg/kg	07.15.19 05.52	U	1
o-Xylene	95-47-6	<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1
Total Xylenes	1330-20-7	<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1
Total BTEX		<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.15.19 05.52		
1,4-Difluorobenzene	540-36-3	95	%	70-130	07.15.19 05.52		



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS02**
 Lab Sample Id: 630600-002

Matrix: Soil
 Date Collected: 07.09.19 13.15

Date Received: 07.11.19 12.48
 Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095416

Date Prep: 07.15.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7800	49.6	mg/kg	07.15.19 17.06		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095300

Date Prep: 07.14.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	17.3	15.0	mg/kg	07.14.19 12.16		1
Diesel Range Organics (DRO)	C10C28DRO	1210	15.0	mg/kg	07.14.19 12.16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	90.1	15.0	mg/kg	07.14.19 12.16		1
Total TPH	PHC635	1320	15.0	mg/kg	07.14.19 12.16		1
Total GRO-DRO	PHC628	1230	15.0	mg/kg	07.14.19 12.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	07.14.19 12.16	
o-Terphenyl	84-15-1	126	%	70-135	07.14.19 12.16	



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS02**
 Lab Sample Id: 630600-002

Matrix: Soil
 Date Collected: 07.09.19 13.15

Date Received: 07.11.19 12.48
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: AMB

% Moisture:

Analyst: AMB

Date Prep: 07.13.19 15.20

Basis: Wet Weight

Seq Number: 3095520

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.15.19 06.14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	07.15.19 06.14		
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.15.19 06.14		



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS03** Matrix: Soil Date Received: 07.11.19 12.48
 Lab Sample Id: 630600-003 Date Collected: 07.09.19 13.20 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.15.19 11.00 Basis: Wet Weight
 Seq Number: 3095416 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9500	49.9	mg/kg	07.15.19 17.13		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.14.19 08.00 Basis: Wet Weight
 Seq Number: 3095300 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 12.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 12.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 12.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 12.41	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 12.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	07.14.19 12.41	
o-Terphenyl	84-15-1	94	%	70-135	07.14.19 12.41	



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS03**
 Lab Sample Id: 630600-003

Matrix: Soil
 Date Collected: 07.09.19 13.20

Date Received: 07.11.19 12.48
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: AMB

Analyst: AMB

Seq Number: 3095520

Prep Method: SW5030B

% Moisture:

Date Prep: 07.13.19 15.20

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.16.19 11.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.16.19 11.21		
4-Bromofluorobenzene	460-00-4	109	%	70-130	07.16.19 11.21		



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS04**
Lab Sample Id: 630600-004

Matrix: Soil
Date Collected: 07.09.19 13.25

Date Received: 07.11.19 12.48
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095416

Date Prep: 07.15.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11100	50.0	mg/kg	07.15.19 17.21		10

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095300

Date Prep: 07.14.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 13.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 13.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 13.05	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 13.05	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 13.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	07.14.19 13.05	
o-Terphenyl	84-15-1	103	%	70-135	07.14.19 13.05	



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS04**
 Lab Sample Id: 630600-004

Matrix: Soil
 Date Collected: 07.09.19 13.25

Date Received: 07.11.19 12.48
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: AMB

Analyst: AMB

Seq Number: 3095520

Prep Method: SW5030B

% Moisture:

Date Prep: 07.13.19 15.20

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.15.19 06.58	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	07.15.19 06.58		
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.15.19 06.58		



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS05** Matrix: Soil Date Received: 07.11.19 12.48
 Lab Sample Id: 630600-005 Date Collected: 07.09.19 13.30 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.15.19 11.00 Basis: Wet Weight
 Seq Number: 3095416 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9840	50.0	mg/kg	07.15.19 17.28		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.14.19 08.00 Basis: Wet Weight
 Seq Number: 3095300 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 13.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 13.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 13.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 13.30	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 13.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	07.14.19 13.30	
o-Terphenyl	84-15-1	108	%	70-135	07.14.19 13.30	



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS05**
 Lab Sample Id: 630600-005

Matrix: Soil
 Date Collected: 07.09.19 13.30

Date Received: 07.11.19 12.48
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: AMB

Analyst: AMB

Seq Number: 3095520

Prep Method: SW5030B

% Moisture:

Date Prep: 07.13.19 15.20

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1
Toluene	108-88-3	<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1
Ethylbenzene	100-41-4	<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1
m,p-Xylenes	179601-23-1	<0.00393	0.00393	mg/kg	07.15.19 07.20	U	1
o-Xylene	95-47-6	<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1
Total Xylenes	1330-20-7	<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1
Total BTEX		<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	07.15.19 07.20		
1,4-Difluorobenzene	540-36-3	98	%	70-130	07.15.19 07.20		



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS06** Matrix: Soil Date Received: 07.11.19 12.48
 Lab Sample Id: 630600-006 Date Collected: 07.09.19 13.35 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.15.19 11.15 Basis: Wet Weight
 Seq Number: 3095517 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14600	99.4	mg/kg	07.15.19 18.33		20

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.14.19 08.00 Basis: Wet Weight
 Seq Number: 3095300 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 13.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	43.3	15.0	mg/kg	07.14.19 13.54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 13.54	U	1
Total TPH	PHC635	43.3	15.0	mg/kg	07.14.19 13.54		1
Total GRO-DRO	PHC628	43.3	15.0	mg/kg	07.14.19 13.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	07.14.19 13.54	
o-Terphenyl	84-15-1	103	%	70-135	07.14.19 13.54	



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS06**
 Lab Sample Id: 630600-006

Matrix: Soil
 Date Collected: 07.09.19 13.35

Date Received: 07.11.19 12.48
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: AMB

% Moisture:

Analyst: AMB

Date Prep: 07.13.19 15.20

Basis: Wet Weight

Seq Number: 3095520

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 07.42	U	1
Toluene	108-88-3	0.0160	0.00200	mg/kg	07.15.19 07.42		1
Ethylbenzene	100-41-4	0.00480	0.00200	mg/kg	07.15.19 07.42		1
m,p-Xylenes	179601-23-1	0.0129	0.00399	mg/kg	07.15.19 07.42		1
o-Xylene	95-47-6	0.00548	0.00200	mg/kg	07.15.19 07.42		1
Total Xylenes	1330-20-7	0.0184	0.00200	mg/kg	07.15.19 07.42		1
Total BTEX		0.0392	0.00200	mg/kg	07.15.19 07.42		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	07.15.19 07.42		
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.15.19 07.42		



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS07** Matrix: Soil Date Received: 07.11.19 12.48
 Lab Sample Id: 630600-007 Date Collected: 07.09.19 13.40 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.15.19 11.15 Basis: Wet Weight
 Seq Number: 3095517 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11100	100	mg/kg	07.15.19 18.41	D	20

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.14.19 08.00 Basis: Wet Weight
 Seq Number: 3095300 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.14.19 14.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.14.19 14.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.14.19 14.19	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.14.19 14.19	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.14.19 14.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.14.19 14.19	
o-Terphenyl	84-15-1	111	%	70-135	07.14.19 14.19	



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS07**
 Lab Sample Id: 630600-007

Matrix: Soil
 Date Collected: 07.09.19 13.40

Date Received: 07.11.19 12.48
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: AMB

Analyst: AMB

Seq Number: 3095520

Prep Method: SW5030B

% Moisture:

Date Prep: 07.13.19 15.20

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.15.19 08.04	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	07.15.19 08.04		
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.15.19 08.04		



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS08** Matrix: Soil Date Received: 07.11.19 12.48
 Lab Sample Id: 630600-008 Date Collected: 07.09.19 13.45 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.15.19 11.15 Basis: Wet Weight
 Seq Number: 3095517 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9840	50.1	mg/kg	07.15.19 18.48		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.14.19 08.00 Basis: Wet Weight
 Seq Number: 3095300 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 14.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 14.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 14.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 14.43	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 14.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	07.14.19 14.43	
o-Terphenyl	84-15-1	109	%	70-135	07.14.19 14.43	



Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id: **SS08**
 Lab Sample Id: 630600-008

Matrix: Soil
 Date Collected: 07.09.19 13.45

Date Received: 07.11.19 12.48
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: AMB

Analyst: AMB

Seq Number: 3095520

Prep Method: SW5030B

% Moisture:

Date Prep: 07.13.19 15.20

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.15.19 08.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.15.19 08.26		
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.15.19 08.26		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
PLU BIG SINKS FED BATTERY

Analytical Method: Chloride by EPA 300

Seq Number: 3095416

MB Sample Id: 7682025-1-BLK

Matrix: Solid

LCS Sample Id: 7682025-1-BKS

Prep Method: E300P

Date Prep: 07.15.19

LCSD Sample Id: 7682025-1-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	240	96	240	96	90-110	0	20	mg/kg	07.15.19 13:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3095517

MB Sample Id: 7682026-1-BLK

Matrix: Solid

LCS Sample Id: 7682026-1-BKS

Prep Method: E300P

Date Prep: 07.15.19

LCSD Sample Id: 7682026-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	241	96	241	96	90-110	0	20	mg/kg	07.15.19 17:57	

Analytical Method: Chloride by EPA 300

Seq Number: 3095416

Parent Sample Id: 630592-001

Matrix: Soil

MS Sample Id: 630592-001 S

Prep Method: E300P

Date Prep: 07.15.19

MSD Sample Id: 630592-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	452	249	671	88	672	88	90-110	0	20	mg/kg	07.15.19 14:19	X

Analytical Method: Chloride by EPA 300

Seq Number: 3095416

Parent Sample Id: 630592-002

Matrix: Soil

MS Sample Id: 630592-002 S

Prep Method: E300P

Date Prep: 07.15.19

MSD Sample Id: 630592-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	135	250	367	93	367	93	90-110	0	20	mg/kg	07.15.19 16:01	

Analytical Method: Chloride by EPA 300

Seq Number: 3095517

Parent Sample Id: 630733-004

Matrix: Soil

MS Sample Id: 630733-004 S

Prep Method: E300P

Date Prep: 07.15.19

MSD Sample Id: 630733-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.993	250	281	112	281	112	90-110	0	20	mg/kg	07.15.19 18:19	X

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

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

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

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



LT Environmental, Inc.
PLU BIG SINKS FED BATTERY

Analytical Method: Chloride by EPA 300

Seq Number: 3095517

Parent Sample Id: 630733-009

Matrix: Soil

MS Sample Id: 630733-009 S

Prep Method: E300P

Date Prep: 07.15.19

MSD Sample Id: 630733-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	262	251	502	96	501	95	90-110	0	20	mg/kg	07.15.19 20:00	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095300

MB Sample Id: 7681990-1-BLK

Matrix: Solid

LCS Sample Id: 7681990-1-BKS

Prep Method: TX1005P

Date Prep: 07.14.19

LCSD Sample Id: 7681990-1-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	1090	109	1020	102	70-135	7	20	mg/kg	07.14.19 10:15	
Diesel Range Organics (DRO)	<8.13	1000	1150	115	1140	114	70-135	1	20	mg/kg	07.14.19 10:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		90		90		70-135	%	07.14.19 10:15
o-Terphenyl	94		99		98		70-135	%	07.14.19 10:15

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095300

Parent Sample Id: 630600-001

Matrix: Soil

MS Sample Id: 630600-001 S

Prep Method: TX1005P

Date Prep: 07.14.19

MSD Sample Id: 630600-001 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)	10.7	997	1030	102	1060	105	70-135	3	20	mg/kg	07.14.19 11:28	
Diesel Range Organics (DRO)	26.9	997	1160	114	1190	117	70-135	3	20	mg/kg	07.14.19 11:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		94		70-135	%	07.14.19 11:28
o-Terphenyl	115		117		70-135	%	07.14.19 11:28

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

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

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

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



LT Environmental, Inc.
PLU BIG SINKS FED BATTERY

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095520

MB Sample Id: 7681948-1-BLK

Matrix: Solid

LCS Sample Id: 7681948-1-BKS

Prep Method: SW5030B

Date Prep: 07.13.19

LCSD Sample Id: 7681948-1-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	0.0743	74	0.0815	82	70-130	9	35	mg/kg	07.15.19 09:54	
Toluene	<0.00200	0.100	0.0861	86	0.0948	95	70-130	10	35	mg/kg	07.15.19 09:54	
Ethylbenzene	<0.00200	0.100	0.0853	85	0.0959	96	70-130	12	35	mg/kg	07.15.19 09:54	
m,p-Xylenes	<0.00400	0.200	0.174	87	0.195	98	70-130	11	35	mg/kg	07.15.19 09:54	
o-Xylene	<0.00200	0.100	0.0827	83	0.0923	92	70-130	11	35	mg/kg	07.15.19 09:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		90		94		70-130	%	07.15.19 09:54
4-Bromofluorobenzene	101		97		103		70-130	%	07.15.19 09:54

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095520

Parent Sample Id: 630566-039

Matrix: Soil

MS Sample Id: 630566-039 S

Prep Method: SW5030B

Date Prep: 07.13.19

MSD Sample Id: 630566-039 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	0.0901	90	0.0759	76	70-130	17	35	mg/kg	07.16.19 11:43	
Toluene	<0.00199	0.0996	0.0861	86	0.0881	88	70-130	2	35	mg/kg	07.16.19 11:43	
Ethylbenzene	<0.00199	0.0996	0.0933	94	0.0821	82	70-130	13	35	mg/kg	07.16.19 11:43	
m,p-Xylenes	<0.00398	0.199	0.189	95	0.165	83	70-130	14	35	mg/kg	07.16.19 11:43	
o-Xylene	0.0716	0.0996	0.0887	17	0.0797	8	70-130	11	35	mg/kg	07.16.19 11:43	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		70-130	%	07.16.19 11:43
4-Bromofluorobenzene	114		125		70-130	%	07.16.19 11:43

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) 281-1111
Hobbs, NM (575-392-7550)

Work Order No: 630600

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Chain of Custody

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrel
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO-Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	432.704.5178	Email:	dmoir@ltenv.com rmcalfree@ltenv.com

Work Order Comments			
Program: UST/PST ☐ PRP ☐ brownfields ☐ RC ☐ superfund ☐			
State of Project:			
Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐			
Deliverables: EDD ☐ ADAPT ☐ Other:			

Project Name:	PLU Big Sinks Feed Battery	Turn Around	ANALYSIS REQUEST	Work Order Notes		
Project Number:		Routine ☐				
P.O. Number:	New Spill 06-21-19	Rush: 3 day				
Sampler's Name:	Robert McAfee	Due Date:				
SAMPLE RECEIPT						
Temperature (°C):	Temp Blank: 2.8	Yes ☒ No ☐ Wet Ice: Yes ☒ No ☐				
Received In tact:	Yes ☒ No ☐	Thermometer ID: T-MU-007				
Cooler Custody Seals:	Yes ☒ No ☐ N/A	Correction Factor: -0.2				
Sample Custody Seals:	Yes ☒ No ☐ N/A	Total Containers: 8				
Number of Containers					EPA 8015)	EPA 0=8021)

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E)	BTEX	Chloride												Sample Comments
S501	S	07/09/19	1310	0.5	1	X	X	X												
S502			1315			X	X	X												
S503			1320			X	X	X												
S504			1325			X	X	X												
S505			1330			X	X	X												
S506			1335			X	X	X												
S507			1340			X	X	X												
S508			1345			X	X	X												
S5																				

[illegible][illegible]

IOS Number **43274**

Date/Time: 07/11/19 15:03

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775692882670

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
630600-001	S	SS01	07/09/19 13:10	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-001	S	SS01	07/09/19 13:10	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-001	S	SS01	07/09/19 13:10	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630600-002	S	SS02	07/09/19 13:15	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630600-002	S	SS02	07/09/19 13:15	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-002	S	SS02	07/09/19 13:15	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-003	S	SS03	07/09/19 13:20	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-003	S	SS03	07/09/19 13:20	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630600-003	S	SS03	07/09/19 13:20	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-004	S	SS04	07/09/19 13:25	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630600-004	S	SS04	07/09/19 13:25	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-004	S	SS04	07/09/19 13:25	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-005	S	SS05	07/09/19 13:30	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-005	S	SS05	07/09/19 13:30	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630600-005	S	SS05	07/09/19 13:30	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-006	S	SS06	07/09/19 13:35	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630600-006	S	SS06	07/09/19 13:35	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-006	S	SS06	07/09/19 13:35	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-007	S	SS07	07/09/19 13:40	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-007	S	SS07	07/09/19 13:40	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-007	S	SS07	07/09/19 13:40	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630600-008	S	SS08	07/09/19 13:45	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-008	S	SS08	07/09/19 13:45	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-008	S	SS08	07/09/19 13:45	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	



Inter-Office Shipment

Page 2 of 2

IOS Number 43274

Date/Time: 07/11/19 15:03

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775692882670

E-Mail: jessica.kramer@xenco.com

Inter Office Shipment or Sample Comments:

Relinquished By:

A handwritten signature in black ink, appearing to read 'Elizabeth McClellan', is written over a light gray rectangular background.

Elizabeth McClellan

Date Relinquished: 07/11/2019

Received By:

A handwritten signature in black ink, appearing to read 'Brianna Teel', is written over a light gray rectangular background.

Brianna Teel

Date Received: 07/12/2019 11:42

Cooler Temperature: 0.4



Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 43274

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 07/11/2019 03:03 PM

Received By: Brianna Teel

Date Received: 07/12/2019 11:42 AM

Sample Receipt Checklist

Comments

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 07/12/2019



Client: LT Environmental, Inc.

Date/ Time Received: 07/11/2019 12:48:00 PM

Work Order #: 630600

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.8	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	Yes	Subbed to Xenco Midland.
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 07/11/2019

Checklist reviewed by:

Jessica Kramer

Date: 07/12/2019

Analytical Report 640781

for
LT Environmental, Inc.

Project Manager: Dan Moir
PLU Big Sinks 25 Federal Battery
2RP-4398
28-OCT-19

Collected By: Client



1089 N Canal Street
Carlsbad, NM 88220

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

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

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



28-OCT-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **640781**

PLU Big Sinks 25 Federal Battery

Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 640781. 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. 640781 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	10-22-19 13:35	1 ft	640781-001
PH01A	S	10-22-19 13:40	2 ft	640781-002
PH01B	S	10-22-19 13:45	3 ft	640781-003
PH01C	S	10-22-19 13:50	4 ft	640781-004
PH01D	S	10-22-19 13:55	5 ft	640781-005
PH02	S	10-22-19 14:10	1 ft	640781-006
PH02A	S	10-22-19 14:15	2 ft	640781-007
PH02B	S	10-22-19 14:20	3 ft	640781-008
PH02C	S	10-22-19 14:25	4 ft	640781-009
PH02D	S	10-22-19 14:30	5 ft	640781-010
BH01	S	10-22-19 16:20	1 ft	640781-011
BH01A	S	10-22-19 16:25	2 ft	640781-012
BH01B	S	10-22-19 16:30	3 ft	640781-013
BH01C	S	10-22-19 16:35	4 ft	640781-014
BH01D	S	10-22-19 16:40	5 ft	640781-015
FS01	S	10-22-19 12:40	5 ft	640781-016
FS02	S	10-22-19 12:45	5 ft	640781-017
SW03	S	10-22-19 12:50	1 - 5 ft	640781-018
SW01	S	10-22-19 12:55	1 - 5 ft	640781-019
SW02	S	10-22-19 13:00	1 - 5 ft	640781-020
SW04	S	10-22-19 13:05	1 - 5 ft	640781-021

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU Big Sinks 25 Federal Battery**Project ID: 2RP-4398
Work Order Number(s): 640781Report Date: 28-OCT-19
Date Received: 10/23/2019

Sample receipt non conformances and comments:None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3105377 Chloride by EPA 300

Lab Sample ID 640781-020 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 640781-009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020, -021.

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

Batch: LBA-3105530 BTEX by EPA 8021B

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

Batch: LBA-3105532 BTEX by EPA 8021B

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



Certificate of Analysis Summary 640781

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Federal Battery

Project Id: 2RP-4398

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Oct-23-19 09:12 am

Report Date: 28-OCT-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	640781-001	640781-002	640781-003	640781-004	640781-005	640781-006
	<i>Field Id:</i>	PH01	PH01A	PH01B	PH01C	PH01D	PH02
	<i>Depth:</i>	1- ft	2- ft	3- ft	4- ft	5- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-22-19 13:35	Oct-22-19 13:40	Oct-22-19 13:45	Oct-22-19 13:50	Oct-22-19 13:55	Oct-22-19 14:10
BTEX by EPA 8021B SUB: T104704400-19-19	<i>Extracted:</i>	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30
	<i>Analyzed:</i>	Oct-27-19 14:02	Oct-27-19 14:23	Oct-27-19 14:43	Oct-27-19 15:03	Oct-27-19 15:23	Oct-27-19 15:43
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398	<0.00401 0.00401	<0.00403 0.00403	<0.00399 0.00399	<0.00400 0.00400
o-Xylene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300 SUB: T104704400-19-19	<i>Extracted:</i>	Oct-24-19 14:00	Oct-24-19 14:00	Oct-24-19 14:00	Oct-24-19 14:00	Oct-24-19 14:00	Oct-24-19 14:00
	<i>Analyzed:</i>	Oct-24-19 20:01	Oct-24-19 20:16	Oct-24-19 20:21	Oct-24-19 20:26	Oct-24-19 20:31	Oct-24-19 20:36
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<4.97 4.97	<4.97 4.97	<5.01 5.01	8.30 5.00	7.72 5.00	<4.99 4.99
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00
	<i>Analyzed:</i>	Oct-24-19 13:13	Oct-24-19 14:16	Oct-24-19 14:37	Oct-24-19 14:58	Oct-24-19 15:32	Oct-24-19 15:53
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9
Total GRO-DRO		<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9
Total TPH		<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 640781

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Federal Battery

Project Id: 2RP-4398

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Oct-23-19 09:12 am

Report Date: 28-OCT-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	640781-007	640781-008	640781-009	640781-010	640781-011	640781-012
	<i>Field Id:</i>	PH02A	PH02B	PH02C	PH02D	BH01	BH01A
	<i>Depth:</i>	2- ft	3- ft	4- ft	5- ft	1- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-22-19 14:15	Oct-22-19 14:20	Oct-22-19 14:25	Oct-22-19 14:30	Oct-22-19 16:20	Oct-22-19 16:25
BTEX by EPA 8021B SUB: T104704400-19-19	<i>Extracted:</i>	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30
	<i>Analyzed:</i>	Oct-27-19 16:03	Oct-27-19 16:23	Oct-27-19 16:43	Oct-27-19 17:03	Oct-27-19 18:22	Oct-27-19 18:42
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00397 0.00397	<0.00398 0.00398	<0.00404 0.00404	<0.00399 0.00399	<0.00398 0.00398	<0.00398 0.00398
o-Xylene		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Total Xylenes		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Total BTEX		<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Chloride by EPA 300 SUB: T104704400-19-19	<i>Extracted:</i>	Oct-24-19 14:00	Oct-24-19 14:00	Oct-24-19 14:30	Oct-24-19 14:30	Oct-24-19 14:30	Oct-24-19 14:30
	<i>Analyzed:</i>	Oct-24-19 20:41	Oct-24-19 20:46	Oct-24-19 21:16	Oct-24-19 21:31	Oct-24-19 21:36	Oct-24-19 21:41
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		5.08 4.96	<5.04 5.04	23.4 5.00	29.4 5.03	<5.05 5.05	<5.00 5.00
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00
	<i>Analyzed:</i>	Oct-24-19 16:14	Oct-24-19 16:35	Oct-24-19 16:56	Oct-24-19 17:16	Oct-24-19 17:58	Oct-24-19 18:19
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 640781

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Federal Battery

Project Id: 2RP-4398

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Oct-23-19 09:12 am

Report Date: 28-OCT-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	640781-013	640781-014	640781-015	640781-016	640781-017	640781-018
	<i>Field Id:</i>	BH01B	BH01C	BH01D	FS01	FS02	SW03
	<i>Depth:</i>	3- ft	4- ft	5- ft	5- ft	5- ft	1-5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-22-19 16:30	Oct-22-19 16:35	Oct-22-19 16:40	Oct-22-19 12:40	Oct-22-19 12:45	Oct-22-19 12:50
BTEX by EPA 8021B SUB: T104704400-19-19	<i>Extracted:</i>	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 10:30
	<i>Analyzed:</i>	Oct-27-19 19:02	Oct-27-19 19:22	Oct-27-19 19:42	Oct-27-19 20:02	Oct-27-19 20:23	Oct-27-19 20:43
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00403 0.00403	<0.00398 0.00398	<0.00402 0.00402	<0.00396 0.00396	<0.00400 0.00400	<0.00398 0.00398
o-Xylene		<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300 SUB: T104704400-19-19	<i>Extracted:</i>	Oct-24-19 14:30	Oct-24-19 14:30	Oct-24-19 14:30	Oct-24-19 14:30	Oct-24-19 14:30	Oct-24-19 14:30
	<i>Analyzed:</i>	Oct-24-19 21:46	Oct-24-19 22:01	Oct-24-19 22:06	Oct-24-19 22:11	Oct-24-19 22:16	Oct-24-19 22:21
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		62.3 4.99	40.3 5.02	18.1 4.97	96.6 4.95	1000 4.95	1030 4.95
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00
	<i>Analyzed:</i>	Oct-24-19 18:41	Oct-24-19 19:02	Oct-24-19 19:22	Oct-24-19 19:43	Oct-24-19 20:04	Oct-24-19 20:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 640781

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Federal Battery

Project Id: 2RP-4398

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Oct-23-19 09:12 am

Report Date: 28-OCT-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	640781-019	640781-020	640781-021			
	Field Id:	SW01	SW02	SW04			
	Depth:	1-5 ft	1-5 ft	1-5 ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	Oct-22-19 12:55	Oct-22-19 13:00	Oct-22-19 13:05			
BTEX by EPA 8021B SUB: T104704400-19-19	Extracted:	Oct-27-19 10:30	Oct-27-19 10:30	Oct-27-19 11:00			
	Analyzed:	Oct-27-19 21:03	Oct-27-19 21:23	Oct-28-19 00:41			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199			
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199			
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199			
m,p-Xylenes		<0.00400 0.00400	<0.00402 0.00402	<0.00398 0.00398			
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199			
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199			
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199			
Chloride by EPA 300 SUB: T104704400-19-19	Extracted:	Oct-24-19 14:30	Oct-24-19 14:30	Oct-24-19 14:30			
	Analyzed:	Oct-24-19 22:41	Oct-24-19 22:26	Oct-24-19 22:46			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		4430 25.2	633 4.99	572 4.98			
TPH by SW8015 Mod SUB: T104704400-19-19	Extracted:	Oct-24-19 11:00	Oct-24-19 11:00	Oct-24-19 11:00			
	Analyzed:	Oct-24-19 20:46	Oct-24-19 21:07	Oct-24-19 20:46			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0			
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0			
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0			
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<50.0 50.0			
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0			

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Version: 1.0%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH01**
Lab Sample Id: 640781-001

Matrix: Soil
Date Collected: 10.22.19 13.35

Date Received: 10.23.19 09.12
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105376

Date Prep: 10.24.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	10.24.19 20.01	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 13.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 13.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 13.13	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 13.13	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 13.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.24.19 13.13	
o-Terphenyl	84-15-1	103	%	70-135	10.24.19 13.13	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH01**
Lab Sample Id: 640781-001

Matrix: Soil
Date Collected: 10.22.19 13.35

Date Received: 10.23.19 09.12
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 10.27.19 10.30

Basis: Wet Weight

Seq Number: 3105530

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.27.19 14.02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	10.27.19 14.02		
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.27.19 14.02		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH01A**
Lab Sample Id: 640781-002

Matrix: Soil
Date Collected: 10.22.19 13.40

Date Received: 10.23.19 09.12
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105376

Date Prep: 10.24.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	10.24.19 20.16	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 14.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.24.19 14.16	
o-Terphenyl	84-15-1	101	%	70-135	10.24.19 14.16	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH01A**
Lab Sample Id: 640781-002

Matrix: Soil
Date Collected: 10.22.19 13.40

Date Received: 10.23.19 09.12
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 10.27.19 10.30

Basis: Wet Weight

Seq Number: 3105530

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 14.23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.27.19 14.23		
4-Bromofluorobenzene	460-00-4	98	%	70-130	10.27.19 14.23		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH01B**
Lab Sample Id: 640781-003

Matrix: Soil
Date Collected: 10.22.19 13.45

Date Received: 10.23.19 09.12
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105376

Date Prep: 10.24.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.01	5.01	mg/kg	10.24.19 20.21	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 14.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 14.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 14.37	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 14.37	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 14.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.24.19 14.37	
o-Terphenyl	84-15-1	100	%	70-135	10.24.19 14.37	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH01B**
Lab Sample Id: 640781-003

Matrix: Soil
Date Collected: 10.22.19 13.45

Date Received: 10.23.19 09.12
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.27.19 14.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	10.27.19 14.43		
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 14.43		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH01C**
Lab Sample Id: 640781-004

Matrix: Soil
Date Collected: 10.22.19 13.50

Date Received: 10.23.19 09.12
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105376

Date Prep: 10.24.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.30	5.00	mg/kg	10.24.19 20.26		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 14.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 14.58	
o-Terphenyl	84-15-1	104	%	70-135	10.24.19 14.58	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH01C**
Lab Sample Id: 640781-004

Matrix: Soil
Date Collected: 10.22.19 13.50

Date Received: 10.23.19 09.12
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.27.19 15.03	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.27.19 15.03		
1,4-Difluorobenzene	540-36-3	97	%	70-130	10.27.19 15.03		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH01D**
 Lab Sample Id: 640781-005

Matrix: Soil
 Date Collected: 10.22.19 13.55

Date Received: 10.23.19 09.12
 Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105376

Date Prep: 10.24.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.72	5.00	mg/kg	10.24.19 20.31		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 15.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 15.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 15.32	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 15.32	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 15.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.24.19 15.32	
o-Terphenyl	84-15-1	103	%	70-135	10.24.19 15.32	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH01D**
Lab Sample Id: 640781-005

Matrix: Soil
Date Collected: 10.22.19 13.55

Date Received: 10.23.19 09.12
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.27.19 15.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 15.23		
4-Bromofluorobenzene	460-00-4	104	%	70-130	10.27.19 15.23		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH02** Matrix: Soil Date Received: 10.23.19 09.12
 Lab Sample Id: 640781-006 Date Collected: 10.22.19 14.10 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 10.24.19 14.00 Basis: Wet Weight
 Seq Number: 3105376 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	10.24.19 20.36	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 10.24.19 11.00 Basis: Wet Weight
 Seq Number: 3105463 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 15.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 15.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 15.53	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 15.53	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 15.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.24.19 15.53	
o-Terphenyl	84-15-1	99	%	70-135	10.24.19 15.53	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH02**
Lab Sample Id: 640781-006

Matrix: Soil
Date Collected: 10.22.19 14.10

Date Received: 10.23.19 09.12
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.27.19 15.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	10.27.19 15.43		
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.27.19 15.43		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH02A**
Lab Sample Id: 640781-007

Matrix: Soil
Date Collected: 10.22.19 14.15

Date Received: 10.23.19 09.12
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105376

Date Prep: 10.24.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.08	4.96	mg/kg	10.24.19 20.41		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 16.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 16.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 16.14	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 16.14	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 16.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.24.19 16.14	
o-Terphenyl	84-15-1	100	%	70-135	10.24.19 16.14	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH02A**
Lab Sample Id: 640781-007

Matrix: Soil
Date Collected: 10.22.19 14.15

Date Received: 10.23.19 09.12
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.27.19 16.03	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	10.27.19 16.03		
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 16.03		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH02B**
Lab Sample Id: 640781-008

Matrix: Soil
Date Collected: 10.22.19 14.20

Date Received: 10.23.19 09.12
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105376

Date Prep: 10.24.19 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.04	5.04	mg/kg	10.24.19 20.46	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 16.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 16.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 16.35	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 16.35	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 16.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	10.24.19 16.35	
o-Terphenyl	84-15-1	102	%	70-135	10.24.19 16.35	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH02B**
Lab Sample Id: 640781-008

Matrix: Soil
Date Collected: 10.22.19 14.20

Date Received: 10.23.19 09.12
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 16.23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	10.27.19 16.23		
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.27.19 16.23		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH02C** Matrix: Soil Date Received: 10.23.19 09.12
 Lab Sample Id: 640781-009 Date Collected: 10.22.19 14.25 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 10.24.19 14.30 Basis: Wet Weight
 Seq Number: 3105377 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.4	5.00	mg/kg	10.24.19 21.16		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 10.24.19 11.00 Basis: Wet Weight
 Seq Number: 3105463 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 16.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 16.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 16.56	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 16.56	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 16.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.24.19 16.56	
o-Terphenyl	84-15-1	102	%	70-135	10.24.19 16.56	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH02C**
Lab Sample Id: 640781-009

Matrix: Soil
Date Collected: 10.22.19 14.25

Date Received: 10.23.19 09.12
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	10.27.19 16.43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.27.19 16.43		
4-Bromofluorobenzene	460-00-4	106	%	70-130	10.27.19 16.43		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH02D** Matrix: Soil Date Received: 10.23.19 09.12
 Lab Sample Id: 640781-010 Date Collected: 10.22.19 14.30 Sample Depth: 5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 10.24.19 14.30 Basis: Wet Weight
 Seq Number: 3105377 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.4	5.03	mg/kg	10.24.19 21.31		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 10.24.19 11.00 Basis: Wet Weight
 Seq Number: 3105463 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.24.19 17.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.24.19 17.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.24.19 17.16	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.24.19 17.16	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.24.19 17.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.24.19 17.16	
o-Terphenyl	84-15-1	101	%	70-135	10.24.19 17.16	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **PH02D**
Lab Sample Id: 640781-010

Matrix: Soil
Date Collected: 10.22.19 14.30

Date Received: 10.23.19 09.12
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.27.19 17.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	10.27.19 17.03		
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.27.19 17.03		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **BH01**
Lab Sample Id: 640781-011

Matrix: Soil
Date Collected: 10.22.19 16.20

Date Received: 10.23.19 09.12
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105377

Date Prep: 10.24.19 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.05	5.05	mg/kg	10.24.19 21.36	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 17.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 17.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 17.58	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 17.58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 17.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.24.19 17.58	
o-Terphenyl	84-15-1	104	%	70-135	10.24.19 17.58	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **BH01**
Lab Sample Id: 640781-011

Matrix: Soil
Date Collected: 10.22.19 16.20

Date Received: 10.23.19 09.12
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 18.22	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	10.27.19 18.22		
1,4-Difluorobenzene	540-36-3	97	%	70-130	10.27.19 18.22		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **BH01A**
Lab Sample Id: 640781-012

Matrix: Soil
Date Collected: 10.22.19 16.25

Date Received: 10.23.19 09.12
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105377

Date Prep: 10.24.19 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	10.24.19 21.41	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 18.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 18.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 18.19	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 18.19	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 18.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.24.19 18.19	
o-Terphenyl	84-15-1	101	%	70-135	10.24.19 18.19	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **BH01A**
Lab Sample Id: 640781-012

Matrix: Soil
Date Collected: 10.22.19 16.25

Date Received: 10.23.19 09.12
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 18.42	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	10.27.19 18.42		
1,4-Difluorobenzene	540-36-3	96	%	70-130	10.27.19 18.42		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **BH01B**
Lab Sample Id: 640781-013

Matrix: Soil
Date Collected: 10.22.19 16.30

Date Received: 10.23.19 09.12
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105377

Date Prep: 10.24.19 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	62.3	4.99	mg/kg	10.24.19 21.46		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 18.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 18.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 18.41	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 18.41	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 18.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 18.41	
o-Terphenyl	84-15-1	105	%	70-135	10.24.19 18.41	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **BH01B**
Lab Sample Id: 640781-013

Matrix: Soil
Date Collected: 10.22.19 16.30

Date Received: 10.23.19 09.12
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.27.19 19.02	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 19.02		
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.27.19 19.02		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **BH01C**
Lab Sample Id: 640781-014

Matrix: Soil
Date Collected: 10.22.19 16.35

Date Received: 10.23.19 09.12
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105377

Date Prep: 10.24.19 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	40.3	5.02	mg/kg	10.24.19 22.01		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 19.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 19.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 19.02	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 19.02	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 19.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 19.02	
o-Terphenyl	84-15-1	103	%	70-135	10.24.19 19.02	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **BH01C**
Lab Sample Id: 640781-014

Matrix: Soil
Date Collected: 10.22.19 16.35

Date Received: 10.23.19 09.12
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 10.27.19 10.30

Basis: Wet Weight

Seq Number: 3105530

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 19.22	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 19.22		
4-Bromofluorobenzene	460-00-4	107	%	70-130	10.27.19 19.22		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **BH01D**
Lab Sample Id: 640781-015

Matrix: Soil
Date Collected: 10.22.19 16.40

Date Received: 10.23.19 09.12
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105377

Date Prep: 10.24.19 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.1	4.97	mg/kg	10.24.19 22.06		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 19.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 19.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 19.22	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 19.22	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 19.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 19.22	
o-Terphenyl	84-15-1	105	%	70-135	10.24.19 19.22	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **BH01D**
Lab Sample Id: 640781-015

Matrix: Soil
Date Collected: 10.22.19 16.40

Date Received: 10.23.19 09.12
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.27.19 19.42	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.27.19 19.42		
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.27.19 19.42		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **FS01** Matrix: Soil Date Received: 10.23.19 09.12
 Lab Sample Id: 640781-016 Date Collected: 10.22.19 12.40 Sample Depth: 5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 10.24.19 14.30 Basis: Wet Weight
 Seq Number: 3105377 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	96.6	4.95	mg/kg	10.24.19 22.11		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 10.24.19 11.00 Basis: Wet Weight
 Seq Number: 3105463 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.24.19 19.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.24.19 19.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.24.19 19.43	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.24.19 19.43	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.24.19 19.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	10.24.19 19.43	
o-Terphenyl	84-15-1	107	%	70-135	10.24.19 19.43	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **FS01**
Lab Sample Id: 640781-016

Matrix: Soil
Date Collected: 10.22.19 12.40

Date Received: 10.23.19 09.12
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	10.27.19 20.02	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.27.19 20.02		
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 20.02		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **FS02**
 Lab Sample Id: 640781-017

Matrix: Soil
 Date Collected: 10.22.19 12.45

Date Received: 10.23.19 09.12
 Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105377

Date Prep: 10.24.19 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1000	4.95	mg/kg	10.24.19 22.16		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 20.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 20.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 20.04	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 20.04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 20.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 20.04	
o-Terphenyl	84-15-1	104	%	70-135	10.24.19 20.04	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **FS02**
Lab Sample Id: 640781-017

Matrix: Soil
Date Collected: 10.22.19 12.45

Date Received: 10.23.19 09.12
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.27.19 20.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 20.23		
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.27.19 20.23		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **SW03**
Lab Sample Id: 640781-018

Matrix: Soil
Date Collected: 10.22.19 12.50

Date Received: 10.23.19 09.12
Sample Depth: 1 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105377

Date Prep: 10.24.19 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1030	4.95	mg/kg	10.24.19 22.21		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 20.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 20.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 20.25	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 20.25	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 20.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 20.25	
o-Terphenyl	84-15-1	104	%	70-135	10.24.19 20.25	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **SW03**
Lab Sample Id: 640781-018

Matrix: Soil
Date Collected: 10.22.19 12.50

Date Received: 10.23.19 09.12
Sample Depth: 1 - 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 20.43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	10.27.19 20.43		
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.27.19 20.43		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **SW01**
Lab Sample Id: 640781-019

Matrix: Soil
Date Collected: 10.22.19 12.55

Date Received: 10.23.19 09.12
Sample Depth: 1 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105377

Date Prep: 10.24.19 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4430	25.2	mg/kg	10.24.19 22.41		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 20.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.24.19 20.46	
o-Terphenyl	84-15-1	105	%	70-135	10.24.19 20.46	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **SW01**
Lab Sample Id: 640781-019

Matrix: Soil
Date Collected: 10.22.19 12.55

Date Received: 10.23.19 09.12
Sample Depth: 1 - 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.27.19 21.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	10.27.19 21.03		
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 21.03		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **SW02**
 Lab Sample Id: 640781-020

Matrix: Soil
 Date Collected: 10.22.19 13.00

Date Received: 10.23.19 09.12
 Sample Depth: 1 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105377

Date Prep: 10.24.19 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	633	4.99	mg/kg	10.24.19 22.26		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105463

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 21.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 21.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 21.07	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 21.07	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 21.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.24.19 21.07	
o-Terphenyl	84-15-1	102	%	70-135	10.24.19 21.07	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **SW02**
Lab Sample Id: 640781-020

Matrix: Soil
Date Collected: 10.22.19 13.00

Date Received: 10.23.19 09.12
Sample Depth: 1 - 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105530

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 10.30

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.27.19 21.23	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 21.23		
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.27.19 21.23		



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **SW04**
Lab Sample Id: 640781-021

Matrix: Soil
Date Collected: 10.22.19 13.05

Date Received: 10.23.19 09.12
Sample Depth: 1 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3105377

Date Prep: 10.24.19 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	572	4.98	mg/kg	10.24.19 22.46		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3105466

Date Prep: 10.24.19 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 20.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	10.24.19 20.46	
o-Terphenyl	84-15-1	82	%	70-135	10.24.19 20.46	



Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id: **SW04**
Lab Sample Id: 640781-021

Matrix: Soil
Date Collected: 10.22.19 13.05

Date Received: 10.23.19 09.12
Sample Depth: 1 - 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3105532

Prep Method: SW5030B

% Moisture:

Date Prep: 10.27.19 11.00

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.28.19 00.41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.28.19 00.41		
4-Bromofluorobenzene	460-00-4	102	%	70-130	10.28.19 00.41		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
PLU Big Sinks 25 Federal Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3105376

MB Sample Id: 7688862-1-BLK

Matrix: Solid

LCS Sample Id: 7688862-1-BKS

Prep Method: E300P

Date Prep: 10.24.19

LCSD Sample Id: 7688862-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	263	105	258	103	90-110	2	20	mg/kg	10.24.19 18:22	

Analytical Method: Chloride by EPA 300

Seq Number: 3105377

MB Sample Id: 7688863-1-BLK

Matrix: Solid

LCS Sample Id: 7688863-1-BKS

Prep Method: E300P

Date Prep: 10.24.19

LCSD Sample Id: 7688863-1-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	265	106	264	106	90-110	0	20	mg/kg	10.24.19 21:06	

Analytical Method: Chloride by EPA 300

Seq Number: 3105376

Parent Sample Id: 640895-022

Matrix: Soil

MS Sample Id: 640895-022 S

Prep Method: E300P

Date Prep: 10.24.19

MSD Sample Id: 640895-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.6	249	299	107	296	106	90-110	1	20	mg/kg	10.24.19 18:37	

Analytical Method: Chloride by EPA 300

Seq Number: 3105376

Parent Sample Id: 640896-004

Matrix: Soil

MS Sample Id: 640896-004 S

Prep Method: E300P

Date Prep: 10.24.19

MSD Sample Id: 640896-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	27.9	253	303	109	290	104	90-110	4	20	mg/kg	10.24.19 19:47	

Analytical Method: Chloride by EPA 300

Seq Number: 3105377

Parent Sample Id: 640781-009

Matrix: Soil

MS Sample Id: 640781-009 S

Prep Method: E300P

Date Prep: 10.24.19

MSD Sample Id: 640781-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.4	250	303	112	305	113	90-110	1	20	mg/kg	10.24.19 21:21	X

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

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

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

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



LT Environmental, Inc.
PLU Big Sinks 25 Federal Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3105377

Parent Sample Id: 640781-020

Matrix: Soil

MS Sample Id: 640781-020 S

Prep Method: E300P

Date Prep: 10.24.19

MSD Sample Id: 640781-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	633	250	922	116	930	119	90-110	1	20	mg/kg	10.24.19 22:31	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3105463

MB Sample Id: 7688840-1-BLK

Matrix: Solid

LCS Sample Id: 7688840-1-BKS

Prep Method: SW8015P

Date Prep: 10.24.19

LCSD Sample Id: 7688840-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1140	114	1140	114	70-135	0	20	mg/kg	10.24.19 12:32	
Diesel Range Organics (DRO)	<15.0	1000	1110	111	1120	112	70-135	1	20	mg/kg	10.24.19 12:32	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		116		117		70-135	%	10.24.19 12:32
o-Terphenyl	103		117		117		70-135	%	10.24.19 12:32

Analytical Method: TPH by SW8015 Mod

Seq Number: 3105466

MB Sample Id: 7688841-1-BLK

Matrix: Solid

LCS Sample Id: 7688841-1-BKS

Prep Method: SW8015P

Date Prep: 10.24.19

LCSD Sample Id: 7688841-1-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	983	98	981	98	70-135	0	20	mg/kg	10.24.19 12:32	
Diesel Range Organics (DRO)	<50.0	1000	927	93	1040	104	70-135	11	20	mg/kg	10.24.19 12:32	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		101		102		70-135	%	10.24.19 12:32
o-Terphenyl	99		101		100		70-135	%	10.24.19 12:32

Analytical Method: TPH by SW8015 Mod

Seq Number: 3105463

Matrix: Solid

MB Sample Id: 7688840-1-BLK

Prep Method: SW8015P

Date Prep: 10.24.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.24.19 12:11	

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

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

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

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



LT Environmental, Inc.
PLU Big Sinks 25 Federal Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3105466

Matrix: Solid

Prep Method: SW8015P

Date Prep: 10.24.19

MB Sample Id: 7688841-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.24.19 12:11	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3105463

Matrix: Soil

Prep Method: SW8015P

Date Prep: 10.24.19

Parent Sample Id: 640781-001

MS Sample Id: 640781-001 S

MSD Sample Id: 640781-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	1100	110	1150	115	70-135	4	20	mg/kg	10.24.19 13:34	
Diesel Range Organics (DRO)	<15.0	999	1120	112	1170	117	70-135	4	20	mg/kg	10.24.19 13:34	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		109		70-135	%	10.24.19 13:34
o-Terphenyl	102		105		70-135	%	10.24.19 13:34

Analytical Method: TPH by SW8015 Mod

Seq Number: 3105466

Matrix: Soil

Prep Method: SW8015P

Date Prep: 10.24.19

Parent Sample Id: 640827-001

MS Sample Id: 640827-001 S

MSD Sample Id: 640827-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	975	98	965	97	70-135	1	20	mg/kg	10.24.19 13:34	
Diesel Range Organics (DRO)	22.3	997	924	90	899	88	70-135	3	20	mg/kg	10.24.19 13:34	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		89		70-135	%	10.24.19 13:34
o-Terphenyl	86		84		70-135	%	10.24.19 13:34

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

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

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

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



LT Environmental, Inc.
PLU Big Sinks 25 Federal Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3105530

MB Sample Id: 7688948-1-BLK

Matrix: Solid

LCS Sample Id: 7688948-1-BKS

Prep Method: SW5030B

Date Prep: 10.27.19

LCSD Sample Id: 7688948-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.112	112	0.120	120	70-130	7	35	mg/kg	10.27.19 12:03	
Toluene	<0.00200	0.100	0.110	110	0.111	111	70-130	1	35	mg/kg	10.27.19 12:03	
Ethylbenzene	<0.00200	0.100	0.115	115	0.112	112	70-130	3	35	mg/kg	10.27.19 12:03	
m,p-Xylenes	<0.00400	0.200	0.234	117	0.226	113	70-130	3	35	mg/kg	10.27.19 12:03	
o-Xylene	<0.00200	0.100	0.114	114	0.111	111	70-130	3	35	mg/kg	10.27.19 12:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		97		99		70-130	%	10.27.19 12:03
4-Bromofluorobenzene	99		109		98		70-130	%	10.27.19 12:03

Analytical Method: BTEX by EPA 8021B

Seq Number: 3105532

MB Sample Id: 7688950-1-BLK

Matrix: Solid

LCS Sample Id: 7688950-1-BKS

Prep Method: SW5030B

Date Prep: 10.27.19

LCSD Sample Id: 7688950-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.108	108	0.108	108	70-130	0	35	mg/kg	10.27.19 22:41	
Toluene	<0.00200	0.100	0.102	102	0.100	100	70-130	2	35	mg/kg	10.27.19 22:41	
Ethylbenzene	<0.00200	0.100	0.103	103	0.0998	100	70-130	3	35	mg/kg	10.27.19 22:41	
m,p-Xylenes	<0.00400	0.200	0.207	104	0.200	100	70-130	3	35	mg/kg	10.27.19 22:41	
o-Xylene	<0.00200	0.100	0.103	103	0.100	100	70-130	3	35	mg/kg	10.27.19 22:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		97		98		70-130	%	10.27.19 22:41
4-Bromofluorobenzene	95		104		98		70-130	%	10.27.19 22:41

Analytical Method: BTEX by EPA 8021B

Seq Number: 3105530

Parent Sample Id: 640781-001

Matrix: Soil

MS Sample Id: 640781-001 S

Prep Method: SW5030B

Date Prep: 10.27.19

MSD Sample Id: 640781-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.108	107	0.124	124	70-130	14	35	mg/kg	10.27.19 12:43	
Toluene	<0.00201	0.101	0.0996	99	0.113	113	70-130	13	35	mg/kg	10.27.19 12:43	
Ethylbenzene	<0.00201	0.101	0.0994	98	0.112	112	70-130	12	35	mg/kg	10.27.19 12:43	
m,p-Xylenes	<0.00402	0.201	0.201	100	0.226	113	70-130	12	35	mg/kg	10.27.19 12:43	
o-Xylene	<0.00201	0.101	0.0994	98	0.111	111	70-130	11	35	mg/kg	10.27.19 12:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	10.27.19 12:43
4-Bromofluorobenzene	101		107		70-130	%	10.27.19 12:43

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

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

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

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



LT Environmental, Inc.
PLU Big Sinks 25 Federal Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3105532

Parent Sample Id: 640781-021

Matrix: Soil

MS Sample Id: 640781-021 S

Prep Method: SW5030B

Date Prep: 10.27.19

MSD Sample Id: 640781-021 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	0.100	0.0940	94	0.0880	87	70-130	7	35	mg/kg	10.27.19 23:22	
Toluene	<0.00200	0.100	0.0852	85	0.0782	77	70-130	9	35	mg/kg	10.27.19 23:22	
Ethylbenzene	<0.00200	0.100	0.0871	87	0.0778	77	70-130	11	35	mg/kg	10.27.19 23:22	
m,p-Xylenes	<0.00401	0.200	0.174	87	0.154	76	70-130	12	35	mg/kg	10.27.19 23:22	
o-Xylene	<0.00200	0.100	0.0910	91	0.0804	80	70-130	12	35	mg/kg	10.27.19 23:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	10.27.19 23:22
4-Bromofluorobenzene	110		98		70-130	%	10.27.19 23:22

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



Chain of Custody

Work Order No: 1640781

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

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Project Manager:	Don Mac	Bill to: (if different)	Atokyle Little
Company Name:	LT Environmental	Company Name:	XTO
Address:	3300 North A St	Address:	3104 E Green Street
City, State ZIP:	Midland, Texas, 79705	City, State ZIP:	Carlsbad, NM, 88220
Phone:	432.236.3849	Email:	sl@hval.com dmac@xenco.com

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

Project Name:	PLU Big Saks 25 Edm Battery	Turn Around	☒
Project Number:	2LP-4398	Route:	
Project Location:		Rush:	
Sampler's Name:		Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT		Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):	4.0	Thermometer ID:	TMM007		
Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.2		
Cooler Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	21		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
PH01		5	10-26-19	1335	1'	1	TPH (EPA 8015)	MeOH: Me	
PH01A				1340	2'	X	Chlorides (EPA 300)	None: NO	
PH01B				1345	3'	X	BTEX (EPA 8021)	HNO3: HN	
PH01C				1350	4'			H2SO4: H2	
PH01D				1355	5'			HCL: HL	
PH02				1410	1'			NaOH: Na	
PH02A				1415	2'			Zn Acetate+ NaOH: Zn	
PH02B				1420	3'				
PH02C				1425	4'				
PH02D				1430	5'				

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
		10/23/19 09:12			



Chain of Custody

Work Order No: 640781

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 508-3334
 Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Project Manager:	Don Nov	Bill to: (if different)	Kyle Mitchell
Company Name:	CT Environmental	Company Name:	CTO
Address:	3300 North A Street	Address:	3409 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88213
Phone:	432.236.3819	Email:	sl@ctenv.com, dmitch@ctenv.com

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

ANALYSIS REQUEST

Project Name:	PLU 2.5 Saks 25 Federal Battery	Turn Around	☒	Pres. Code	
Project Number:	2RP-4398	Routine	☒		
Project Location:		Rush:			
Sample Name:		Due Date:			
PO #:		Quote #:			

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

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	Chlorides (EPA 300)	BTEX (EPA 8021)	ANALYSIS REQUEST	Preservative Codes	Sample Comments
BH01		S	10/22/19	1620	1'	X	X	X	X			
BH014				1625	2'							
BH015				1630	3'							
BH016				1635	4'							
BH017				1640	5'							
FS01				1240	5'							
FS02				1245	5'							
SW03				1250	1-5'							
SW01				1255	1-5'							
SW02				1300	1-5'							

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: TCIP / 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
		10/23/19 0931Z			
		4			
		6			



Chain of Custody

Work Order No:

(02078)

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

Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crasida, NM (505) 754-0700
Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6700

Phoenix, AZ (480) 355-0900	Altamira, GA (110) 445-0000	Tempe, AZ (480) 355-0900
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Page 01

Project Manager:	Don Meyer	Bill to: (if different)	12/21/2010
Company Name:	LT Environmental	Company Name:	YTD
Address:	3300 North A Street	Address:	2104 E Green Street
City, State ZIP:	Malden TX 79705	City, State ZIP:	Carlsbad, NM 88120
Phone:	432.236.3849	Email:	slc@ltenv.com, dmeyer@ltenv.com
Turn Around		ANALYSIS F	

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][illegible]

Total	200.7 / 6010	200.8 / 6020:
-------	--------------	---------------

8RCRA	1031 / 1032
TC1 P / SPI P 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	1031 / 243.1 / 1710 / 1711.1.1

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company. The client 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 the company. These terms will be enforced unless previously negotiated.

Date/Time	Relinquished by: (Signature)	Revised by: (Signature)

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			10/23/19 09:12			
2						
3						
4						
5						

Revised Date 02/25/19 Rev. 20

IOS Number **50698**

Date/Time: 10/23/19 14:02

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 776797683616

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640781-001	S	PH01	10/22/19 13:35	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-001	S	PH01	10/22/19 13:35	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-001	S	PH01	10/22/19 13:35	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-002	S	PH01A	10/22/19 13:40	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-002	S	PH01A	10/22/19 13:40	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-002	S	PH01A	10/22/19 13:40	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-003	S	PH01B	10/22/19 13:45	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-003	S	PH01B	10/22/19 13:45	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-003	S	PH01B	10/22/19 13:45	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-004	S	PH01C	10/22/19 13:50	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-004	S	PH01C	10/22/19 13:50	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-004	S	PH01C	10/22/19 13:50	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-005	S	PH01D	10/22/19 13:55	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-005	S	PH01D	10/22/19 13:55	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-005	S	PH01D	10/22/19 13:55	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-006	S	PH02	10/22/19 14:10	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-006	S	PH02	10/22/19 14:10	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-006	S	PH02	10/22/19 14:10	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-007	S	PH02A	10/22/19 14:15	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-007	S	PH02A	10/22/19 14:15	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-007	S	PH02A	10/22/19 14:15	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-008	S	PH02B	10/22/19 14:20	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-008	S	PH02B	10/22/19 14:20	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-008	S	PH02B	10/22/19 14:20	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-009	S	PH02C	10/22/19 14:25	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	

IOS Number **50698**

Date/Time: 10/23/19 14:02

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 776797683616

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640781-009	S	PH02C	10/22/19 14:25	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-009	S	PH02C	10/22/19 14:25	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-010	S	PH02D	10/22/19 14:30	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-010	S	PH02D	10/22/19 14:30	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-010	S	PH02D	10/22/19 14:30	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-011	S	BH01	10/22/19 16:20	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-011	S	BH01	10/22/19 16:20	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-011	S	BH01	10/22/19 16:20	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-012	S	BH01A	10/22/19 16:25	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-012	S	BH01A	10/22/19 16:25	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-012	S	BH01A	10/22/19 16:25	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-013	S	BH01B	10/22/19 16:30	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-013	S	BH01B	10/22/19 16:30	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-013	S	BH01B	10/22/19 16:30	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-014	S	BH01C	10/22/19 16:35	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-014	S	BH01C	10/22/19 16:35	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-014	S	BH01C	10/22/19 16:35	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-015	S	BH01D	10/22/19 16:40	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-015	S	BH01D	10/22/19 16:40	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-015	S	BH01D	10/22/19 16:40	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-016	S	FS01	10/22/19 12:40	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-016	S	FS01	10/22/19 12:40	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-016	S	FS01	10/22/19 12:40	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-017	S	FS02	10/22/19 12:45	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-017	S	FS02	10/22/19 12:45	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:



Inter-Office Shipment

Page 3 of 3

IOS Number **50698**

Date/Time: 10/23/19 14:02

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 776797683616

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640781-017	S	FS02	10/22/19 12:45	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-018	S	SW03	10/22/19 12:50	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-018	S	SW03	10/22/19 12:50	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-018	S	SW03	10/22/19 12:50	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-019	S	SW01	10/22/19 12:55	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-019	S	SW01	10/22/19 12:55	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-019	S	SW01	10/22/19 12:55	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-020	S	SW02	10/22/19 13:00	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-020	S	SW02	10/22/19 13:00	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-020	S	SW02	10/22/19 13:00	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-021	S	SW04	10/22/19 13:05	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-021	S	SW04	10/22/19 13:05	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640781-021	S	SW04	10/22/19 13:05	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished:

10/23/2019

Received By:

Brianna Teel

Date Received:

10/24/2019 11:18

Cooler Temperature:

0.6



Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 50698

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 10/23/2019 02:02 PM

Received By: Brianna Teel

Date Received: 10/24/2019 11:18 AM

Sample Receipt Checklist

Comments

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 10/24/2019



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/23/2019 09:12:00 AM

Work Order #: 640781

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 10/23/2019

Checklist reviewed by:

Jessica Kramer

Date: 10/24/2019



Analytical Report 647383

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU Big Sink 25 Federal Battery

012919149

12.24.2019

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.24.2019

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **647383**

PLU Big Sink 25 Federal Battery

Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 647383. 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. 647383 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

A Small Business and Minority Company

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

**Sample Cross Reference 647383****LT Environmental, Inc., Arvada, CO**

PLU Big Sink 25 Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH04	S	12.20.2019 12:35	2 ft	647383-001
PH04A	S	12.20.2019 12:43	2.5 ft	647383-002
PH06	S	12.20.2019 11:48	2 ft	647383-003
PH06A	S	12.20.2019 11:52	3 ft	647383-004
PH07	S	12.20.2019 11:34	2 ft	647383-005
PH07A	S	12.20.2019 11:36	3.5 ft	647383-006
PH08	S	12.20.2019 11:17	2 ft	647383-007
PH08A	S	12.20.2019 11:23	3.5 ft	647383-008

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU Big Sink 25 Federal Battery**

Project ID: 012919149
Work Order Number(s): 647383

Report Date: 12.24.2019
Date Received: 12.23.2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3111553 BTEX by EPA 8021B

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

Batch: LBA-3111556 Chloride by EPA 300

Lab Sample ID 647387-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 647383-001, -002, -003, -004, -005, -006, -007, -008.

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



Certificate of Analysis Summary 647383

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sink 25 Federal Battery

Project Id: 012919149

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Mon 12.23.2019 11:00

Report Date: 12.24.2019 11:57

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	647383-001	647383-002	647383-003	647383-004	647383-005	647383-006
	<i>Field Id:</i>	PH04	PH04A	PH06	PH06A	PH07	PH07A
	<i>Depth:</i>	2- ft	2.5- ft	2- ft	3- ft	2- ft	3.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.20.2019 12:35	12.20.2019 12:43	12.20.2019 11:48	12.20.2019 11:52	12.20.2019 11:34	12.20.2019 11:36
BTEX by EPA 8021B	<i>Extracted:</i>	12.23.2019 12:00	12.23.2019 12:00	12.23.2019 12:00	12.23.2019 12:00	12.23.2019 12:00	12.23.2019 12:00
	<i>Analyzed:</i>	12.23.2019 17:47	12.23.2019 18:06	12.23.2019 18:25	12.23.2019 18:44	12.23.2019 19:03	12.23.2019 19:22
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00396 0.00396	<0.00398 0.00398	<0.00398 0.00398	<0.00399 0.00399	<0.00398 0.00398	<0.00400 0.00400
o-Xylene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	12.23.2019 13:11	12.23.2019 13:11	12.23.2019 13:11	12.23.2019 13:11	12.23.2019 13:11	12.23.2019 13:11
	<i>Analyzed:</i>	12.23.2019 16:54	12.23.2019 17:11	12.23.2019 17:17	12.23.2019 17:22	12.23.2019 17:28	12.23.2019 17:46
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		6740 100	5460 99.9	932 49.5	567 9.98	903 49.4	1360 49.3
TPH by SW8015 Mod	<i>Extracted:</i>	12.23.2019 15:00	12.23.2019 15:00	12.23.2019 15:00	12.23.2019 15:00	12.23.2019 15:00	12.23.2019 15:00
	<i>Analyzed:</i>	12.23.2019 18:25	12.23.2019 19:05	12.23.2019 19:05	12.23.2019 19:24	12.23.2019 19:24	12.23.2019 19:44
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.3 50.3	<50.0 50.0	<50.1 50.1
Diesel Range Organics (DRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.3 50.3	<50.0 50.0	<50.1 50.1
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.3 50.3	<50.0 50.0	<50.1 50.1
Total GRO-DRO		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.3 50.3	<50.0 50.0	<50.1 50.1
Total TPH		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.3 50.3	<50.0 50.0	<50.1 50.1

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

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 647383

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sink 25 Federal Battery

Project Id: 012919149

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Mon 12.23.2019 11:00

Report Date: 12.24.2019 11:57

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	647383-007	647383-008				
	Field Id:	PH08	PH08A				
	Depth:	2- ft	3.5- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	12.20.2019 11:17	12.20.2019 11:23				
BTEX by EPA 8021B	Extracted:	12.23.2019 12:00	12.23.2019 12:00				
	Analyzed:	12.23.2019 19:41	12.23.2019 20:00				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00199 0.00199	<0.00198 0.00198				
	Toluene	<0.00199 0.00199	<0.00198 0.00198				
	Ethylbenzene	<0.00199 0.00199	<0.00198 0.00198				
	m,p-Xylenes	<0.00398 0.00398	<0.00396 0.00396				
	o-Xylene	<0.00199 0.00199	<0.00198 0.00198				
	Total Xylenes	<0.00199 0.00199	<0.00198 0.00198				
	Total BTEX	<0.00199 0.00199	<0.00198 0.00198				
Chloride by EPA 300	Extracted:	12.23.2019 13:11	12.23.2019 13:11				
	Analyzed:	12.23.2019 17:51	12.23.2019 17:57				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	1190 49.6	1270 49.9				
TPH by SW8015 Mod	Extracted:	12.23.2019 15:00	12.23.2019 15:00				
	Analyzed:	12.23.2019 19:44	12.23.2019 20:04				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<50.1 50.1	<49.9 49.9				
	Diesel Range Organics (DRO)	<50.1 50.1	<49.9 49.9				
	Motor Oil Range Hydrocarbons (MRO)	<50.1 50.1	<49.9 49.9				
	Total GRO-DRO	<50.1 50.1	<49.9 49.9				
	Total TPH	<50.1 50.1	<49.9 49.9				

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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 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH04**
Lab Sample Id: 647383-001

Matrix: Soil
Date Collected: 12.20.2019 12:35

Date Received: 12.23.2019 11:00
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111556

Date Prep: 12.23.2019 13:11

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6740	100	mg/kg	12.23.2019 16:54		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111593

Date Prep: 12.23.2019 15:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.23.2019 18:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.23.2019 18:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.23.2019 18:25	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.23.2019 18:25	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.23.2019 18:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.23.2019 18:25	
o-Terphenyl	84-15-1	99	%	70-135	12.23.2019 18:25	



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH04**
Lab Sample Id: 647383-001

Matrix: Soil
Date Collected: 12.20.2019 12:35

Date Received: 12.23.2019 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.23.2019 12:00

Basis: Wet Weight

Seq Number: 3111553

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.23.2019 17:47	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.23.2019 17:47		
4-Bromofluorobenzene	460-00-4	112	%	70-130	12.23.2019 17:47		



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH04A**
Lab Sample Id: 647383-002

Matrix: Soil
Date Collected: 12.20.2019 12:43

Date Received: 12.23.2019 11:00
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111556

Date Prep: 12.23.2019 13:11

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5460	99.9	mg/kg	12.23.2019 17:11		10

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111593

Date Prep: 12.23.2019 15:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.23.2019 19:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.23.2019 19:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.23.2019 19:05	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.23.2019 19:05	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.23.2019 19:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.23.2019 19:05	
o-Terphenyl	84-15-1	103	%	70-135	12.23.2019 19:05	



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH04A**
Lab Sample Id: 647383-002

Matrix: Soil
Date Collected: 12.20.2019 12:43

Date Received: 12.23.2019 11:00
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.23.2019 12:00

Basis: Wet Weight

Seq Number: 3111553

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.23.2019 18:06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.23.2019 18:06		
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.23.2019 18:06		



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH06** Matrix: Soil Date Received: 12.23.2019 11:00
 Lab Sample Id: 647383-003 Date Collected: 12.20.2019 11:48 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 12.23.2019 13:11 Basis: Wet Weight
 Seq Number: 3111556

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	932	49.5	mg/kg	12.23.2019 17:17		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 12.23.2019 15:00 Basis: Wet Weight
 Seq Number: 3111593

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.23.2019 19:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.23.2019 19:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.23.2019 19:05	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.23.2019 19:05	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.23.2019 19:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.23.2019 19:05	
o-Terphenyl	84-15-1	96	%	70-135	12.23.2019 19:05	



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH06**
Lab Sample Id: 647383-003

Matrix: Soil
Date Collected: 12.20.2019 11:48

Date Received: 12.23.2019 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.23.2019 12:00

Basis: Wet Weight

Seq Number: 3111553

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.23.2019 18:25	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.23.2019 18:25		
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.23.2019 18:25		



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH06A**
Lab Sample Id: 647383-004

Matrix: Soil
Date Collected: 12.20.2019 11:52

Date Received: 12.23.2019 11:00
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111556

Date Prep: 12.23.2019 13:11

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	567	9.98	mg/kg	12.23.2019 17:22		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111593

Date Prep: 12.23.2019 15:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.23.2019 19:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.23.2019 19:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.23.2019 19:24	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.23.2019 19:24	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.23.2019 19:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.23.2019 19:24	
o-Terphenyl	84-15-1	103	%	70-135	12.23.2019 19:24	



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH06A**
Lab Sample Id: 647383-004

Matrix: Soil
Date Collected: 12.20.2019 11:52

Date Received: 12.23.2019 11:00
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.23.2019 12:00

Basis: Wet Weight

Seq Number: 3111553

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.23.2019 18:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.23.2019 18:44		
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.23.2019 18:44		



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH07** Matrix: Soil Date Received: 12.23.2019 11:00
 Lab Sample Id: 647383-005 Date Collected: 12.20.2019 11:34 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 12.23.2019 13:11 Basis: Wet Weight
 Seq Number: 3111556

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	903	49.4	mg/kg	12.23.2019 17:28		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 12.23.2019 15:00 Basis: Wet Weight
 Seq Number: 3111593

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.23.2019 19:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.23.2019 19:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.23.2019 19:24	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.23.2019 19:24	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.23.2019 19:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.23.2019 19:24	
o-Terphenyl	84-15-1	96	%	70-135	12.23.2019 19:24	



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH07**
Lab Sample Id: 647383-005

Matrix: Soil
Date Collected: 12.20.2019 11:34

Date Received: 12.23.2019 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.23.2019 12:00

Basis: Wet Weight

Seq Number: 3111553

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.23.2019 19:03	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.23.2019 19:03		
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.23.2019 19:03		



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH07A** Matrix: Soil Date Received: 12.23.2019 11:00
 Lab Sample Id: 647383-006 Date Collected: 12.20.2019 11:36 Sample Depth: 3.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 12.23.2019 13:11 Basis: Wet Weight
 Seq Number: 3111556

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1360	49.3	mg/kg	12.23.2019 17:46		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 12.23.2019 15:00 Basis: Wet Weight
 Seq Number: 3111593

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.23.2019 19:44	
o-Terphenyl	84-15-1	103	%	70-135	12.23.2019 19:44	



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH07A**
Lab Sample Id: 647383-006

Matrix: Soil
Date Collected: 12.20.2019 11:36

Date Received: 12.23.2019 11:00
Sample Depth: 3.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.23.2019 12:00

Basis: Wet Weight

Seq Number: 3111553

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.23.2019 19:22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.23.2019 19:22		
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.23.2019 19:22		



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH08**
Lab Sample Id: 647383-007

Matrix: Soil
Date Collected: 12.20.2019 11:17

Date Received: 12.23.2019 11:00
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111556

Date Prep: 12.23.2019 13:11

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1190	49.6	mg/kg	12.23.2019 17:51		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111593

Date Prep: 12.23.2019 15:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.23.2019 19:44	
o-Terphenyl	84-15-1	95	%	70-135	12.23.2019 19:44	



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH08**
Lab Sample Id: 647383-007

Matrix: Soil
Date Collected: 12.20.2019 11:17

Date Received: 12.23.2019 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.23.2019 12:00

Basis: Wet Weight

Seq Number: 3111553

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.23.2019 19:41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.23.2019 19:41		
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.23.2019 19:41		



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH08A**
 Lab Sample Id: 647383-008

Matrix: Soil
 Date Collected: 12.20.2019 11:23

Date Received: 12.23.2019 11:00
 Sample Depth: 3.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111556

Date Prep: 12.23.2019 13:11

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1270	49.9	mg/kg	12.23.2019 17:57		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111593

Date Prep: 12.23.2019 15:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.23.2019 20:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.23.2019 20:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.23.2019 20:04	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.23.2019 20:04	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.23.2019 20:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.23.2019 20:04	
o-Terphenyl	84-15-1	102	%	70-135	12.23.2019 20:04	



Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Battery

Sample Id: **PH08A**
Lab Sample Id: 647383-008

Matrix: Soil
Date Collected: 12.20.2019 11:23

Date Received: 12.23.2019 11:00
Sample Depth: 3.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.23.2019 12:00

Basis: Wet Weight

Seq Number: 3111553

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.23.2019 20:00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.23.2019 20:00		
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.23.2019 20:00		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
PLU Big Sink 25 Federal Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3111556

MB Sample Id: 7693186-1-BLK

Matrix: Solid

LCS Sample Id: 7693186-1-BKS

Prep Method: E300P

Date Prep: 12.23.2019

LCSD Sample Id: 7693186-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	274	110	275	110	90-110	0	20	mg/kg	12.23.2019 19:53	

Analytical Method: Chloride by EPA 300

Seq Number: 3111556

Parent Sample Id: 647383-001

Matrix: Soil

MS Sample Id: 647383-001 S

Prep Method: E300P

Date Prep: 12.23.2019

MSD Sample Id: 647383-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6740	201	6860	60	6850	55	90-110	0	20	mg/kg	12.23.2019 16:59	X

Analytical Method: Chloride by EPA 300

Seq Number: 3111556

Parent Sample Id: 647387-003

Matrix: Soil

MS Sample Id: 647387-003 S

Prep Method: E300P

Date Prep: 12.23.2019

MSD Sample Id: 647387-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	102	198	311	106	309	105	90-110	1	20	mg/kg	12.23.2019 18:20	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3111593

MB Sample Id: 7693201-1-BLK

Matrix: Solid

LCS Sample Id: 7693201-1-BKS

Prep Method: SW8015P

Date Prep: 12.23.2019

LCSD Sample Id: 7693201-1-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)	<13.9	1000	1190	119	1250	125	70-135	5	35	mg/kg	12.23.2019 18:05	
Diesel Range Organics (DRO)	<11.5	1000	1200	120	1250	125	70-135	4	35	mg/kg	12.23.2019 18:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		116		129		70-135	%	12.23.2019 18:05
o-Terphenyl	100		110		126		70-135	%	12.23.2019 18:05

Analytical Method: TPH by SW8015 Mod

Seq Number: 3111593

Matrix: Solid

MB Sample Id: 7693201-1-BLK

Prep Method: SW8015P

Date Prep: 12.23.2019

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.23.2019 18:05	

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



LT Environmental, Inc.
PLU Big Sink 25 Federal Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3111593

Parent Sample Id: 647383-001

Matrix: Soil

MS Sample Id: 647383-001 S

Prep Method: SW8015P

Date Prep: 12.23.2019

MSD Sample Id: 647383-001 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)	14.6	1000	1000	99	891	88	70-135	12	35	mg/kg	12.23.2019 18:45	
Diesel Range Organics (DRO)	<11.5	1000	1030	103	945	95	70-135	9	35	mg/kg	12.23.2019 18:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		123		70-135	%	12.23.2019 18:45
o-Terphenyl	111		106		70-135	%	12.23.2019 18:45

Analytical Method: BTEX by EPA 8021B

Seq Number: 3111553

MB Sample Id: 7693184-1-BLK

Matrix: Solid

LCS Sample Id: 7693184-1-BKS

Prep Method: SW5030B

Date Prep: 12.23.2019

LCSD Sample Id: 7693184-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0909	91	0.0951	95	70-130	5	35	mg/kg	12.23.2019 16:05	
Toluene	<0.00200	0.100	0.0929	93	0.0972	97	70-130	5	35	mg/kg	12.23.2019 16:05	
Ethylbenzene	<0.00200	0.100	0.0920	92	0.0963	96	71-129	5	35	mg/kg	12.23.2019 16:05	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.203	102	70-135	5	35	mg/kg	12.23.2019 16:05	
o-Xylene	<0.00200	0.100	0.0979	98	0.103	103	71-133	5	35	mg/kg	12.23.2019 16:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		102		103		70-130	%	12.23.2019 16:05
4-Bromofluorobenzene	116		116		116		70-130	%	12.23.2019 16:05

Analytical Method: BTEX by EPA 8021B

Seq Number: 3111553

Parent Sample Id: 647383-001

Matrix: Soil

MS Sample Id: 647383-001 S

Prep Method: SW5030B

Date Prep: 12.23.2019

MSD Sample Id: 647383-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0922	91	0.0726	73	70-130	24	35	mg/kg	12.23.2019 16:43	
Toluene	<0.00201	0.101	0.0929	92	0.0734	74	70-130	23	35	mg/kg	12.23.2019 16:43	
Ethylbenzene	0.000495	0.101	0.0900	89	0.0708	71	71-129	24	35	mg/kg	12.23.2019 16:43	
m,p-Xylenes	<0.00402	0.201	0.189	94	0.148	74	70-135	24	35	mg/kg	12.23.2019 16:43	
o-Xylene	<0.00201	0.101	0.0957	95	0.0753	76	71-133	24	35	mg/kg	12.23.2019 16:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		101		70-130	%	12.23.2019 16:43
4-Bromofluorobenzene	121		120		70-130	%	12.23.2019 16:43

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: 647383

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

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

www.xenco.com Page 1 of 1

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

Program: ☒ UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund State of Project:	
Reporting Level II	☐ Level III ☐ PT/UST ☐ RP ☐ Level IV
Deliverables: EDD	☐ ADaPT ☐ Other:

SAMPLE RECEIPT										ANALYSIS REQUEST										Work Order Notes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Project Name:		PLU-Big Sinks 25 Federal Battery		Turn Around		Routine		P.O. Number:		Eddy County		Rush:		24hr																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

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 to Xenco. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	12/23/19 11:50 am	<i>[Signature]</i>	<i>[Signature]</i>	12/23/19 11:40



Client: LT Environmental, Inc.

Date/ Time Received: 12/23/2019 11:00:00 AM

Work Order #: 647383

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T NM 007

Sample Receipt Checklist

Comments

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Martha Castro

Date: 12/23/2019

Checklist reviewed by:

Jessica Kramer

Date: 12/24/2019

Analytical Report 648591

for
LT Environmental, Inc.

Project Manager: Dan Moir
PLU Big Sinks 25 Fed Battery

10-JAN-20

Collected By: Client



1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



10-JAN-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **648591**

PLU Big Sinks 25 Fed Battery

Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 648591. 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. 648591 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 648591****LT Environmental, Inc., Arvada, CO**

PLU Big Sinks 25 Fed Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	01-09-20 10:00	2 ft	648591-001
PH01A	S	01-09-20 10:05	4 ft	648591-002
PH02	S	01-09-20 10:25	2 ft	648591-003
PH02A	S	01-09-20 10:30	3.75 ft	648591-004
PH03	S	01-09-20 10:50	2 ft	648591-005
PH03A	S	01-09-20 10:55	3 ft	648591-006
PH05A	S	01-09-20 11:35	3 ft	648591-007
PH05	S	01-09-20 11:20	2 ft	648591-008



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU Big Sinks 25 Fed Battery

Project ID:

Work Order Number(s): 648591

Report Date: 10-JAN-20

Date Received: 01/09/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3112831 BTEX by EPA 8021B

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

Batch: LBA-3112858 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are:
7694053-1-BLK,648591-008,648591-006.



Certificate of Analysis Summary 648591

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Fed Battery

Project Id:

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Thu Jan-09-20 04:15 pm

Report Date: 10-JAN-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	648591-001	648591-002	648591-003	648591-004	648591-005	648591-006
	<i>Field Id:</i>	PH01	PH01A	PH02	PH02A	PH03	PH03A
	<i>Depth:</i>	2- ft	4- ft	2- ft	3.75- ft	2- ft	3- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-09-20 10:00	Jan-09-20 10:05	Jan-09-20 10:25	Jan-09-20 10:30	Jan-09-20 10:50	Jan-09-20 10:55
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-09-20 17:00	Jan-09-20 17:00	Jan-09-20 17:00	Jan-09-20 17:00	Jan-09-20 17:00	Jan-09-20 17:00
	<i>Analyzed:</i>	Jan-09-20 23:38	Jan-09-20 23:55	Jan-10-20 00:12	Jan-10-20 00:30	Jan-10-20 00:47	Jan-10-20 01:05
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00399 0.00399	<0.00398 0.00398	<0.00396 0.00396	<0.00396 0.00396	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jan-09-20 17:40	Jan-09-20 17:40	Jan-09-20 17:40	Jan-09-20 17:40	Jan-09-20 17:40	Jan-09-20 17:40
	<i>Analyzed:</i>	Jan-09-20 23:09	Jan-09-20 23:16	Jan-09-20 23:22	Jan-09-20 23:28	Jan-09-20 23:35	Jan-09-20 23:41
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		283 9.96	195 9.98	1960 50.4	544 10.1	1300 50.4	2250 50.3
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-09-20 18:30	Jan-09-20 18:30	Jan-09-20 18:30	Jan-09-20 18:30	Jan-09-20 18:30	Jan-09-20 18:30
	<i>Analyzed:</i>	Jan-10-20 03:54	Jan-10-20 14:25	Jan-10-20 04:33	Jan-10-20 14:45	Jan-10-20 04:53	Jan-10-20 05:13
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1
Diesel Range Organics (DRO)		<50.3 50.3	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1
Total GRO-DRO		<50.3 50.3	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1
Total TPH		<50.3 50.3	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1

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

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 648591

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Fed Battery

Project Id:

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Thu Jan-09-20 04:15 pm

Report Date: 10-JAN-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	648591-007	648591-008				
	Field Id:	PH05A	PH05				
	Depth:	3- ft	2- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jan-09-20 11:35	Jan-09-20 11:20				
BTEX by EPA 8021B	Extracted:	Jan-09-20 17:00	Jan-09-20 17:00				
	Analyzed:	Jan-10-20 01:22	Jan-10-20 01:39				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00200 0.00200	<0.00198 0.00198				
	Toluene	<0.00200 0.00200	<0.00198 0.00198				
	Ethylbenzene	<0.00200 0.00200	<0.00198 0.00198				
	m,p-Xylenes	<0.00399 0.00399	<0.00396 0.00396				
	o-Xylene	<0.00200 0.00200	<0.00198 0.00198				
	Total Xylenes	<0.00200 0.00200	<0.00198 0.00198				
	Total BTEX	<0.00200 0.00200	<0.00198 0.00198				
Chloride by EPA 300	Extracted:	Jan-09-20 17:40	Jan-09-20 17:40				
	Analyzed:	Jan-09-20 23:47	Jan-09-20 23:54				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	1790 50.4	3000 50.1				
TPH by SW8015 Mod	Extracted:	Jan-09-20 18:30	Jan-09-20 18:30				
	Analyzed:	Jan-10-20 05:13	Jan-10-20 05:33				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<50.1 50.1	<50.2 50.2				
	Diesel Range Organics (DRO)	<50.1 50.1	<50.2 50.2				
	Motor Oil Range Hydrocarbons (MRO)	<50.1 50.1	<50.2 50.2				
	Total GRO-DRO	<50.1 50.1	<50.2 50.2				
	Total TPH	<50.1 50.1	<50.2 50.2				

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

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Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH01**
 Lab Sample Id: 648591-001

Matrix: Soil
 Date Collected: 01.09.20 10.00

Date Received: 01.09.20 16.15
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112846

Date Prep: 01.09.20 17.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	283	9.96	mg/kg	01.09.20 23.09		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112858

Date Prep: 01.09.20 18.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.10.20 03.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.10.20 03.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.10.20 03.54	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.10.20 03.54	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.10.20 03.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	01.10.20 03.54	
o-Terphenyl	84-15-1	107	%	70-135	01.10.20 03.54	



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH01**
 Lab Sample Id: 648591-001

Matrix: Soil
 Date Collected: 01.09.20 10.00

Date Received: 01.09.20 16.15
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.09.20 17.00

Basis: Wet Weight

Seq Number: 3112831

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.09.20 23.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.09.20 23.38		
1,4-Difluorobenzene	540-36-3	98	%	70-130	01.09.20 23.38		



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH01A**
Lab Sample Id: 648591-002

Matrix: Soil
Date Collected: 01.09.20 10.05

Date Received: 01.09.20 16.15
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112846

Date Prep: 01.09.20 17.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	195	9.98	mg/kg	01.09.20 23.16		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112858

Date Prep: 01.09.20 18.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.10.20 14.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.10.20 14.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.10.20 14.25	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.10.20 14.25	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.10.20 14.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	01.10.20 14.25	
o-Terphenyl	84-15-1	121	%	70-135	01.10.20 14.25	



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH01A**
 Lab Sample Id: 648591-002

Matrix: Soil
 Date Collected: 01.09.20 10.05

Date Received: 01.09.20 16.15
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.09.20 17.00

Basis: Wet Weight

Seq Number: 3112831

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.09.20 23.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.09.20 23.55		
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.09.20 23.55		



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH02**
 Lab Sample Id: 648591-003

Matrix: Soil
 Date Collected: 01.09.20 10.25

Date Received: 01.09.20 16.15
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112846

Date Prep: 01.09.20 17.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1960	50.4	mg/kg	01.09.20 23.22		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112858

Date Prep: 01.09.20 18.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.10.20 04.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.10.20 04.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.10.20 04.33	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.10.20 04.33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.10.20 04.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	01.10.20 04.33	
o-Terphenyl	84-15-1	96	%	70-135	01.10.20 04.33	



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH02**
 Lab Sample Id: 648591-003

Matrix: Soil
 Date Collected: 01.09.20 10.25

Date Received: 01.09.20 16.15
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.09.20 17.00

Basis: Wet Weight

Seq Number: 3112831

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.10.20 00.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.10.20 00.12		
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.10.20 00.12		



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH02A**
 Lab Sample Id: 648591-004

Matrix: Soil
 Date Collected: 01.09.20 10.30

Date Received: 01.09.20 16.15
 Sample Depth: 3.75 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112846

Date Prep: 01.09.20 17.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	544	10.1	mg/kg	01.09.20 23.28		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112858

Date Prep: 01.09.20 18.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.10.20 14.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.10.20 14.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.10.20 14.45	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.10.20 14.45	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.10.20 14.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	01.10.20 14.45	
o-Terphenyl	84-15-1	92	%	70-135	01.10.20 14.45	



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH02A**
 Lab Sample Id: 648591-004

Matrix: Soil
 Date Collected: 01.09.20 10.30

Date Received: 01.09.20 16.15
 Sample Depth: 3.75 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.09.20 17.00

Basis: Wet Weight

Seq Number: 3112831

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.10.20 00.30	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.10.20 00.30		
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.10.20 00.30		



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH03**
 Lab Sample Id: 648591-005

Matrix: Soil
 Date Collected: 01.09.20 10.50

Date Received: 01.09.20 16.15
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112846

Date Prep: 01.09.20 17.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1300	50.4	mg/kg	01.09.20 23.35		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112858

Date Prep: 01.09.20 18.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.10.20 04.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.10.20 04.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.10.20 04.53	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.10.20 04.53	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.10.20 04.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	01.10.20 04.53	
o-Terphenyl	84-15-1	95	%	70-135	01.10.20 04.53	



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH03**
 Lab Sample Id: 648591-005

Matrix: Soil
 Date Collected: 01.09.20 10.50

Date Received: 01.09.20 16.15
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.09.20 17.00

Basis: Wet Weight

Seq Number: 3112831

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.10.20 00.47	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.10.20 00.47		
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.10.20 00.47		



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH03A**
 Lab Sample Id: 648591-006

Matrix: Soil
 Date Collected: 01.09.20 10.55

Date Received: 01.09.20 16.15
 Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112846

Date Prep: 01.09.20 17.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2250	50.3	mg/kg	01.09.20 23.41		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112858

Date Prep: 01.09.20 18.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.10.20 05.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	138	%	70-135	01.10.20 05.13	**
o-Terphenyl	84-15-1	130	%	70-135	01.10.20 05.13	



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH03A**
 Lab Sample Id: 648591-006

Matrix: Soil
 Date Collected: 01.09.20 10.55

Date Received: 01.09.20 16.15
 Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.09.20 17.00

Basis: Wet Weight

Seq Number: 3112831

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.10.20 01.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.10.20 01.05		
4-Bromofluorobenzene	460-00-4	110	%	70-130	01.10.20 01.05		



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH05A**
 Lab Sample Id: 648591-007

Matrix: Soil
 Date Collected: 01.09.20 11.35

Date Received: 01.09.20 16.15
 Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112846

Date Prep: 01.09.20 17.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1790	50.4	mg/kg	01.09.20 23.47		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112858

Date Prep: 01.09.20 18.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.10.20 05.13	U	1

Surrogate

1-Chlorooctane

o-Terphenyl

Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
111-85-3	98	%	70-135	01.10.20 05.13	
84-15-1	93	%	70-135	01.10.20 05.13	



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH05A**
 Lab Sample Id: 648591-007

Matrix: Soil
 Date Collected: 01.09.20 11.35

Date Received: 01.09.20 16.15
 Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.09.20 17.00

Basis: Wet Weight

Seq Number: 3112831

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.10.20 01.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.10.20 01.22		
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.10.20 01.22		



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH05**
 Lab Sample Id: 648591-008

Matrix: Soil
 Date Collected: 01.09.20 11.20

Date Received: 01.09.20 16.15
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112846

Date Prep: 01.09.20 17.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3000	50.1	mg/kg	01.09.20 23.54		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112858

Date Prep: 01.09.20 18.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.10.20 05.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.10.20 05.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.10.20 05.33	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.10.20 05.33	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.10.20 05.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	139	%	70-135	01.10.20 05.33	**
o-Terphenyl	84-15-1	130	%	70-135	01.10.20 05.33	



Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **PH05**
 Lab Sample Id: 648591-008

Matrix: Soil
 Date Collected: 01.09.20 11.20

Date Received: 01.09.20 16.15
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.09.20 17.00

Basis: Wet Weight

Seq Number: 3112831

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.10.20 01.39	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	01.10.20 01.39		
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.10.20 01.39		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
PLU Big Sinks 25 Fed Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3112846

MB Sample Id: 7694038-1-BLK

Matrix: Solid

LCS Sample Id: 7694038-1-BKS

Prep Method: E300P

Date Prep: 01.09.20

LCSD Sample Id: 7694038-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	261	104	90-110	2	20	mg/kg	01.09.20 20:51	

Analytical Method: Chloride by EPA 300

Seq Number: 3112846

Parent Sample Id: 648427-047

Matrix: Soil

MS Sample Id: 648427-047 S

Prep Method: E300P

Date Prep: 01.09.20

MSD Sample Id: 648427-047 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	200	199	415	108	417	109	90-110	0	20	mg/kg	01.09.20 21:10	

Analytical Method: Chloride by EPA 300

Seq Number: 3112846

Parent Sample Id: 648427-057

Matrix: Soil

MS Sample Id: 648427-057 S

Prep Method: E300P

Date Prep: 01.09.20

MSD Sample Id: 648427-057 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6890	202	7070	89	7040	75	90-110	0	20	mg/kg	01.09.20 22:38	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112858

MB Sample Id: 7694053-1-BLK

Matrix: Solid

LCS Sample Id: 7694053-1-BKS

Prep Method: SW8015P

Date Prep: 01.09.20

LCSD Sample Id: 7694053-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1210	121	1210	121	70-135	0	35	mg/kg	01.10.20 03:34	
Diesel Range Organics (DRO)	<50.0	1000	1120	112	1110	111	70-135	1	35	mg/kg	01.10.20 03:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	137	**	130		114		70-135	%	01.10.20 03:34
o-Terphenyl	134		102		100		70-135	%	01.10.20 03:34

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112858

Matrix: Solid

MB Sample Id: 7694053-1-BLK

Prep Method: SW8015P

Date Prep: 01.09.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.10.20 03:34	

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

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

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

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



LT Environmental, Inc.
PLU Big Sinks 25 Fed Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112858

Parent Sample Id: 648591-001

Matrix: Soil

MS Sample Id: 648591-001 S

Prep Method: SW8015P

Date Prep: 01.09.20

MSD Sample Id: 648591-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	1280	128	1260	126	70-135	2	35	mg/kg	01.10.20 13:44	
Diesel Range Organics (DRO)	<50.2	1000	1200	120	1190	119	70-135	1	35	mg/kg	01.10.20 13:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		123		70-135	%	01.10.20 13:44
o-Terphenyl	107		109		70-135	%	01.10.20 13:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3112831

MB Sample Id: 7694076-1-BLK

Matrix: Solid

LCS Sample Id: 7694076-1-BKS

Prep Method: SW5030B

Date Prep: 01.09.20

LCSD Sample Id: 7694076-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0941	94	0.101	101	70-130	7	35	mg/kg	01.09.20 17:50	
Toluene	<0.00200	0.100	0.0961	96	0.103	103	70-130	7	35	mg/kg	01.09.20 17:50	
Ethylbenzene	<0.00200	0.100	0.0948	95	0.101	101	71-129	6	35	mg/kg	01.09.20 17:50	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.211	106	70-135	7	35	mg/kg	01.09.20 17:50	
o-Xylene	<0.00200	0.100	0.0961	96	0.103	103	71-133	7	35	mg/kg	01.09.20 17:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		99		101		70-130	%	01.09.20 17:50
4-Bromofluorobenzene	102		101		104		70-130	%	01.09.20 17:50

Analytical Method: BTEX by EPA 8021B

Seq Number: 3112831

Parent Sample Id: 648427-057

Matrix: Soil

MS Sample Id: 648427-057 S

Prep Method: SW5030B

Date Prep: 01.09.20

MSD Sample Id: 648427-057 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	0.113	113	0.103	103	70-130	9	35	mg/kg	01.09.20 18:25	
Toluene	<0.00200	0.100	0.110	110	0.0941	94	70-130	16	35	mg/kg	01.09.20 18:25	
Ethylbenzene	<0.00200	0.100	0.0990	99	0.0744	75	71-129	28	35	mg/kg	01.09.20 18:25	
m,p-Xylenes	<0.00401	0.200	0.203	102	0.150	75	70-135	30	35	mg/kg	01.09.20 18:25	
o-Xylene	<0.00200	0.100	0.101	101	0.0756	76	71-133	29	35	mg/kg	01.09.20 18:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	01.09.20 18:25
4-Bromofluorobenzene	108		106		70-130	%	01.09.20 18:25

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

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

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

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



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Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480) 365-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 291-1111
Hobbs, NM (575) 392-7550

Chain of Custody

Work Order No.:

1848591

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:	
City, State ZIP:		Midland, Tx 79705	City, State ZIP:	
Phone:		(432) 236-3849	Email:	enaka@ltenv.com , dmoir@ltenv.com

Work Order Comments	
Program: UST/PST ☐ RP ☐ Rowfields ☐ RC ☐ perfund ☐	
State of Project:	
Reporting: Level II ☐ Level III ☐ PT/UST ☐ RP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other: ☐	

[illegible]

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E)	BTEX (C)	Chloride	Sample Comments
PH01	S	1/9/20	1000	2'	1	X	X	X	discrete
PH04			1005	4'		X			
PH02			1025	2'		X			
PH02A			1030	3-75'		X			
PH03			1056	2'		X			
PH03A			1055	3'		X			
PH05A			1135	3'		X			
PH05			1120	2'		X			
Bluewater 11/08/20									

Total	200.7 / 6010	200.8 / 6020:	8RCRA	13PPM	Texas 11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	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: 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																																

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.09.2020 04.15.00 PM

Work Order #: 648591

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 01.09.2020

Checklist reviewed by:



Jessica Kramer

Date: 01.10.2020

Analytical Report 649505

for
LT Environmental, Inc.

Project Manager: Dan Moir
PLU Big Sinks 25 Fed Battery

21-JAN-20

Collected By: Client



1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



21-JAN-20

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

Reference: XENCO Report No(s): **649505**
PLU Big Sinks 25 Fed Battery
Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 649505. 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. 649505 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer
Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 649505****LT Environmental, Inc., Arvada, CO**

PLU Big Sinks 25 Fed Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS03	S	01-17-20 12:50	0.5 ft	649505-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU Big Sinks 25 Fed Battery

Project ID:

Work Order Number(s): 649505

Report Date: 21-JAN-20

Date Received: 01/17/2020

Sample receipt non conformances and comments:

Per clients email, corrected sample name from FS01 to FS03. New version generated, JK 01/21/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3113725 BTEX by EPA 8021B

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



Certificate of Analysis Summary 649505

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Fed Battery

Project Id:

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Fri Jan-17-20 02:30 pm

Report Date: 21-JAN-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	649505-001					
	Field Id:	FS03					
	Depth:	0.5- ft					
	Matrix:	SOIL					
	Sampled:	Jan-17-20 12:50					
BTEX by EPA 8021B	Extracted:	Jan-17-20 16:00					
	Analyzed:	Jan-17-20 22:10					
	Units/RL:	mg/kg RL					
Benzene		<0.00198 0.00198					
Toluene		<0.00198 0.00198					
Ethylbenzene		<0.00198 0.00198					
m,p-Xylenes		<0.00395 0.00395					
o-Xylene		<0.00198 0.00198					
Total Xylenes		<0.00198 0.00198					
Total BTEX		<0.00198 0.00198					
Chloride by EPA 300	Extracted:	Jan-17-20 16:00					
	Analyzed:	Jan-18-20 12:51					
	Units/RL:	mg/kg RL					
Chloride		3430 10.1					
TPH by SW8015 Mod	Extracted:	Jan-17-20 18:15					
	Analyzed:	Jan-19-20 03:47					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1					
Diesel Range Organics (DRO)		<50.1 50.1					
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1					
Total GRO-DRO		<50.1 50.1					
Total TPH		<50.1 50.1					

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

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

Version: 1.0%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 649505

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **FS03**
 Lab Sample Id: 649505-001

Matrix: Soil
 Date Collected: 01.17.20 12.50

Date Received: 01.17.20 14.30
 Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: ECA

Date Prep: 01.17.20 16.00

Basis: Wet Weight

Seq Number: 3113713

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3430	10.1	mg/kg	01.18.20 12.51		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

% Moisture:

Analyst: DTH

Date Prep: 01.17.20 18.15

Basis: Wet Weight

Seq Number: 3113733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.19.20 03.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.19.20 03.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.19.20 03.47	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.19.20 03.47	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.19.20 03.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	01.19.20 03.47	
o-Terphenyl	84-15-1	101	%	70-135	01.19.20 03.47	



Certificate of Analytical Results 649505

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id: **FS03**
 Lab Sample Id: 649505-001

Matrix: Soil
 Date Collected: 01.17.20 12.50

Date Received: 01.17.20 14.30
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.17.20 16.00

Basis: Wet Weight

Seq Number: 3113725

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	01.17.20 22.10	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.17.20 22.10		
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.17.20 22.10		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
PLU Big Sinks 25 Fed Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3113713

MB Sample Id: 7694644-1-BLK

Matrix: Solid

LCS Sample Id: 7694644-1-BKS

Prep Method: E300P

Date Prep: 01.17.20

LCSD Sample Id: 7694644-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	260	104	90-110	1	20	mg/kg	01.17.20 21:01	

Analytical Method: Chloride by EPA 300

Seq Number: 3113713

Parent Sample Id: 649439-029

Matrix: Soil

MS Sample Id: 649439-029 S

Prep Method: E300P

Date Prep: 01.17.20

MSD Sample Id: 649439-029 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	162	200	381	110	380	109	90-110	0	20	mg/kg	01.17.20 21:19	

Analytical Method: Chloride by EPA 300

Seq Number: 3113713

Parent Sample Id: 649501-004

Matrix: Soil

MS Sample Id: 649501-004 S

Prep Method: E300P

Date Prep: 01.17.20

MSD Sample Id: 649501-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	61.5	200	277	108	276	107	90-110	0	20	mg/kg	01.17.20 22:41	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113733

MB Sample Id: 7694707-1-BLK

Matrix: Solid

LCS Sample Id: 7694707-1-BKS

Prep Method: SW8015P

Date Prep: 01.17.20

LCSD Sample Id: 7694707-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1020	102	1030	103	70-135	1	35	mg/kg	01.19.20 01:11	
Diesel Range Organics (DRO)	<50.0	1000	1200	120	1080	108	70-135	11	35	mg/kg	01.19.20 01:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		122		129		70-135	%	01.19.20 01:11
o-Terphenyl	115		123		129		70-135	%	01.19.20 01:11

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113733

Matrix: Solid

MB Sample Id: 7694707-1-BLK

Prep Method: SW8015P

Date Prep: 01.17.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.19.20 00:51	

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

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

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

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



LT Environmental, Inc.
PLU Big Sinks 25 Fed Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113733

Parent Sample Id: 649501-004

Matrix: Soil

MS Sample Id: 649501-004 S

Prep Method: SW8015P

Date Prep: 01.17.20

MSD Sample Id: 649501-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	1080	108	1050	104	70-135	3	35	mg/kg	01.19.20 02:09	
Diesel Range Organics (DRO)	<50.2	1000	1160	116	1230	122	70-135	6	35	mg/kg	01.19.20 02:09	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		115		70-135	%	01.19.20 02:09
o-Terphenyl	120		114		70-135	%	01.19.20 02:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113725

MB Sample Id: 7694647-1-BLK

Matrix: Solid

LCS Sample Id: 7694647-1-BKS

Prep Method: SW5030B

Date Prep: 01.17.20

LCSD Sample Id: 7694647-1-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	0.100	100	0.106	106	70-130	6	35	mg/kg	01.17.20 12:11	
Toluene	<0.00200	0.100	0.0990	99	0.103	103	70-130	4	35	mg/kg	01.17.20 12:11	
Ethylbenzene	<0.00200	0.100	0.0975	98	0.0999	100	71-129	2	35	mg/kg	01.17.20 12:11	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.205	103	70-135	2	35	mg/kg	01.17.20 12:11	
o-Xylene	<0.00200	0.100	0.0984	98	0.102	102	71-133	4	35	mg/kg	01.17.20 12:11	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		101		104		70-130	%	01.17.20 12:11
4-Bromofluorobenzene	100		98		99		70-130	%	01.17.20 12:11

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113725

Parent Sample Id: 649437-001

Matrix: Soil

MS Sample Id: 649437-001 S

Prep Method: SW5030B

Date Prep: 01.17.20

MSD Sample Id: 649437-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0925	93	0.0893	90	70-130	4	35	mg/kg	01.17.20 13:12	
Toluene	<0.00200	0.100	0.0910	91	0.0856	86	70-130	6	35	mg/kg	01.17.20 13:12	
Ethylbenzene	0.000954	0.100	0.0895	89	0.0821	81	71-129	9	35	mg/kg	01.17.20 13:12	
m,p-Xylenes	0.000763	0.200	0.184	92	0.168	84	70-135	9	35	mg/kg	01.17.20 13:12	
o-Xylene	0.000582	0.100	0.0905	90	0.0831	83	71-133	9	35	mg/kg	01.17.20 13:12	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		104		70-130	%	01.17.20 13:12
4-Bromofluorobenzene	100		98		70-130	%	01.17.20 13:12

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

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

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

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



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Hobbs, NM (575-392-7650) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 291-1111

Chain of Custody

Work Order No:

10-19505

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	enaka@ltenv.com , dmoir@ltenv.com

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

[illegible]

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	<i>Electra Mac</i>	<i>[Signature]</i>	11/17/20 14:30 ²			
2						
3						
4						
5						
6						