

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	NAB1921727653
District RP	2RP-5545
Facility ID	
Application ID	pAB1921727325

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) NAB1921727653
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.237955 Longitude -103.917288
(NAD 83 in decimal degrees to 5 decimal places)

Site Name SWD line @ Poker Lake Unit #159	Site Type Salt Water Disposal line near Production Well Facility
Date Release Discovered 6/27/2019	API# (if applicable) 30-015-31691 PLU 159

Unit Letter	Section	Township	Range	County
B	7	24S	30E	Eddy

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

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls) 1.46	Volume Recovered (bbls) 0
☒ Produced Water	Volume Released (bbls) 71.32	Volume Recovered (bbls) 0
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Fluids were discovered exiting a 4" SWD poly flow line running parallel to Gavilan Road. The upstream and downstream valves were closed and the line was isolated. The line was immediately repaired. The release affected ROW and lease road soils. Additional third party resources have been retained to assist with remediation.

Form C-141

State of New Mexico
Oil Conservation Division

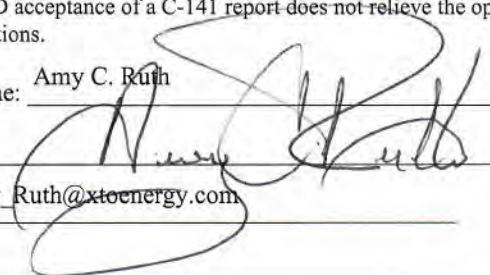
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of a volume of 25 barrels or more
If YES, was immediate notice given 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, and Yolanda Jimenez (BLM) on 6/27/2019 by email	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☐ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: No free liquids remained to be recovered.	
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>Amy C. Ruth</u> Signature:  email: <u>Amy_Ruth@xtenergy.com</u>	Title: <u>SH&E Coordinator</u> Date: <u>7/10/2019</u> Telephone: <u>575-689-3380</u>
<u>OCD Only</u> Received by: <u>Amalia Bustamante</u> Date: <u>8/5/2019</u>	

Incident ID	NAB1921727653
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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.

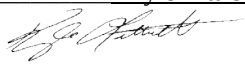
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform 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 Supervisor

Signature:  Date: 08/11/2020

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

OCD Only

Received by: _____ Date: _____

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Closure

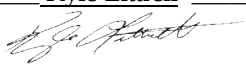
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled 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: 08/11/2020

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____



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

August 14, 2020

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

**RE: Closure Request
SWD Line at Poker Lake Unit #159
Remediation Permit Number 2RP-5545
Incident Number NAB1921727653
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 Saltwater Disposal (SWD) Line at Poker Lake Unit #159 (Site) located in Unit B, Section 7, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to address impacts to soil following a release of crude oil and produced water at the Site. Based on field observations, field screening, and laboratory analytical results from excavation activities, XTO is submitting this Closure Request and requesting no further action (NFA) for Remediation Permit (RP) Number 2RP-5545 and Incident Number NAB1921727653.

RELEASE BACKGROUND

On June 27, 2019, fluids were discovered leaking from a 4-inch SWD poly flow line, resulting in the release of approximately 1.46 barrels (bbls) of crude oil and 71.32 bbls of produced water. Fluids were released into the pipeline right-of-way (ROW). The upstream and downstream valves on the lines were closed, the line was isolated, and the line was repaired. No fluids were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on June 10, 2019, and was subsequently assigned RP Number 2RP-5545 and Incident Number NAB1921727653.

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 water well data. The closest permitted water well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C 02108, located



approximately 3,568 feet southeast of the Site. The groundwater well has a depth to groundwater of approximately 186 feet bgs and a total depth of 200 feet bgs. There are five groundwater wells within a 3-mile radius that all indicate regional depth to groundwater is greater than 150 feet. United States Geological Survey (USGS) well 321321103544101, located approximately 1.1 miles south of the Site, was most recently measured in January 1998 and had a reported depth to groundwater of approximately 168 feet bgs. The referenced well records are in Attachment 1. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash, located approximately 3,234 feet southwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst area). The Site receptors are depicted on Figure 1.

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

Additionally, the reclamation requirement of 600 mg/kg chloride was applied to the undeveloped pasture that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top four feet of areas to be reclaimed immediately following remediation.

SITE ASSESSMENT ACTIVITIES

On August 21, 2019, LTE personnel conducted an initial Site assessment to evaluate the release based on information provided on the Form C-141 and visual observations. LTE personnel collected seven preliminary soil samples (SS01 through SS07) from within the release extent from a depth of approximately 0.5 feet bgs to assess the presence or absence of soil impacts at the ground surface. 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.

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 transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) 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, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results indicated benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria for the preliminary soil samples. However, chloride concentrations exceeded the reclamation requirement for waste-containing soil in the top four feet of the subsurface in preliminary soil samples SS01 and SS03. In an effort to identify the presence or absence of soil impacts at depth, additional delineation activities were scheduled. Laboratory analytical results for the preliminary soil samples are presented on Figure 2 and summarized in Table 1. The laboratory analytical report is included in Attachment 3.

DELINEATION SOIL SAMPLING ACTIVITIES

Delineation was conducted from December 18, 2019, through March 12, 2020, in coordination with excavation activities to assist in confirming the presence or absence of impacted soil within the footprint of the release that could not be accessed for excavation. Visually impacted soil was located along the ROW adjacent to the lease road. Three potholes (PH01 through PH03) and nine boreholes (BH01 through BH09) were advanced to depths ranging from approximately one foot to 7.5 feet bgs. Between one and four discrete soil samples were collected from each pothole utilizing a track-mounted backhoe, and from each borehole utilizing stainless-steel hand auger. Soil from the potholes and boreholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole and borehole were logged on lithologic/soil sampling logs, which are included in Attachment 4. The locations of delineation potholes and boreholes are presented on Figure 3. The discrete delineation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico.

Laboratory analytical results indicated that chloride concentrations exceeded the reclamation requirement for waste-containing soil in the top four feet of the subsurface in a total of 5 delineation samples (PH01 through PH03, and BH01 and BH05). Excavation activities appeared to be warranted. The laboratory analytical results are summarized in Table 1 and the laboratory data reports are provided in Attachment 3.

EXCAVATION AND SOIL SAMPLING ACTIVITIES

From May 12, 2020 through June 11, 2020, LTE oversaw excavation activities to remediate waste-containing soil as indicated by visual observations and laboratory analytical results from the seven preliminary soil samples, and delineation samples PH01 through PH03, and BH01 and BH05. Excavation activities were performed along the ROW using track-mounted backhoe and transport vehicle in the above referenced impacted areas. Photographic documentation was conducted during the excavation activities. Photographs are included in Attachment 2.



Following removal of impacted soil, LTE collected 5-point composite soil samples at least every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. A total of 51 composite floor soil samples (FS01 through FS51) and 38 composite sidewall samples (SW01 through SW38) were collected from the within the final excavation extent. FS01-FS03 were collected for field screening purposes only and not submitted for laboratory analysis. Floor samples were collected at depths ranging from approximately 2 feet to 4 feet bgs and sidewall samples were collected at depths from the ground surface to the maximum depth of approximately 4 feet bgs. The excavation soil samples were collected, handled, and analyzed as described above. The final excavation extent and the locations of final excavation confirmation samples are presented on Figure 4 and summarized in Table 1.

Overall, excavation of impacted soil encompassed an area of approximately 9,460 square feet. A total of approximately 1,140 cubic yards of impacted soil were removed during excavation activities. The impacted soil was removed from the Site and properly disposed of at the R360 Facility located in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

ANALYTICAL RESULTS

Laboratory analytical results indicated benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Additionally, the reclamation of the affected pasture area appears to comply with NMAC 19.15.29.13.D (1) to the top 4 feet. The complete laboratory analytical report is provided in Attachment 3 and summarized in Table 1.

CONCLUSIONS

Initial and follow-up response efforts as a result of the crude oil and produced water release included collection of delineation soil samples, and excavation and removal of waste-containing soil for reclamation purposes. Laboratory analytical results for all soil samples indicated benzene, BTEX, TPH-GRO and TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria; however, chloride concentrations exceeded the reclamation requirement for waste-containing soil in preliminary soil samples SS01 and SS03 and excavation activities appeared to be warranted. Based on the analytical results, the ROW area was excavated, removing impacted and waste-containing soils from the surface to depths ranging between ground surface to 4 feet bgs. Laboratory analytical results for final confirmation soil samples collected within the release extent indicated the reclamation of the affected pasture area appears to comply with NMAC 19.15.29.13.D (1) to the top 4 feet. Overall, excavation of impacted soil encompassed an area of approximately 9,460 square feet. A total of approximately 1,140 cubic yards of impacted soil removed and transported to a permitted disposal facility.

Based on field activities and laboratory analytical results of confirmation samples within the release extent, XTO respectfully requests NFA for RP Number 2RP-5545 and Incident Number NAB1921727653.



Bratcher, M.
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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 blue ink, appearing to read 'W. Mather'.

William Mather
Staff Environmental Scientist

A handwritten signature in black ink, appearing to read 'Ashley L. Ager'.

Ashley L. Ager, P.G.
Senior Geologist

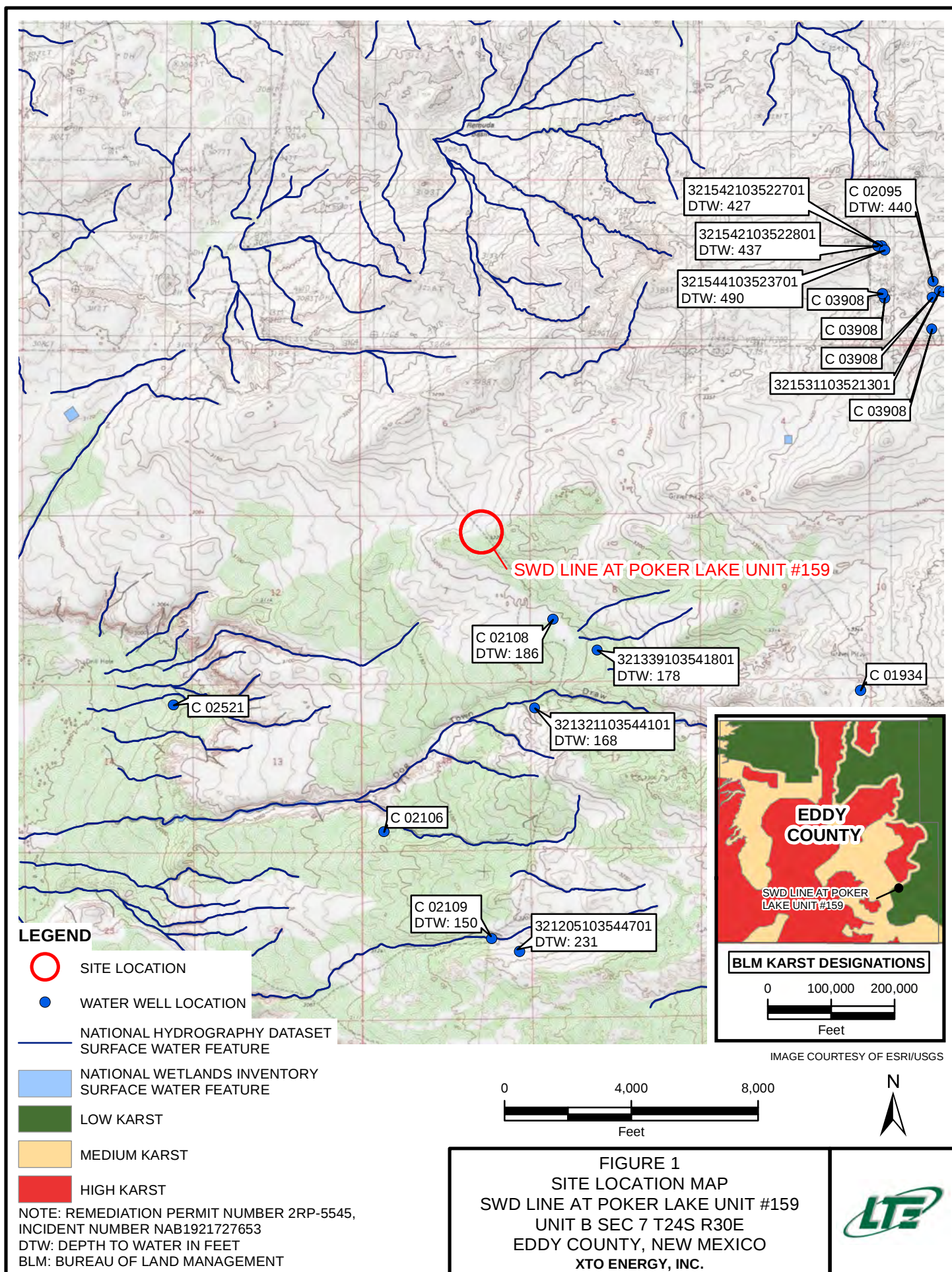
cc: Kyle Littrell, XTO
United States Bureau of Land Management – New Mexico
Victoria Venegas, NMOCD
Robert Hamlet, NMOCD
Cristina Eads, NMOCD

Appendices:

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

FIGURES





SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
 SAMPLE DATE
 NMOCD TABLE 1 CLOSURE CRITERIA (NMAC 19.15.29.12)
 B = 10 mg/kg
 BTEX = 50 mg/kg
 GRO+DRO = 1,000 mg/kg
 TPH = 2,500 mg/kg
 Cl = 20,000 mg/kg
 NMOCD RECLAMATION CLOSURE CRITERIA FOR TOP FOUR
 FEET OF AREAS TO BE RECLAIMED (NMAC 19.15.29.13.D (1))
 Cl = 600 mg/kg
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT

SS07@0.5'
 08/21/2019
 B: 0.00299
 BTEX: 0.0121
 GRO+DRO: <24.9
 TPH: <24.9
 Cl: 56.4

SS06@0.5'
 08/21/2019
 B: <0.00199
 BTEX: <0.00199
 GRO+DRO: 39.3
 TPH: 39.3
 Cl: 364

SS05@0.5'
 08/21/2019
 B: <0.00200
 BTEX: <0.00200
 GRO+DRO: <25.0
 TPH: <25.0
 Cl: 7.84

SS04@0.5'
 08/21/2019
 B: <0.00199
 BTEX: <0.00199
 GRO+DRO: <25.0
 TPH: <25.0
 Cl: 86.9

SS03@0.5'
 08/21/2019
 B: <0.00200
 BTEX: <0.00200
 GRO+DRO: <24.9
 TPH: <24.9
 Cl: 5,190

SS02@0.5'
 08/21/2019
 B: <0.00202
 BTEX: 0.00429
 GRO+DRO: <25.0
 TPH: <25.0
 Cl: 289

SS01@0.5'
 08/21/2019
 B: <0.00198
 BTEX: <0.00198
 GRO+DRO: 855
 TPH: 991
 Cl: 4,160

LEGEND



RELEASE LOCATION



PRELIMINARY SOIL SAMPLE IN COMPLIANCE
 WITH APPLICABLE CLOSURE CRITERIA

— GAS LINE

— WATER LINE



RELEASE EXTENT

B: BENZENE

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

GRO: GASOLINE RANGE ORGANICS

DRO: DIESEL RANGE ORGANICS

TPH: TOTAL PETROLEUM HYDROCARBONS

Cl: CHLORIDE

NMAC: NEW MEXICO ADMINISTRATIVE CODE

NMOCD: NEW MEXICO OIL CONSERVATION DIVISION

NOTE: REMEDIATION PERMIT NUMBER 2RP-5545,
 INCIDENT NUMBER NAB1921727653

IMAGE COURTESY OF ESRI

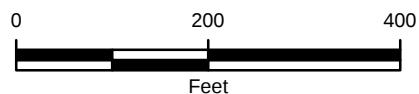
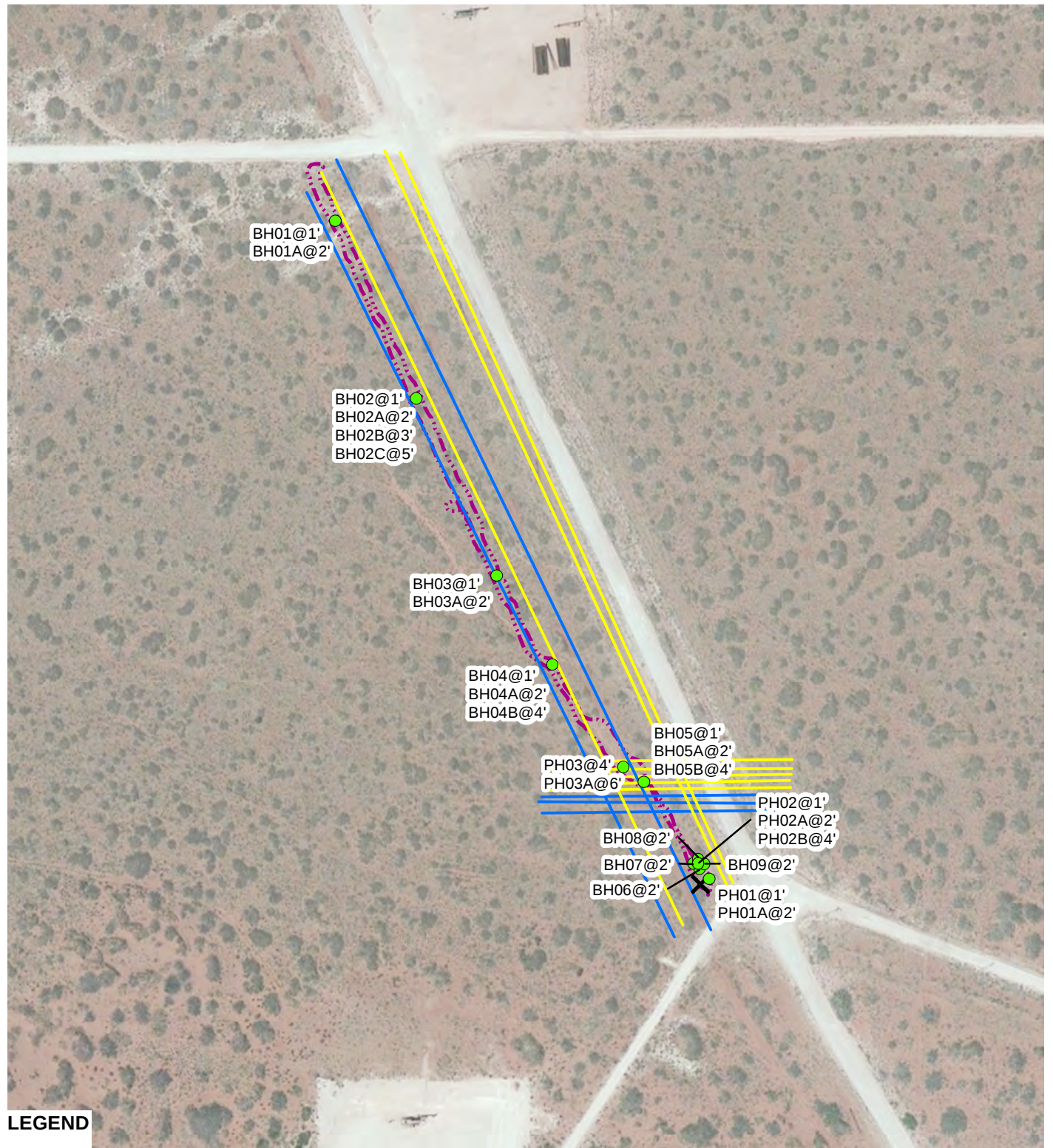


FIGURE 2
 PRELIMINARY SOIL SAMPLE LOCATIONS
 SWD LINE AT POKER LAKE UNIT #159
 UNIT B SEC 7 T24S R30E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.



**LEGEND**

RELEASE LOCATION

DELINEATION SOIL SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIA

GAS LINE



WATER LINE



RELEASE EXTENT

NOTE: REMEDIATION PERMIT NUMBER 2RP-5545,
INCIDENT NUMBER NAB1921727653
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

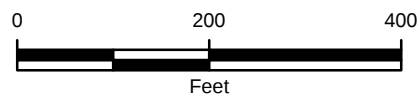


IMAGE COURTESY OF ESRI



FIGURE 3
SOIL SAMPLE LOCATIONS
SWD LINE AT POKER LAKE UNIT #159
UNIT B SEC 7 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



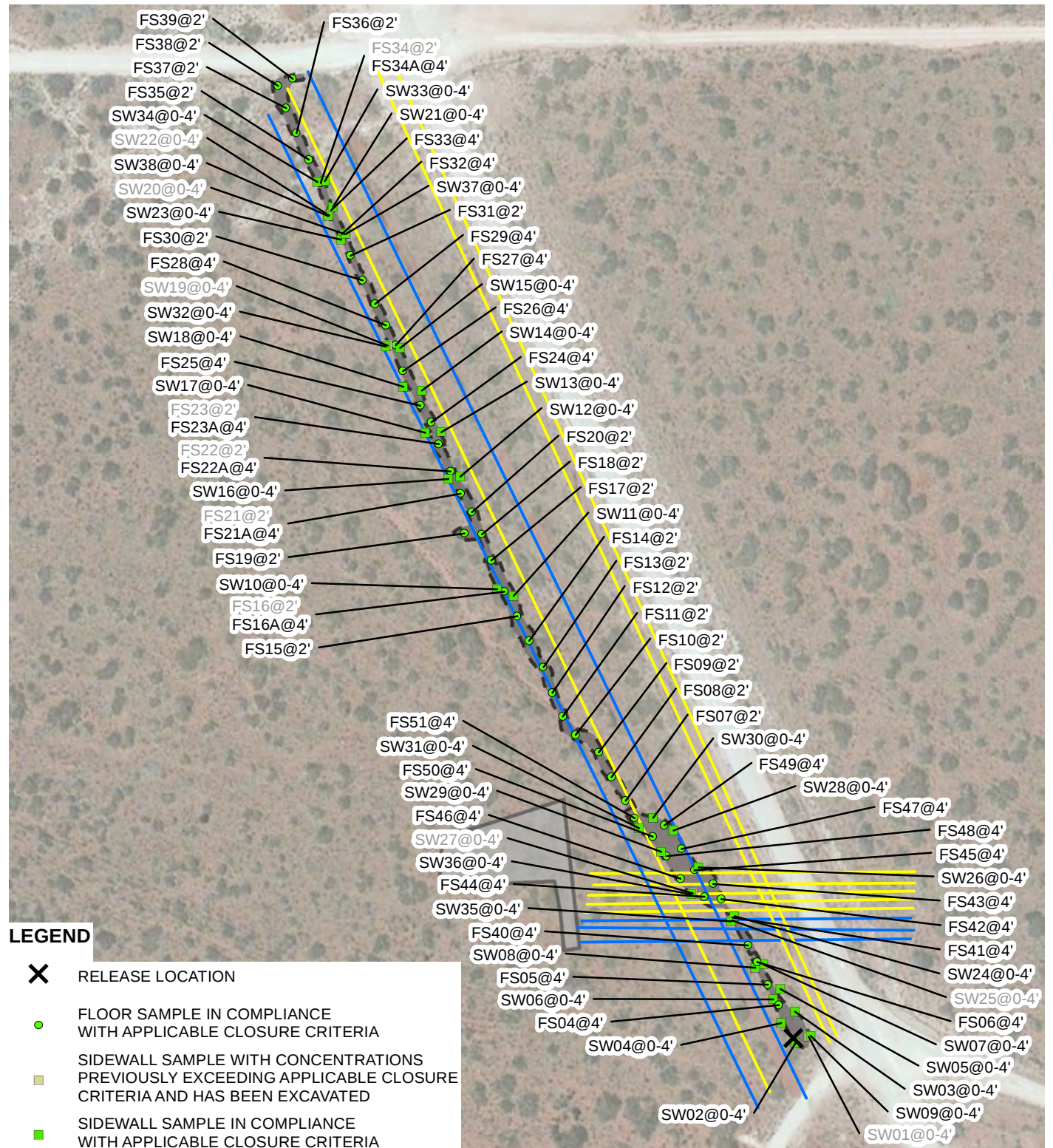


IMAGE COURTESY OF ESRI

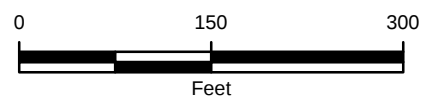


FIGURE 4
 EXCAVATION SOIL SAMPLE LOCATIONS
 SWD LINE AT POKER LAKE UNIT #159
 UNIT B SEC 7 T24S R30E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.



TABLES



TABLE 1
SOIL ANALYTICAL RESULTS

SWD LINE AT POKER LAKE UNIT #159
REMEDATION PERMIT NUMBER 2RP-5545
INCIDENT NUMBER NAB1921727653
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	08/21/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<24.9	855	136	855	991	4,160
SS02	0.5	08/21/2019	<0.00202	<0.00202	<0.00202	0.00429	0.00429	<25.0	<25.0	<25.0	<25.0	<25.0	289
SS03	0.5	08/21/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	5,190
SS04	0.5	08/21/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	86.9
SS05	0.5	08/21/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	7.84
SS06	0.5	08/21/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	39.3	<25.0	39.3	39.3	364
SS07	0.5	08/21/2019	0.00299	0.00909	<0.00201	<0.00201	0.0121	<24.9	<24.9	<24.9	<24.9	<24.9	56.4
PH01	1	12/18/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	290
PH01A	2	12/18/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	1,580
PH01B	4	12/20/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	5,790
PH01C	5	03/12/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	572
PH02	1	12/18/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	33.8
PH02A	2	12/18/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	543
PH02B	4	12/20/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	9,440
PH02C	5	01/03/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	10,600
PH02D	7.5	03/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	1,130
PH03	4	12/20/2019	<0.00202	<0.00202	59	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	14,200
PH03B	6	03/12/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	152
BH01	1	12/18/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	218
BH01A	2	12/18/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	881
BH01B	5	03/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	41.2
BH02	1	12/18/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	<10.1
BH02A	2	12/18/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	57.1

TABLE 1
SOIL ANALYTICAL RESULTS

SWD LINE AT POKER LAKE UNIT #159
REMEDATION PERMIT NUMBER 2RP-5545
INCIDENT NUMBER NAB1921727653
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
BH02B	3	01/03/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	332
BH02C	5	03/12/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	74.6
BH03	1	12/18/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	476
BH03A	2	12/18/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	344
BH04	1	12/18/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	<9.96
BH04A	2	12/18/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	20.4
BH04B	4	01/03/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	<9.98
BH05	1	12/18/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.3	<50.3	<50.3	<50.3	<50.3	3,470
BH05A	2	12/18/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	320	<50.0	320	320	9,250
BH05B	4	12/20/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	54.9
BH06	2	05/06/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	220
BH07	2	05/06/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	245
BH08	2	05/06/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	189
BH09	2	05/06/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	53.0
SW01	0 - 4	05/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	677
SW02	0 - 4	05/12/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	203
SW03	0 - 4	05/12/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	58.6
SW04	0 - 4	05/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	482
SW05	0 - 4	05/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	405
SW06	0 - 4	05/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	250
SW07	0 - 4	05/12/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	37.7
SW08	0 - 4	05/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	154
SW09	0 - 4	05/18/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	107

TABLE 1
SOIL ANALYTICAL RESULTS

SWD LINE AT POKER LAKE UNIT #159
REMEDATION PERMIT NUMBER 2RP-5545
INCIDENT NUMBER NAB1921727653
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
SW10	0 - 4	05/19/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	66.2
SW11	0 - 4	05/19/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	22.6
SW12	0 - 4	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	26.2
SW13	0 - 4	05/19/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	35.9
SW14	0 - 4	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	117
SW15	0 - 4	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	203
SW16	0 - 4	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	85.4	<50.1	85.4	85.4	163
SW17	0 - 4	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	59.5
SW18	0 - 4	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	164
SW19	0 - 4	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	199	<50.2	199	199	95.0
SW20	0 - 4	05/20/2020	0.0520	0.610	0.0818	0.290	1.03	<50.2	125	<50.2	125	125	63.7
SW21	0 - 4	05/20/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	79.2	<50.3	79.2	79.2	109
SW22	0 - 4	05/20/2020	<0.00200	0.0822	0.0160	0.0571	0.155	<49.8	205	<49.8	205	205	144
SW23	0 - 4	05/20/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	89.0	<49.9	89.0	89.0	101
SW24	0 - 4	05/22/2020	<0.00200	0.0584	<0.00200	0.0286	0.0870	<50.0	<50.0	<50.0	<50.0	<50.0	152
SW25	0 - 4	05/22/2020	0.0188	0.109	0.0177	0.0572	0.203	<50.1	<50.1	<50.1	<50.1	<50.1	1,070
SW26	0 - 4	05/22/2020	0.0778	0.536	0.134	0.483	1.23	<50.0	<50.0	<50.0	<50.0	<50.0	287
SW27	0 - 4	05/22/2020	<0.00198	0.140	0.0303	0.103	0.273	<50.0	132	<50.0	132	132	352
SW28	0 - 4	05/22/2020	<0.00200	0.116	0.0269	0.0949	0.238	<49.8	<49.8	<49.8	<49.8	<49.8	181
SW29	0 - 4	05/22/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	272
SW30	0 - 4	05/22/2020	0.0199	0.115	0.0159	0.0516	0.202	<50.0	<50.0	<50.0	<50.0	<50.0	76.6
SW31	0 - 4	05/22/2020	0.0337	0.239	0.0584	0.210	0.541	<49.8	<49.8	<49.8	<49.8	<49.8	<9.96
SW32	0 - 4	05/22/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	15.9

TABLE 1
SOIL ANALYTICAL RESULTS

SWD LINE AT POKER LAKE UNIT #159
REMEDATION PERMIT NUMBER 2RP-5545
INCIDENT NUMBER NAB1921727653
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
SW33	0 - 4	05/26/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	217
SW34	0 - 4	05/26/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	86.1
SW35	0 - 4	06/11/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	374
SW36	0 - 4	06/11/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	415
SW37	0 - 4	06/11/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	10.6
SW38	0 - 4	06/11/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	29.4
FS04	4	05/12/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	3,460
FS05	4	05/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	1,410
FS06	4	05/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	717
FS07	2	05/13/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	551
FS08	2	05/13/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	474
FS09	2	05/13/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	144
FS10	2	05/13/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	592
FS11	2	05/13/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	383
FS12	2	05/13/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	85.5
FS13	2	05/13/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	27.6
FS14	2	05/13/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	43.9
FS15	2	05/13/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	21.9
FS16	2	05/13/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	807
FS16A	4	05/19/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	128
FS17	2	05/13/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	57.1
FS18	2	05/14/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	31.6
FS19	2	05/14/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	67.2	<50.2	67.2	67.2	246

TABLE 1
SOIL ANALYTICAL RESULTS

SWD LINE AT POKER LAKE UNIT #159
REMEDATION PERMIT NUMBER 2RP-5545
INCIDENT NUMBER NAB1921727653
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
FS20	2	05/14/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	60.5	<49.8	60.5	60.5	93.9
FS21	2	05/14/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	413	65.7	413	479	243
FS21A	4	05/18/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	2,900
FS22	2	05/14/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	364	57.5	364	422	221
FS22A	4	05/18/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	2,690
FS23	2	05/14/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	583	88.9	583	672	521
FS23A	4	05/18/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,620
FS24	4	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	973
FS25	4	05/19/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	292
FS26	4	05/19/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	241
FS27	4	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	325
FS28	4	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	85.7	<49.9	85.7	85.7	305
FS29	4	05/18/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	50.7	<49.9	50.7	50.7	14.8
FS30	2	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	21.0
FS31	2	05/19/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	26.4
FS32	4	05/20/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	147	<50.2	147	147	1,140
FS33	4	05/20/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	89.7	<50.2	89.7	89.7	4,110
FS34	2	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	161	<50.2	161	161	171
FS34A	4	05/26/2020	<0.00202	0.0393	<0.00202	0.0454	0.0847	<50.3	<50.3	<50.3	<50.3	<50.3	339
FS35	2	05/19/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	64.0
FS36	2	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	55.8	<49.9	55.8	55.8	48.3
FS37	2	05/19/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	11.3
FS38	2	05/19/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	13.0

TABLE 1
SOIL ANALYTICAL RESULTS

SWD LINE AT POKER LAKE UNIT #159
REMEDIATION PERMIT NUMBER 2RP-5545
INCIDENT NUMBER NAB1921727653
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
FS39	2	05/19/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	77.5
FS40	4	05/22/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	4,680
FS41	4	05/22/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	4,330
FS42	4	05/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	241
FS43	4	05/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	637
FS44	4	05/26/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	2,680
FS45	4	05/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1,110
FS46	4	05/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	4,420
FS47	4	05/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	3,500
FS48	4	05/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	146	<49.8	146	146	9,500
FS49	4	05/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	3,990
FS50	4	05/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	11,200
FS51	4	05/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1,880

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

TEXT - indicates soil removed during excavation activities

ATTACHMENT 1: REFERENCED WELL RECORDS





Y

X

X

X

WATER RIGHT SUMMARY



[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:
Site Information

Geographic Area:
United States

GO

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- [Full News](#) 

USGS 321339103541801 24S.30E.08.33222

Available data for this site

SUMMARY OF ALL AVAILABLE DATA

GO

Well Site

DESCRIPTION:

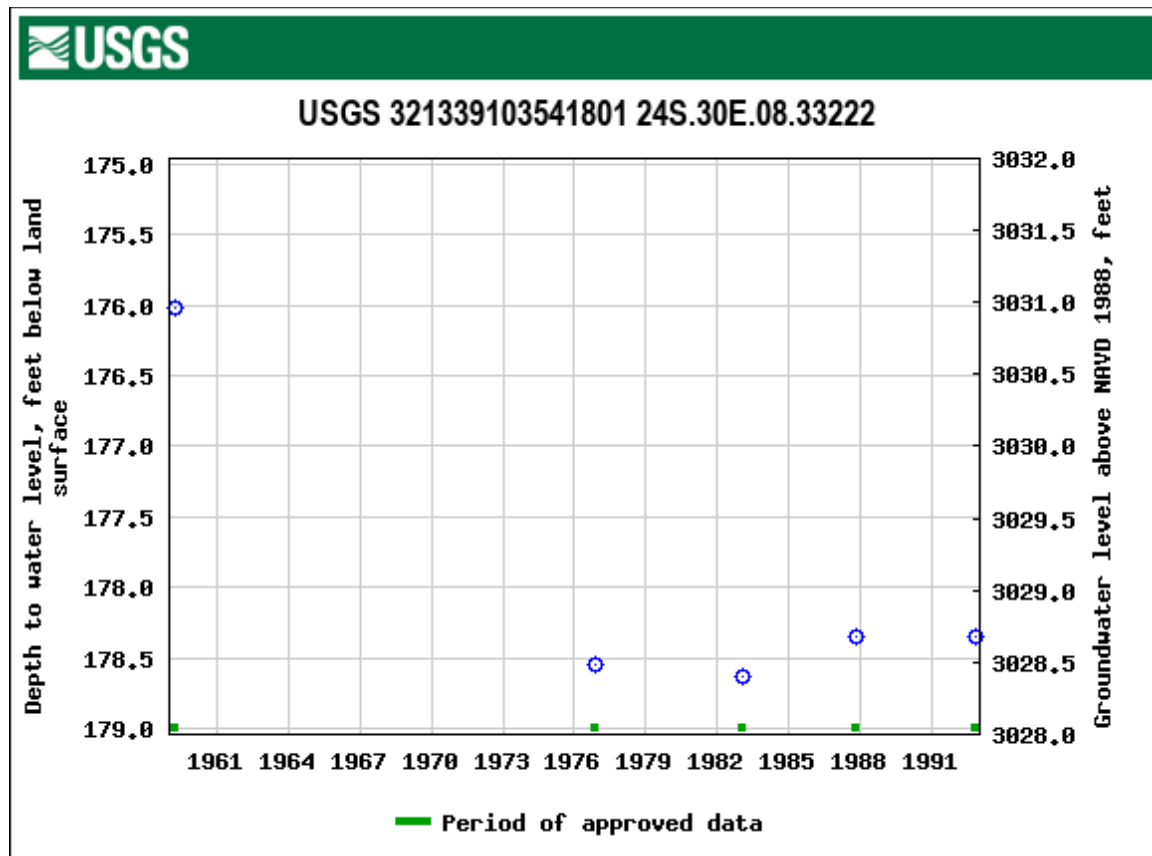
Latitude 32°13'39", Longitude 103°54'18" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 192 feet
Land surface altitude: 3,207 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1959-03-23	1992-11-04	5
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center



ATTACHMENT 2: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG



Photograph 1: View of release extent from northern most point, facing south



Photograph 2: View of release extent in southern portion facing south.



Photograph 3: View of BH05 in southern release extent facing north.



Photograph 4: View of southern release extent facing north.

Site Name: SWD Line at Poker Lake Unit #159
Site Location: 32.237955, -103.917288
Photographs Taken: May 13 through May 19, 2020

PHOTOGRAPHIC LOG



Photograph 5: View of southern excavation area facing north.



Photograph 6: View of southern excavation area facing south.



Photograph 7: View of central excavation area facing south.



Photograph 8: View of northern excavation area facing south.

Site Name: SWD Line at Poker Lake Unit #159
Site Location: 32.237955, -103.917288
Photographs Taken: May 13 through May 19, 2020

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS



Analytical Report 634804

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159 SWD

28-AUG-19

Collected By: Client



1089 N Canal Street
Carlsbad, NM 88220

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

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

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



28-AUG-19

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

Reference: XENCO Report No(s): **634804**
PLU 159 SWD
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) 634804. 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. 634804 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 634804****LT Environmental, Inc., Arvada, CO**

PLU 159 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	08-21-19 09:55	0.5 ft	634804-001
SS02	S	08-21-19 10:00	0.5 ft	634804-002
SS03	S	08-21-19 10:10	0.5 ft	634804-003
SS04	S	08-21-19 10:15	0.5 ft	634804-004
SS05	S	08-21-19 10:25	0.5 ft	634804-005
SS06	S	08-21-19 10:30	0.5 ft	634804-006
SS07	S	08-21-19 10:45	0.5 ft	634804-007

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU 159 SWD**

Project ID:
Work Order Number(s): 634804

Report Date: 28-AUG-19
Date Received: 08/21/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3099824 BTEX by EPA 8021B

Lab Sample ID 634804-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene recovered below QC limits in the Matrix Spike. Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 634804-001, -002, -003, -004, -005, -006, -007. The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

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

Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 634804-001, -002, -003, -004, -005, -006, -007

Certificate of Analysis Summary 634804



LT Environmental, Inc., Arvada, CO

Project Name: PLU 159 SWD

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Aug-21-19 04:40 pm

Report Date: 28-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	634804-001	634804-002	634804-003	634804-004	634804-005	634804-006
	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:	Aug-21-19 09:55	Aug-21-19 10:00	Aug-21-19 10:10	Aug-21-19 10:15	Aug-21-19 10:25	Aug-21-19 10:30
BTEX by EPA 8021B SUB: T104704400-18-16	Extracted:	Aug-24-19 14:00	Aug-24-19 14:00	Aug-24-19 14:00	Aug-24-19 14:00	Aug-24-19 14:00	Aug-24-19 14:00
	Analyzed:	Aug-24-19 15:15	Aug-24-19 15:36	Aug-24-19 15:56	Aug-24-19 16:16	Aug-24-19 16:36	Aug-24-19 18:57
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00397 0.00397	<0.00403 0.00403	<0.00401 0.00401	<0.00398 0.00398	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00198 0.00198	0.00429 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00198 0.00198	0.00429 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00198 0.00198	0.00429 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300 SUB: T104704400-18-16	Extracted:	Aug-23-19 16:20	Aug-23-19 16:20	Aug-23-19 16:20	Aug-23-19 16:20	Aug-23-19 16:20	Aug-23-19 16:20
	Analyzed:	Aug-23-19 19:01	Aug-23-19 16:48	Aug-23-19 19:08	Aug-23-19 19:14	Aug-23-19 19:20	Aug-23-19 19:26
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		4160 25.0	289 5.00	5190 49.6	86.9 4.95	7.84 4.95	364 5.00
TPH by SW8015 Mod SUB: T104704400-18-16	Extracted:	Aug-23-19 09:00	Aug-23-19 09:00	Aug-23-19 09:00	Aug-23-19 09:00	Aug-23-19 09:00	Aug-23-19 09:00
	Analyzed:	Aug-23-19 15:28	Aug-23-19 15:47	Aug-23-19 16:06	Aug-23-19 16:25	Aug-23-19 17:23	Aug-23-19 17:42
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<24.9 24.9	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0
Diesel Range Organics (DRO)		855 24.9	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	39.3 25.0
Motor Oil Range Hydrocarbons (MRO)		136 24.9	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	<25.0 25.0
Total TPH		991 24.9	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	39.3 25.0
Total GRO-DRO		855 24.9	<25.0 25.0	<24.9 24.9	<25.0 25.0	<25.0 25.0	39.3 25.0

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

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 634804

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159 SWD

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Aug-21-19 04:40 pm

Report Date: 28-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	634804-007					
	Field Id:	SS07					
	Depth:	0.5- ft					
	Matrix:	SOIL					
	Sampled:	Aug-21-19 10:45					
BTEX by EPA 8021B SUB: T104704400-18-16	Extracted:	Aug-24-19 14:00					
	Analyzed:	Aug-26-19 16:06					
	Units/RL:	mg/kg RL					
Benzene		0.00299 0.00201					
Toluene		0.00909 0.00201					
Ethylbenzene		<0.00201 0.00201					
m,p-Xylenes		<0.00402 0.00402					
o-Xylene		<0.00201 0.00201					
Total Xylenes		<0.00201 0.00201					
Total BTEX		0.0121 0.00201					
Chloride by EPA 300 SUB: T104704400-18-16	Extracted:	Aug-26-19 10:40					
	Analyzed:	Aug-26-19 11:15					
	Units/RL:	mg/kg RL					
Chloride		56.4 4.99					
TPH by SW8015 Mod SUB: T104704400-18-16	Extracted:	Aug-23-19 09:00					
	Analyzed:	Aug-23-19 18:02					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<24.9 24.9					
Diesel Range Organics (DRO)		<24.9 24.9					
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9					
Total TPH		<24.9 24.9					
Total GRO-DRO		<24.9 24.9					

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

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **SS01** Matrix: Soil Date Received: 08.21.19 16.40
 Lab Sample Id: 634804-001 Date Collected: 08.21.19 09.55 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.23.19 16.20 Basis: Wet Weight
 Seq Number: 3099542 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4160	25.0	mg/kg	08.23.19 19.01		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.23.19 09.00 Basis: Wet Weight
 Seq Number: 3099533 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.23.19 15.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	855	24.9	mg/kg	08.23.19 15.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	136	24.9	mg/kg	08.23.19 15.28		1
Total TPH	PHC635	991	24.9	mg/kg	08.23.19 15.28		1
Total GRO-DRO	PHC628	855	24.9	mg/kg	08.23.19 15.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	08.23.19 15.28	
o-Terphenyl	84-15-1	120	%	70-135	08.23.19 15.28	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **SS01**
Lab Sample Id: 634804-001

Matrix: Soil
Date Collected: 08.21.19 09.55

Date Received: 08.21.19 16.40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3099824

Prep Method: SW5030B

% Moisture:

Date Prep: 08.24.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.24.19 15.15	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.24.19 15.15	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.24.19 15.15	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.24.19 15.15	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.24.19 15.15	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.24.19 15.15	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.24.19 15.15	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100		%	70-130	08.24.19 15.15	
4-Bromofluorobenzene	460-00-4	120		%	70-130	08.24.19 15.15	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: SS02 Matrix: Soil Date Received: 08.21.19 16.40
 Lab Sample Id: 634804-002 Date Collected: 08.21.19 10.00 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.23.19 16.20 Basis: Wet Weight
 Seq Number: 3099542 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	289	5.00	mg/kg	08.23.19 16.48		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.23.19 09.00 Basis: Wet Weight
 Seq Number: 3099533 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.23.19 15.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.23.19 15.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.23.19 15.47	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.23.19 15.47	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.23.19 15.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	08.23.19 15.47	
o-Terphenyl	84-15-1	102	%	70-135	08.23.19 15.47	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: SS02
Lab Sample Id: 634804-002

Matrix: Soil
Date Collected: 08.21.19 10.00

Date Received: 08.21.19 16.40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3099824

Prep Method: SW5030B

% Moisture:

Date Prep: 08.24.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.24.19 15.36	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.24.19 15.36	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.24.19 15.36	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	08.24.19 15.36	U	1
o-Xylene	95-47-6	0.00429	0.00202	mg/kg	08.24.19 15.36		1
Total Xylenes	1330-20-7	0.00429	0.00202	mg/kg	08.24.19 15.36		1
Total BTEX		0.00429	0.00202	mg/kg	08.24.19 15.36		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		106	%	70-130	08.24.19 15.36	
4-Bromofluorobenzene	460-00-4		118	%	70-130	08.24.19 15.36	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **SS03** Matrix: Soil Date Received: 08.21.19 16.40
 Lab Sample Id: 634804-003 Date Collected: 08.21.19 10.10 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.23.19 16.20 Basis: Wet Weight
 Seq Number: 3099542 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5190	49.6	mg/kg	08.23.19 19.08		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.23.19 09.00 Basis: Wet Weight
 Seq Number: 3099533 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.23.19 16.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.23.19 16.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.23.19 16.06	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.23.19 16.06	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.23.19 16.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	08.23.19 16.06	
o-Terphenyl	84-15-1	108	%	70-135	08.23.19 16.06	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: SS03
Lab Sample Id: 634804-003

Matrix: Soil
Date Collected: 08.21.19 10.10

Date Received: 08.21.19 16.40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3099824

Prep Method: SW5030B

% Moisture:

Date Prep: 08.24.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.24.19 15.56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.24.19 15.56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.24.19 15.56	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.24.19 15.56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.24.19 15.56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.24.19 15.56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.24.19 15.56	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	08.24.19 15.56		
1,4-Difluorobenzene	540-36-3	85	%	70-130	08.24.19 15.56		



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **SS04**
Lab Sample Id: 634804-004

Matrix: Soil
Date Collected: 08.21.19 10.15

Date Received: 08.21.19 16.40
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3099542

Date Prep: 08.23.19 16.20

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	86.9	4.95	mg/kg	08.23.19 19.14		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3099533

Date Prep: 08.23.19 09.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.23.19 16.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.23.19 16.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.23.19 16.25	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.23.19 16.25	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.23.19 16.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	08.23.19 16.25	
o-Terphenyl	84-15-1	106	%	70-135	08.23.19 16.25	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **SS04**
Lab Sample Id: 634804-004

Matrix: Soil
Date Collected: 08.21.19 10.15

Date Received: 08.21.19 16.40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3099824

Date Prep: 08.24.19 14.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.24.19 16.16	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.24.19 16.16	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.24.19 16.16	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.24.19 16.16	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.24.19 16.16	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.24.19 16.16	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.24.19 16.16	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101		%	70-130	08.24.19 16.16	
4-Bromofluorobenzene	460-00-4	107		%	70-130	08.24.19 16.16	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: SS05 Matrix: Soil Date Received: 08.21.19 16.40
 Lab Sample Id: 634804-005 Date Collected: 08.21.19 10.25 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.23.19 16.20 Basis: Wet Weight
 Seq Number: 3099542 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.84	4.95	mg/kg	08.23.19 19.20		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.23.19 09.00 Basis: Wet Weight
 Seq Number: 3099533 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.23.19 17.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.23.19 17.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.23.19 17.23	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.23.19 17.23	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.23.19 17.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	08.23.19 17.23	
o-Terphenyl	84-15-1	107	%	70-135	08.23.19 17.23	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: SS05
Lab Sample Id: 634804-005

Matrix: Soil
Date Collected: 08.21.19 10.25

Date Received: 08.21.19 16.40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3099824

Prep Method: SW5030B

% Moisture:

Date Prep: 08.24.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.24.19 16.36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.24.19 16.36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.24.19 16.36	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.24.19 16.36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.24.19 16.36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.24.19 16.36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.24.19 16.36	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101		%	70-130	08.24.19 16.36	
4-Bromofluorobenzene	460-00-4	110		%	70-130	08.24.19 16.36	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **SS06** Matrix: Soil Date Received: 08.21.19 16.40
 Lab Sample Id: 634804-006 Date Collected: 08.21.19 10.30 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 08.23.19 16.20 Basis: Wet Weight
 Seq Number: 3099542 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	364	5.00	mg/kg	08.23.19 19.26		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 08.23.19 09.00 Basis: Wet Weight
 Seq Number: 3099533 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.23.19 17.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	39.3	25.0	mg/kg	08.23.19 17.42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.23.19 17.42	U	1
Total TPH	PHC635	39.3	25.0	mg/kg	08.23.19 17.42		1
Total GRO-DRO	PHC628	39.3	25.0	mg/kg	08.23.19 17.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	08.23.19 17.42	
o-Terphenyl	84-15-1	107	%	70-135	08.23.19 17.42	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **SS06**
Lab Sample Id: 634804-006

Matrix: Soil
Date Collected: 08.21.19 10.30

Date Received: 08.21.19 16.40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3099824

Prep Method: SW5030B

% Moisture:

Date Prep: 08.24.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.24.19 18.57	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.24.19 18.57	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.24.19 18.57	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.24.19 18.57	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.24.19 18.57	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.24.19 18.57	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.24.19 18.57	U	1
		% Recovery					
Surrogate	Cas Number			Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4		114	%	70-130	08.24.19 18.57	
1,4-Difluorobenzene	540-36-3		96	%	70-130	08.24.19 18.57	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **SS07** Matrix: **Soil** Date Received: 08.21.19 16.40
 Lab Sample Id: 634804-007 Date Collected: 08.21.19 10.45 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **CHE** % Moisture:
 Analyst: **CHE** Date Prep: 08.26.19 10.40 Basis: **Wet Weight**
 Seq Number: 3099705 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	56.4	4.99	mg/kg	08.26.19 11.15		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 08.23.19 09.00 Basis: **Wet Weight**
 Seq Number: 3099533 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.23.19 18.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.23.19 18.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.23.19 18.02	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.23.19 18.02	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.23.19 18.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	08.23.19 18.02	
o-Terphenyl	84-15-1	106	%	70-135	08.23.19 18.02	



Certificate of Analytical Results 634804

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: SS07
Lab Sample Id: 634804-007

Matrix: Soil
Date Collected: 08.21.19 10.45

Date Received: 08.21.19 16.40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3099824

Prep Method: SW5030B

% Moisture:

Date Prep: 08.24.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00299	0.00201	mg/kg	08.26.19 16.06		1
Toluene	108-88-3	0.00909	0.00201	mg/kg	08.26.19 16.06		1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.26.19 16.06	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.26.19 16.06	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.26.19 16.06	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.26.19 16.06	U	1
Total BTEX		0.0121	0.00201	mg/kg	08.26.19 16.06		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	08.26.19 16.06		
1,4-Difluorobenzene	540-36-3	98	%	70-130	08.26.19 16.06		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 159 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3099542

MB Sample Id: 7684895-1-BLK

Matrix: Solid

LCS Sample Id: 7684895-1-BKS

Prep Method: E300P

Date Prep: 08.23.19

LCSD Sample Id: 7684895-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	245	98	244	98	90-110	0	20	mg/kg	08.23.19 16:31	

Analytical Method: Chloride by EPA 300

Seq Number: 3099705

MB Sample Id: 7684957-1-BLK

Matrix: Solid

LCS Sample Id: 7684957-1-BKS

Prep Method: E300P

Date Prep: 08.26.19

LCSD Sample Id: 7684957-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	245	98	244	98	90-110	0	20	mg/kg	08.26.19 11:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3099542

Parent Sample Id: 634804-002

Matrix: Soil

MS Sample Id: 634804-002 S

Prep Method: E300P

Date Prep: 08.23.19

MSD Sample Id: 634804-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	289	250	517	91	517	91	90-110	0	20	mg/kg	08.23.19 16:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3099542

Parent Sample Id: 635009-010

Matrix: Soil

MS Sample Id: 635009-010 S

Prep Method: E300P

Date Prep: 08.23.19

MSD Sample Id: 635009-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	127	249	365	96	364	95	90-110	0	20	mg/kg	08.23.19 18:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3099705

Parent Sample Id: 634804-007

Matrix: Soil

MS Sample Id: 634804-007 S

Prep Method: E300P

Date Prep: 08.26.19

MSD Sample Id: 634804-007 SD

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

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

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

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

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



LT Environmental, Inc.

PLU 159 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3099705

Parent Sample Id: 634970-003

Matrix: Soil

MS Sample Id: 634970-003 S

Prep Method: E300P

Date Prep: 08.26.19

MSD Sample Id: 634970-003 SD

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

Analytical Method: TPH by SW8015 Mod

Seq Number: 3099533

MB Sample Id: 7684807-1-BLK

Matrix: Solid

LCS Sample Id: 7684807-1-BKS

Prep Method: SW8015P

Date Prep: 08.23.19

LCSD Sample Id: 7684807-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	944	94	916	92	70-135	3	20	mg/kg	08.23.19 12:54	
Diesel Range Organics (DRO)	<25.0	1000	992	99	979	98	70-135	1	20	mg/kg	08.23.19 12:54	

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

Analytical Method: TPH by SW8015 Mod

Seq Number: 3099533

Parent Sample Id: 634743-001

Matrix: Soil

MS Sample Id: 634743-001 S

Prep Method: SW8015P

Date Prep: 08.23.19

MSD Sample Id: 634743-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	3510	996	5120	162	5150	164	70-135	1	20	mg/kg	08.23.19 13:52	X
Diesel Range Organics (DRO)	7180	996	9330	216	9300	212	70-135	0	20	mg/kg	08.23.19 13:52	X

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

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 159 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099824

MB Sample Id: 7684963-1-BLK

Matrix: Solid

LCS Sample Id: 7684963-1-BKS

Prep Method: SW5030B

Date Prep: 08.24.19

LCSD Sample Id: 7684963-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0958	96	0.101	101	70-130	5	35	mg/kg	08.24.19 13:16	
Toluene	<0.000456	0.100	0.0941	94	0.0982	98	70-130	4	35	mg/kg	08.24.19 13:16	
Ethylbenzene	<0.000565	0.100	0.0984	98	0.102	102	70-130	4	35	mg/kg	08.24.19 13:16	
m,p-Xylenes	<0.00101	0.200	0.189	95	0.196	98	70-130	4	35	mg/kg	08.24.19 13:16	
o-Xylene	0.000450	0.100	0.0967	97	0.101	101	70-130	4	35	mg/kg	08.24.19 13:16	

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

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099824

Parent Sample Id: 634804-001

Matrix: Soil

MS Sample Id: 634804-001 S

Prep Method: SW5030B

Date Prep: 08.24.19

MSD Sample Id: 634804-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0633	64	0.0824	83	70-130	26	35	mg/kg	08.24.19 13:56	X
Toluene	<0.000454	0.0996	0.0325	33	0.0612	61	70-130	61	35	mg/kg	08.24.19 13:56	XF
Ethylbenzene	<0.00199	0.0996	0.0144	14	0.0490	49	70-130	109	35	mg/kg	08.24.19 13:56	XF
m,p-Xylenes	<0.00101	0.199	0.0256	13	0.0904	45	70-130	112	35	mg/kg	08.24.19 13:56	XF
o-Xylene	<0.000343	0.0996	0.0142	14	0.0683	68	70-130	131	35	mg/kg	08.24.19 13:56	XF

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

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

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

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

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



Chain of Custody

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

Work Order No: 634804

www.xenco.com Page 7 of 7

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

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

Project Name:	PLV159 SWD	Turn Around	☒
Project Number:		Routine	☒
P.O. Number:	ZRP-55415	Rush:	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT		Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):	3.2	Thermometer ID			
Received Intact:	☒ Yes ☐ No	TNA007			
Cooler Custody Seals:	Yes ☒ No ☐ N/A	Correction Factor:	-0.2		
Sample Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	7		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers			ANALYSIS REQUEST										Sample Comments
					TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)											
5501	S	8/21/14	0955	5'	X	X	X											
5502	S		1000		X	X	X											
5503	S		1010		X	X	X											
5504	S		1015		X	X	X											
5505	S		1025		X	X	X											
5506	S		1030		X	X	X											
5507	S		1045		X	X	X											

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	08/21/2014/1640			



Inter-Office Shipment

Page 1 of 2

IOS Number **46738**

Date/Time: 08/22/19 10:20

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 776056877801

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
634804-001	S	SS01	08/21/19 09:55	SW8021B	BTEX by EPA 8021B	08/27/19	09/04/19	JKR	BR4FBZ BZ BZME EBZ X	
634804-001	S	SS01	08/21/19 09:55	E300_CL	Chloride by EPA 300	08/27/19	02/17/20	JKR	CL	
634804-001	S	SS01	08/21/19 09:55	SW8015MOD_NM	TPH by SW8015 Mod	08/27/19	09/04/19	JKR	GRO-DRO PHCC10C28 PF	
634804-002	S	SS02	08/21/19 10:00	SW8015MOD_NM	TPH by SW8015 Mod	08/27/19	09/04/19	JKR	GRO-DRO PHCC10C28 PF	
634804-002	S	SS02	08/21/19 10:00	SW8021B	BTEX by EPA 8021B	08/27/19	09/04/19	JKR	BR4FBZ BZ BZME EBZ X	
634804-002	S	SS02	08/21/19 10:00	E300_CL	Chloride by EPA 300	08/27/19	02/17/20	JKR	CL	
634804-003	S	SS03	08/21/19 10:10	SW8015MOD_NM	TPH by SW8015 Mod	08/27/19	09/04/19	JKR	GRO-DRO PHCC10C28 PF	
634804-003	S	SS03	08/21/19 10:10	SW8021B	BTEX by EPA 8021B	08/27/19	09/04/19	JKR	BR4FBZ BZ BZME EBZ X	
634804-003	S	SS03	08/21/19 10:10	E300_CL	Chloride by EPA 300	08/27/19	02/17/20	JKR	CL	
634804-004	S	SS04	08/21/19 10:15	SW8015MOD_NM	TPH by SW8015 Mod	08/27/19	09/04/19	JKR	GRO-DRO PHCC10C28 PF	
634804-004	S	SS04	08/21/19 10:15	SW8021B	BTEX by EPA 8021B	08/27/19	09/04/19	JKR	BR4FBZ BZ BZME EBZ X	
634804-004	S	SS04	08/21/19 10:15	E300_CL	Chloride by EPA 300	08/27/19	02/17/20	JKR	CL	
634804-005	S	SS05	08/21/19 10:25	SW8015MOD_NM	TPH by SW8015 Mod	08/27/19	09/04/19	JKR	GRO-DRO PHCC10C28 PF	
634804-005	S	SS05	08/21/19 10:25	SW8021B	BTEX by EPA 8021B	08/27/19	09/04/19	JKR	BR4FBZ BZ BZME EBZ X	
634804-005	S	SS05	08/21/19 10:25	E300_CL	Chloride by EPA 300	08/27/19	02/17/20	JKR	CL	
634804-006	S	SS06	08/21/19 10:30	SW8015MOD_NM	TPH by SW8015 Mod	08/27/19	09/04/19	JKR	GRO-DRO PHCC10C28 PF	
634804-006	S	SS06	08/21/19 10:30	E300_CL	Chloride by EPA 300	08/27/19	02/17/20	JKR	CL	
634804-006	S	SS06	08/21/19 10:30	SW8021B	BTEX by EPA 8021B	08/27/19	09/04/19	JKR	BR4FBZ BZ BZME EBZ X	
634804-007	S	SS07	08/21/19 10:45	E300_CL	Chloride by EPA 300	08/27/19	02/17/20	JKR	CL	
634804-007	S	SS07	08/21/19 10:45	SW8015MOD_NM	TPH by SW8015 Mod	08/27/19	09/04/19	JKR	GRO-DRO PHCC10C28 PF	
634804-007	S	SS07	08/21/19 10:45	SW8021B	BTEX by EPA 8021B	08/27/19	09/04/19	JKR	BR4FBZ BZ BZME EBZ X	



Inter-Office Shipment

Page 2 of 2

IOS Number 46738

Date/Time: 08/22/19 10:20

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 776056877801

E-Mail: jessica.kramer@xenco.com

Inter Office Shipment or Sample Comments:

Relinquished By:

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

Elizabeth McClellan

Received By:

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

Brianna Teel

Date Relinquished: 08/22/2019

Date Received: 08/23/2019 11:56

Cooler Temperature: 0.5



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 46738

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 08/22/2019 10:20 AM

Received By: Brianna Teel

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

Sample Receipt Checklist

Comments

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 08/23/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/21/2019 04:40:00 PM

Work Order #: 634804

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes
#18 Water VOC samples have zero headspace?	N/A

Subbed to Xenco Midland.

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 08/22/2019

Checklist reviewed by:

Kelsey Brooks

Date: 08/22/2019

Analytical Report 646903

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159

012919161

19-DEC-19

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

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

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

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

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

Xenco-Carlsbad (LELAP): Louisiana (05092)

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

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

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



19-DEC-19

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

Reference: XENCO Report No(s): **646903**
PLU 159
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) 646903. 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. 646903 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer
Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 646903****LT Environmental, Inc., Arvada, CO**

PLU 159

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	12-18-19 09:48	1 ft	646903-001
PH01A	S	12-18-19 09:47	2 ft	646903-002
PH02	S	12-18-19 09:54	1 ft	646903-003
PH02A	S	12-18-19 09:53	2 ft	646903-004
BH01	S	12-18-19 10:06	1 ft	646903-005
BH01A	S	12-18-19 10:08	2 ft	646903-006
BH02	S	12-18-19 10:46	1 ft	646903-007
BH02A	S	12-18-19 10:47	2 ft	646903-008
BH03	S	12-18-19 10:58	1 ft	646903-009
BH03A	S	12-18-19 11:00	2 ft	646903-010
BH04	S	12-18-19 11:11	1 ft	646903-011
BH04A	S	12-18-19 11:13	2 ft	646903-012
BH05	S	12-18-19 11:17	1 ft	646903-013
BH05A	S	12-18-19 11:18	2 ft	646903-014

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU 159**Project ID: 012919161
Work Order Number(s): 646903Report Date: 19-DEC-19
Date Received: 12/18/2019

Sample receipt non conformances and comments:None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3111013 BTEX by EPA 8021B

Lab Sample ID 646903-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). m,p-Xylenes recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 646903-006, -007, -008, -009, -010, -011, -012, -013, -014.

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

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

Batch: LBA-3111017 Chloride by EPA 300

Lab Sample ID 646903-011 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: 646903-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014.

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

Batch: LBA-3111022 BTEX by EPA 8021B

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

Certificate of Analysis Summary 646903



LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Dec-18-19 03:15 pm

Report Date: 19-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	646903-001	646903-002	646903-003	646903-004	646903-005	646903-006
	<i>Field Id:</i>	PH01	PH01A	PH02	PH02A	BH01	BH01A
	<i>Depth:</i>	1- ft	2- ft	1- ft	2- ft	1- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-18-19 09:48	Dec-18-19 09:47	Dec-18-19 09:54	Dec-18-19 09:53	Dec-18-19 10:06	Dec-18-19 10:08
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-18-19 16:00	Dec-18-19 16:00	Dec-18-19 16:00	Dec-18-19 16:00	Dec-18-19 16:00	Dec-18-19 17:00
	<i>Analyzed:</i>	Dec-18-19 23:21	Dec-18-19 23:38	Dec-18-19 23:56	Dec-19-19 00:13	Dec-19-19 00:30	Dec-19-19 01:00
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00403 0.00403	<0.00396 0.00396	<0.00402 0.00402	<0.00402 0.00402	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Dec-18-19 18:35	Dec-18-19 18:35	Dec-18-19 18:35	Dec-18-19 18:35	Dec-18-19 18:35	Dec-18-19 18:35
	<i>Analyzed:</i>	Dec-18-19 23:14	Dec-18-19 23:31	Dec-18-19 23:37	Dec-18-19 23:43	Dec-18-19 23:48	Dec-19-19 00:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		290 10.1	1580 10.0	33.8 9.98	543 9.92	218 9.98	881 9.92
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-18-19 15:30	Dec-18-19 15:30	Dec-18-19 15:30	Dec-18-19 15:30	Dec-18-19 15:30	Dec-18-19 16:00
	<i>Analyzed:</i>	Dec-18-19 20:19	Dec-18-19 20:39	Dec-18-19 20:39	Dec-18-19 20:59	Dec-18-19 20:59	Dec-18-19 21:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.2 50.2	<50.0 50.0	<49.9 49.9	<50.1 50.1	<50.1 50.1
Diesel Range Organics (DRO)		<50.2 50.2	<50.2 50.2	<50.0 50.0	<49.9 49.9	<50.1 50.1	<50.1 50.1
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.2 50.2	<50.0 50.0	<49.9 49.9	<50.1 50.1	<50.1 50.1
Total GRO-DRO		<50.2 50.2	<50.2 50.2	<50.0 50.0	<49.9 49.9	<50.1 50.1	<50.1 50.1
Total TPH		<50.2 50.2	<50.2 50.2	<50.0 50.0	<49.9 49.9	<50.1 50.1	<50.1 50.1

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Jessica Kramer
Project Assistant

Certificate of Analysis Summary 646903



LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Dec-18-19 03:15 pm

Report Date: 19-DEC-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	646903-007	646903-008	646903-009	646903-010	646903-011	646903-012
	Field Id:	BH02	BH02A	BH03	BH03A	BH04	BH04A
	Depth:	1- ft	2- ft	1- ft	2- ft	1- ft	2- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Dec-18-19 10:46	Dec-18-19 10:47	Dec-18-19 10:58	Dec-18-19 11:00	Dec-18-19 11:11	Dec-18-19 11:13
BTEX by EPA 8021B	Extracted:	Dec-18-19 17:00	Dec-18-19 17:00	Dec-18-19 17:00	Dec-18-19 17:00	Dec-18-19 17:00	Dec-18-19 17:00
	Analyzed:	Dec-19-19 02:35	Dec-19-19 02:54	Dec-19-19 03:13	Dec-19-19 03:33	Dec-19-19 03:52	Dec-19-19 04:55
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00404 0.00404	<0.00402 0.00402	<0.00404 0.00404	<0.00402 0.00402	<0.00400 0.00400
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
Chloride by EPA 300	Extracted:	Dec-18-19 18:35	Dec-18-19 18:35	Dec-18-19 18:35	Dec-18-19 18:35	Dec-18-19 18:35	Dec-18-19 18:35
	Analyzed:	Dec-19-19 00:12	Dec-19-19 00:17	Dec-19-19 00:23	Dec-19-19 00:29	Dec-19-19 00:35	Dec-19-19 01:04
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<10.1 10.1	57.1 10.0	476 10.0	344 10.1	<9.96 9.96	20.4 9.98
TPH by SW8015 Mod	Extracted:	Dec-18-19 16:00	Dec-18-19 16:00	Dec-18-19 16:00	Dec-18-19 16:00	Dec-18-19 16:00	Dec-18-19 16:00
	Analyzed:	Dec-18-19 22:57	Dec-18-19 23:16	Dec-18-19 23:16	Dec-18-19 23:36	Dec-18-19 23:36	Dec-18-19 23:56
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.2 50.2	<50.3 50.3
Diesel Range Organics (DRO)		<50.2 50.2	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.2 50.2	<50.3 50.3
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.2 50.2	<50.3 50.3
Total GRO-DRO		<50.2 50.2	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.2 50.2	<50.3 50.3
Total TPH		<50.2 50.2	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.2 50.2	<50.3 50.3

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Jessica Kramer
Project Assistant

Certificate of Analysis Summary 646903



LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Dec-18-19 03:15 pm

Report Date: 19-DEC-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	646903-013	646903-014				
	Field Id:	BH05	BH05A				
	Depth:	1- ft	2- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Dec-18-19 11:17	Dec-18-19 11:18				
BTEX by EPA 8021B	Extracted:	Dec-18-19 17:00	Dec-18-19 17:00				
	Analyzed:	Dec-19-19 05:14	Dec-19-19 05:34				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00198 0.00198	<0.00202 0.00202				
Toluene		<0.00198 0.00198	<0.00202 0.00202				
Ethylbenzene		<0.00198 0.00198	<0.00202 0.00202				
m,p-Xylenes		<0.00396 0.00396	<0.00403 0.00403				
o-Xylene		<0.00198 0.00198	<0.00202 0.00202				
Total Xylenes		<0.00198 0.00198	<0.00202 0.00202				
Total BTEX		<0.00198 0.00198	<0.00202 0.00202				
Chloride by EPA 300	Extracted:	Dec-18-19 18:35	Dec-18-19 18:35				
	Analyzed:	Dec-19-19 01:09	Dec-19-19 01:15				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		3470 49.8	9250 49.8				
TPH by SW8015 Mod	Extracted:	Dec-18-19 16:00	Dec-18-19 16:00				
	Analyzed:	Dec-19-19 00:15	Dec-19-19 00:15				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.0 50.0				
Diesel Range Organics (DRO)		<50.3 50.3	320 50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.0 50.0				
Total GRO-DRO		<50.3 50.3	320 50.0				
Total TPH		<50.3 50.3	320 50.0				

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Jessica Kramer
Project Assistant



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH01** Matrix: Soil Date Received: 12.18.19 15.15
 Lab Sample Id: 646903-001 Date Collected: 12.18.19 09.48 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 12.18.19 18.35 Basis: Wet Weight
 Seq Number: 3111017

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	290	10.1	mg/kg	12.18.19 23.14		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 12.18.19 15.30 Basis: Wet Weight
 Seq Number: 3111059

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.18.19 20.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.18.19 20.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.18.19 20.19	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.18.19 20.19	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.18.19 20.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.18.19 20.19	
o-Terphenyl	84-15-1	106	%	70-135	12.18.19 20.19	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH01**
Lab Sample Id: 646903-001

Matrix: Soil
Date Collected: 12.18.19 09.48

Date Received: 12.18.19 15.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 16.00

Basis: Wet Weight

Seq Number: 3111022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.18.19 23.21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.18.19 23.21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.18.19 23.21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.18.19 23.21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.18.19 23.21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.18.19 23.21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.18.19 23.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.18.19 23.21		
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.18.19 23.21		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH01A**
Lab Sample Id: 646903-002

Matrix: Soil
Date Collected: 12.18.19 09.47

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111017

Date Prep: 12.18.19 18.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1580	10.0	mg/kg	12.18.19 23.31		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111059

Date Prep: 12.18.19 15.30

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	12.18.19 20.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.18.19 20.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.18.19 20.39	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.18.19 20.39	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.18.19 20.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	12.18.19 20.39	
o-Terphenyl	84-15-1	104	%	70-135	12.18.19 20.39	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH01A**
Lab Sample Id: 646903-002

Matrix: Soil
Date Collected: 12.18.19 09.47

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 16.00

Basis: Wet Weight

Seq Number: 3111022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.18.19 23.38	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.18.19 23.38	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.18.19 23.38	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.18.19 23.38	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.18.19 23.38	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.18.19 23.38	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.18.19 23.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.18.19 23.38		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.18.19 23.38		



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH02**
Lab Sample Id: 646903-003

Matrix: Soil
Date Collected: 12.18.19 09.54

Date Received: 12.18.19 15.15
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111017

Date Prep: 12.18.19 18.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	33.8	9.98	mg/kg	12.18.19 23.37		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111059

Date Prep: 12.18.19 15.30

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	12.18.19 20.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.18.19 20.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.18.19 20.39	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.18.19 20.39	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.18.19 20.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	12.18.19 20.39	
o-Terphenyl	84-15-1	131	%	70-135	12.18.19 20.39	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH02**
Lab Sample Id: 646903-003

Matrix: Soil
Date Collected: 12.18.19 09.54

Date Received: 12.18.19 15.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 16.00

Basis: Wet Weight

Seq Number: 3111022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.18.19 23.56	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.18.19 23.56	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.18.19 23.56	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.18.19 23.56	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.18.19 23.56	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.18.19 23.56	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.18.19 23.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.18.19 23.56		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.18.19 23.56		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH02A**
Lab Sample Id: 646903-004

Matrix: Soil
Date Collected: 12.18.19 09.53

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111017

Date Prep: 12.18.19 18.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	543	9.92	mg/kg	12.18.19 23.43		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111059

Date Prep: 12.18.19 15.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.19 20.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.18.19 20.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.19 20.59	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.18.19 20.59	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.18.19 20.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	12.18.19 20.59	
o-Terphenyl	84-15-1	134	%	70-135	12.18.19 20.59	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH02A**
Lab Sample Id: 646903-004

Matrix: Soil
Date Collected: 12.18.19 09.53

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 16.00

Basis: Wet Weight

Seq Number: 3111022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.19.19 00.13	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.19.19 00.13	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.19.19 00.13	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.19.19 00.13	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.19.19 00.13	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.19.19 00.13	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.19.19 00.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.19.19 00.13		
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.19.19 00.13		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH01** Matrix: Soil Date Received: 12.18.19 15.15
 Lab Sample Id: 646903-005 Date Collected: 12.18.19 10.06 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 12.18.19 18.35 Basis: Wet Weight
 Seq Number: 3111017

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	218	9.98	mg/kg	12.18.19 23.48		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 12.18.19 15.30 Basis: Wet Weight
 Seq Number: 3111059

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.19 20.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.18.19 20.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.19 20.59	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.18.19 20.59	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.18.19 20.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	12.18.19 20.59	
o-Terphenyl	84-15-1	131	%	70-135	12.18.19 20.59	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH01**
Lab Sample Id: 646903-005

Matrix: Soil
Date Collected: 12.18.19 10.06

Date Received: 12.18.19 15.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 16.00

Basis: Wet Weight

Seq Number: 3111022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.19.19 00.30	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.19.19 00.30	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.19.19 00.30	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.19.19 00.30	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.19.19 00.30	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.19.19 00.30	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.19.19 00.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.19.19 00.30		
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.19.19 00.30		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH01A**
Lab Sample Id: 646903-006

Matrix: Soil
Date Collected: 12.18.19 10.08

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111017

Date Prep: 12.18.19 18.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	881	9.92	mg/kg	12.19.19 00.06		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111026

Date Prep: 12.18.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.19 21.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.18.19 21.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.19 21.58	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.18.19 21.58	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.18.19 21.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	12.18.19 21.58	
o-Terphenyl	84-15-1	89	%	70-135	12.18.19 21.58	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH01A**
Lab Sample Id: 646903-006

Matrix: Soil
Date Collected: 12.18.19 10.08

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 17.00

Basis: Wet Weight

Seq Number: 3111013

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.19.19 01.00	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.19.19 01.00	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.19.19 01.00	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.19.19 01.00	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.19.19 01.00	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.19.19 01.00	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.19.19 01.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	12.19.19 01.00		
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.19.19 01.00		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH02**
Lab Sample Id: 646903-007

Matrix: Soil
Date Collected: 12.18.19 10.46

Date Received: 12.18.19 15.15
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111017

Date Prep: 12.18.19 18.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	12.19.19 00.12	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111026

Date Prep: 12.18.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.18.19 22.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.18.19 22.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.18.19 22.57	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.18.19 22.57	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.18.19 22.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.18.19 22.57	
o-Terphenyl	84-15-1	103	%	70-135	12.18.19 22.57	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH02**
Lab Sample Id: 646903-007

Matrix: Soil
Date Collected: 12.18.19 10.46

Date Received: 12.18.19 15.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 17.00

Basis: Wet Weight

Seq Number: 3111013

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.19.19 02.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.19.19 02.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.19.19 02.35	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.19.19 02.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.19.19 02.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.19.19 02.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.19.19 02.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.19.19 02.35		
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.19.19 02.35		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH02A** Matrix: Soil Date Received: 12.18.19 15.15
 Lab Sample Id: 646903-008 Date Collected: 12.18.19 10.47 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 12.18.19 18.35 Basis: Wet Weight
 Seq Number: 3111017

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	57.1	10.0	mg/kg	12.19.19 00.17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 12.18.19 16.00 Basis: Wet Weight
 Seq Number: 3111026

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.19 23.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.18.19 23.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.19 23.16	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.18.19 23.16	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.18.19 23.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	12.18.19 23.16	
o-Terphenyl	84-15-1	96	%	70-135	12.18.19 23.16	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH02A**
Lab Sample Id: 646903-008

Matrix: Soil
Date Collected: 12.18.19 10.47

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 17.00

Basis: Wet Weight

Seq Number: 3111013

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.19.19 02.54	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.19.19 02.54	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.19.19 02.54	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.19.19 02.54	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.19.19 02.54	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.19.19 02.54	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.19.19 02.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.19.19 02.54		
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.19.19 02.54		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH03** Matrix: Soil Date Received: 12.18.19 15.15
 Lab Sample Id: 646903-009 Date Collected: 12.18.19 10.58 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 12.18.19 18.35 Basis: Wet Weight
 Seq Number: 3111017

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	476	10.0	mg/kg	12.19.19 00.23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 12.18.19 16.00 Basis: Wet Weight
 Seq Number: 3111026

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.18.19 23.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.18.19 23.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.18.19 23.16	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.18.19 23.16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.18.19 23.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	12.18.19 23.16	
o-Terphenyl	84-15-1	92	%	70-135	12.18.19 23.16	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH03**
Lab Sample Id: 646903-009

Matrix: Soil
Date Collected: 12.18.19 10.58

Date Received: 12.18.19 15.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 17.00

Basis: Wet Weight

Seq Number: 3111013

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.19.19 03.13	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.19.19 03.13	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.19.19 03.13	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.19.19 03.13	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.19.19 03.13	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.19.19 03.13	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.19.19 03.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.19.19 03.13		
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.19.19 03.13		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH03A**
Lab Sample Id: 646903-010

Matrix: Soil
Date Collected: 12.18.19 11.00

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111017

Date Prep: 12.18.19 18.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	344	10.1	mg/kg	12.19.19 00.29		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111026

Date Prep: 12.18.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.19 23.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.18.19 23.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.19 23.36	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.18.19 23.36	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.18.19 23.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	12.18.19 23.36	
o-Terphenyl	84-15-1	105	%	70-135	12.18.19 23.36	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH03A**
Lab Sample Id: 646903-010

Matrix: Soil
Date Collected: 12.18.19 11.00

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 17.00

Basis: Wet Weight

Seq Number: 3111013

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.19.19 03.33	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.19.19 03.33	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.19.19 03.33	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.19.19 03.33	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.19.19 03.33	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.19.19 03.33	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.19.19 03.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.19.19 03.33		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.19.19 03.33		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH04**
Lab Sample Id: 646903-011

Matrix: Soil
Date Collected: 12.18.19 11.11

Date Received: 12.18.19 15.15
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111017

Date Prep: 12.18.19 18.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	12.19.19 00.35	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111026

Date Prep: 12.18.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.18.19 23.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.18.19 23.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.18.19 23.36	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.18.19 23.36	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.18.19 23.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	12.18.19 23.36	
o-Terphenyl	84-15-1	95	%	70-135	12.18.19 23.36	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH04**
Lab Sample Id: 646903-011

Matrix: Soil
Date Collected: 12.18.19 11.11

Date Received: 12.18.19 15.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 17.00

Basis: Wet Weight

Seq Number: 3111013

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.19.19 03.52	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.19.19 03.52	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.19.19 03.52	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.19.19 03.52	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.19.19 03.52	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.19.19 03.52	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.19.19 03.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.19.19 03.52		
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.19.19 03.52		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH04A**
Lab Sample Id: 646903-012

Matrix: Soil
Date Collected: 12.18.19 11.13

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111017

Date Prep: 12.18.19 18.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.4	9.98	mg/kg	12.19.19 01.04		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111026

Date Prep: 12.18.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.18.19 23.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.18.19 23.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.18.19 23.56	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.18.19 23.56	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.18.19 23.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	12.18.19 23.56	
o-Terphenyl	84-15-1	99	%	70-135	12.18.19 23.56	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH04A**
Lab Sample Id: 646903-012

Matrix: Soil
Date Collected: 12.18.19 11.13

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 17.00

Basis: Wet Weight

Seq Number: 3111013

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.19.19 04.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.19.19 04.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.19.19 04.55	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.19.19 04.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.19.19 04.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.19.19 04.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.19.19 04.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.19.19 04.55		
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.19.19 04.55		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH05**
Lab Sample Id: 646903-013

Matrix: Soil
Date Collected: 12.18.19 11.17

Date Received: 12.18.19 15.15
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111017

Date Prep: 12.18.19 18.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3470	49.8	mg/kg	12.19.19 01.09		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111026

Date Prep: 12.18.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.19.19 00.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.19.19 00.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.19.19 00.15	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.19.19 00.15	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.19.19 00.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	12.19.19 00.15	
o-Terphenyl	84-15-1	103	%	70-135	12.19.19 00.15	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH05**
Lab Sample Id: 646903-013

Matrix: Soil
Date Collected: 12.18.19 11.17

Date Received: 12.18.19 15.15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 17.00

Basis: Wet Weight

Seq Number: 3111013

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.19.19 05.14	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.19.19 05.14	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.19.19 05.14	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.19.19 05.14	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.19.19 05.14	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.19.19 05.14	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.19.19 05.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.19.19 05.14		
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.19.19 05.14		



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH05A**
Lab Sample Id: 646903-014

Matrix: Soil
Date Collected: 12.18.19 11.18

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3111017

Date Prep: 12.18.19 18.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9250	49.8	mg/kg	12.19.19 01.15		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3111026

Date Prep: 12.18.19 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.19.19 00.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	320	50.0	mg/kg	12.19.19 00.15		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.19.19 00.15	U	1
Total GRO-DRO	PHC628	320	50.0	mg/kg	12.19.19 00.15		1
Total TPH	PHC635	320	50.0	mg/kg	12.19.19 00.15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.19.19 00.15	
o-Terphenyl	84-15-1	102	%	70-135	12.19.19 00.15	



Certificate of Analytical Results 646903

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH05A**
Lab Sample Id: 646903-014

Matrix: Soil
Date Collected: 12.18.19 11.18

Date Received: 12.18.19 15.15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.18.19 17.00

Basis: Wet Weight

Seq Number: 3111013

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.19.19 05.34	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.19.19 05.34	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.19.19 05.34	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.19.19 05.34	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.19.19 05.34	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.19.19 05.34	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.19.19 05.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.19.19 05.34		
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.19.19 05.34		



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 159

Analytical Method: Chloride by EPA 300

Seq Number: 3111017

MB Sample Id: 7692789-1-BLK

Matrix: Solid

LCS Sample Id: 7692789-1-BKS

Prep Method: E300P

Date Prep: 12.18.19

LCSD Sample Id: 7692789-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	256	102	256	102	90-110	0	20	mg/kg	12.18.19 23:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3111017

Parent Sample Id: 646903-001

Matrix: Soil

MS Sample Id: 646903-001 S

Prep Method: E300P

Date Prep: 12.18.19

MSD Sample Id: 646903-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	290	200	516	113	530	119	90-110	3	20	mg/kg	12.18.19 23:20	X

Analytical Method: Chloride by EPA 300

Seq Number: 3111017

Parent Sample Id: 646903-011

Matrix: Soil

MS Sample Id: 646903-011 S

Prep Method: E300P

Date Prep: 12.18.19

MSD Sample Id: 646903-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.96	199	216	109	207	104	90-110	4	20	mg/kg	12.19.19 00:40	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3111059

MB Sample Id: 7692774-1-BLK

Matrix: Solid

LCS Sample Id: 7692774-1-BKS

Prep Method: SW8015P

Date Prep: 12.18.19

LCSD Sample Id: 7692774-1-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	1080	108	1130	113	70-135	5	35	mg/kg	12.18.19 17:01	
Diesel Range Organics (DRO)	<50.0	1000	1110	111	1190	119	70-135	7	35	mg/kg	12.18.19 17:01	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		125		129		70-135	%	12.18.19 17:01
o-Terphenyl	127		122		135		70-135	%	12.18.19 17:01

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3111026

MB Sample Id: 7692787-1-BLK

Matrix: Solid

LCS Sample Id: 7692787-1-BKS

Prep Method: SW8015P

Date Prep: 12.18.19

LCSD Sample Id: 7692787-1-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	909	91	868	87	70-135	5	35	mg/kg	12.18.19 21:38	
Diesel Range Organics (DRO)	<11.5	1000	782	78	755	76	70-135	4	35	mg/kg	12.18.19 21:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		122		117		70-135	%	12.18.19 21:38
o-Terphenyl	96		114		106		70-135	%	12.18.19 21:38

Analytical Method: TPH by SW8015 Mod

Seq Number: 3111059

Matrix: Solid

MB Sample Id: 7692774-1-BLK

Prep Method: SW8015P

Date Prep: 12.18.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.18.19 17:01	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3111026

Matrix: Solid

MB Sample Id: 7692787-1-BLK

Prep Method: SW8015P

Date Prep: 12.18.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.18.19 21:18	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3111059

Matrix: Soil

Parent Sample Id: 646843-012

MS Sample Id: 646843-012 S

Prep Method: SW8015P

Date Prep: 12.18.19

MSD Sample Id: 646843-012 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	819	82	889	88	70-135	8	35	mg/kg	12.18.19 17:41	
Diesel Range Organics (DRO)	<50.2	1000	723	72	738	73	70-135	2	35	mg/kg	12.18.19 17:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		115		70-135	%	12.18.19 17:41
o-Terphenyl	91		99		70-135	%	12.18.19 17:41

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3111026

Parent Sample Id: 646903-006

Matrix: Soil

MS Sample Id: 646903-006 S

Prep Method: SW8015P

Date Prep: 12.18.19

MSD Sample Id: 646903-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<13.9	1000	827	83	1170	117	70-135	34	35	mg/kg	12.19.19 08:20	
Diesel Range Organics (DRO)	<11.5	1000	825	83	1100	110	70-135	29	35	mg/kg	12.19.19 08:20	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		132		70-135	%	12.19.19 08:20
o-Terphenyl	107		130		70-135	%	12.19.19 08:20

Analytical Method: BTEX by EPA 8021B

Seq Number: 3111022

MB Sample Id: 7692770-1-BLK

Matrix: Solid

LCS Sample Id: 7692770-1-BKS

Prep Method: SW5030B

Date Prep: 12.18.19

LCSD Sample Id: 7692770-1-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	0.0969	97	0.0885	89	70-130	9	35	mg/kg	12.18.19 16:24	
Toluene	<0.00200	0.100	0.0981	98	0.0896	90	70-130	9	35	mg/kg	12.18.19 16:24	
Ethylbenzene	<0.00200	0.100	0.0973	97	0.0889	89	71-129	9	35	mg/kg	12.18.19 16:24	
m,p-Xylenes	<0.00400	0.200	0.202	101	0.184	92	70-135	9	35	mg/kg	12.18.19 16:24	
o-Xylene	<0.00200	0.100	0.0981	98	0.0896	90	71-133	9	35	mg/kg	12.18.19 16:24	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		100		97		70-130	%	12.18.19 16:24
4-Bromofluorobenzene	96		100		97		70-130	%	12.18.19 16:24

Analytical Method: BTEX by EPA 8021B

Seq Number: 3111013

MB Sample Id: 7692788-1-BLK

Matrix: Solid

LCS Sample Id: 7692788-1-BKS

Prep Method: SW5030B

Date Prep: 12.18.19

LCSD Sample Id: 7692788-1-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	0.0855	86	0.0762	76	70-130	12	35	mg/kg	12.18.19 23:18	
Toluene	<0.00200	0.100	0.0879	88	0.0782	78	70-130	12	35	mg/kg	12.18.19 23:18	
Ethylbenzene	<0.00200	0.100	0.0869	87	0.0773	77	71-129	12	35	mg/kg	12.18.19 23:18	
m,p-Xylenes	<0.00400	0.200	0.184	92	0.163	82	70-135	12	35	mg/kg	12.18.19 23:18	
o-Xylene	<0.00200	0.100	0.0934	93	0.0827	83	71-133	12	35	mg/kg	12.18.19 23:18	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		100		70-130	%	12.18.19 23:18
4-Bromofluorobenzene	109		116		113		70-130	%	12.18.19 23:18

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 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 159

Analytical Method: BTEX by EPA 8021B

Seq Number: 3111022

Parent Sample Id: 646843-012

Matrix: Soil

MS Sample Id: 646843-012 S

Prep Method: SW5030B

Date Prep: 12.18.19

MSD Sample Id: 646843-012 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	0.0942	94	70-130	0	35	mg/kg	12.18.19 16:59	
Toluene	<0.00200	0.100	0.0948	95	0.0933	93	70-130	2	35	mg/kg	12.18.19 16:59	
Ethylbenzene	<0.00200	0.100	0.0935	94	0.0907	91	71-129	3	35	mg/kg	12.18.19 16:59	
m,p-Xylenes	<0.000754	0.200	0.195	98	0.188	94	70-135	4	35	mg/kg	12.18.19 16:59	
o-Xylene	<0.00200	0.100	0.0953	95	0.0923	92	71-133	3	35	mg/kg	12.18.19 16:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		70-130	%	12.18.19 16:59
4-Bromofluorobenzene	105		102		70-130	%	12.18.19 16:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3111013

Parent Sample Id: 646903-006

Matrix: Soil

MS Sample Id: 646903-006 S

Prep Method: SW5030B

Date Prep: 12.18.19

MSD Sample Id: 646903-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0768	76	0.0766	77	70-130	0	35	mg/kg	12.18.19 23:37	
Toluene	<0.00202	0.101	0.0783	78	0.0732	73	70-130	7	35	mg/kg	12.18.19 23:37	
Ethylbenzene	<0.00202	0.101	0.0759	75	0.0752	75	71-129	1	35	mg/kg	12.18.19 23:37	
m,p-Xylenes	<0.00404	0.202	0.151	75	0.134	67	70-135	12	35	mg/kg	12.18.19 23:37	X
o-Xylene	<0.00202	0.101	0.0803	80	0.0797	80	71-133	1	35	mg/kg	12.18.19 23:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		100		70-130	%	12.18.19 23:37
4-Bromofluorobenzene	109		118		70-130	%	12.18.19 23:37

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

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

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

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



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
 Tampa, FL (813) 620-2000, Tallahassee, FL (904) 756-0747, Delray Beach, FL (561) 689-6701
 Atlanta, GA (770) 449-8800

Work Order No:

246903

www.xenco.com Page 1 of 2

Project Manager:	Dan Moir	Bill to (if different):	Kyle Littlell
Company Name:	LT Environmental, Inc., Permian Office	Company Name:	XTO Energy, Inc.
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	fsmith@ltenv.com, dmoir@ltenv.com

Work Order Comments	
Program: UST/PS ☐ PRP ☐ Brownfields ☐ RRD ☐ Superfund ☐	
State of Project:	
Reporting Level: ☐ Level ☐ PST/UST ☐ TRRP ☐ Level ☐	
Deliverables: EDD ☐ ADAPT ☐ Other:	

Project Name:	PLU 159	Turn Around	
Project Number:	012919161	Routine: ☐	
PO #:	2RP-5545	Rush: 24 hrs	
Sampler's Name:	Fatima Smith	Due Date:	
SAMPLE RECEIPT			
Temp Blank:	Yes ☒ No ☐	Thermometer ID	T-1111-007
Received In tact:	Yes ☒ No ☐	Correction Factor:	-0.2
Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:	14
Sample Custody Seals:	Yes ☒ No ☐		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST										Work Order Notes	
PH01	S	12/16/19	0948	1	TPH (EPA 8015)	☒	BTEX (EPA 0-8021)	☒	Chloride (EPA 300.0)	☒						TAT starts the day received by the lab, if received by 4:30pm
PH01A			0947	2												
PH02			0954	1												
PH02A			0953	2												
BH01			1006	1												
BH01A			1002	2												
BH02			1046	1												
BH02A			1047	2												
BH03			1058	1												
BH03A			1100	2												

Sample Comments

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM	Texas 11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO2	Na	Sr	Ti	Sn	U	V	Zn
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010:	8RCRA	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Ti	U												

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		12/18/19			12/18/19
		15:17:4			



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 968-3199, Phoenix, AZ (480) 355-0900
 Tampa, FL (813) 820-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
 Atlanta, GA (770) 449-9800

Work Order No:

6410903

www.xenco.com Page 2 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian Office	Company Name:	XTO Energy, Inc.
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	jsmith@ltenv.com, dmoir@ltenv.com

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

Project Name:	PLC 159	Turn Around	
Project Number:	012919161	Routine:	☐
PO #:	ZRP-5545	Rush:	24 hrs
Sampler's Name:	Fatima Smith	Due Date:	
SAMPLE RECEIPT			
Temperature (°C):	Yes No	Temp Blank:	Yes No
Received Intact:	Yes No	Wet Ice:	Yes No
Cooler Custody Seals:	Yes No	Correction Factor:	
Sample Custody Seals:	Yes No	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST										Work Order Notes	
BH04	S	12/19/19	1111	1	1	X	X	X												TAT starts the day received by the lab, if received by 4:30pm
BH04A				2		X	X	X												Sample Comments
BH05			1113	1		X	X	X												
BH05A			1117	1		X	X	X												
			1118	2		X	X	X												

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

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
<i>[Signature]</i>	<i>[Signature]</i>	12/18/19 15:15			



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/18/2019 03:15:00 PM

Work Order #: 646903

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
#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: 12/18/2019

Checklist reviewed by:

Jessica Kramer

Date: 12/19/2019

Analytical Report 647653

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159

012919161

14-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)



14-JAN-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **647653**

PLU 159

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) 647653. 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. 647653 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 647653****LT Environmental, Inc., Arvada, CO**

PLU 159

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01B	S	12-20-19 11:30	4 ft	647653-001
PH02B	S	12-20-19 11:50	4 ft	647653-002
PH03	S	12-20-19 15:20	4 ft	647653-003
BH05B	S	12-20-19 10:50	4 ft	647653-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 159

Project ID: 012919161
Work Order Number(s): 647653

Report Date: 14-JAN-20
Date Received: 12/30/2019

Sample receipt non conformance and comments:

Per clients email, corrected sample 004 name from PH05B to BH05B. New Version generated. JK
01/14/20

Sample receipt non conformance and comments per sample:

None

Analytical non conformance and comments:

Batch: LBA-3112077 BTEX by EPA 8021B

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

Certificate of Analysis Summary 647653



LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Dec-30-19 12:50 pm

Report Date: 14-JAN-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	647653-001	647653-002	647653-003	647653-004		
	<i>Field Id:</i>	PH01B	PH02B	PH03	BH05B		
	<i>Depth:</i>	4- ft	4- ft	4- ft	4- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Dec-20-19 11:30	Dec-20-19 11:50	Dec-20-19 15:20	Dec-20-19 10:50		
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-30-19 14:40	*** ** *	*** ** *	*** ** *		
	<i>Analyzed:</i>	Dec-30-19 16:06	Dec-30-19 20:44	Dec-30-19 16:23	Dec-30-19 16:41		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201		
Toluene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201		
Ethylbenzene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201		
m,p-Xylenes		<0.00404 0.00404	<0.00402 0.00402	<0.00404 0.00404	<0.00402 0.00402		
o-Xylene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201		
Total Xylenes		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201		
Total BTEX		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201		
Chloride by EPA 300	<i>Extracted:</i>	Dec-30-19 14:40	Dec-30-19 14:40	Dec-30-19 14:40	Dec-30-19 14:40		
	<i>Analyzed:</i>	Dec-30-19 15:43	Dec-30-19 15:49	Dec-30-19 15:55	Dec-30-19 16:01		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		5790 D 201	9440 D 200	14200 99.8	54.9 9.94		
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-30-19 13:15	Dec-30-19 13:15	Dec-30-19 13:15	Dec-30-19 13:15		
	<i>Analyzed:</i>	Dec-30-19 13:29	Dec-30-19 13:49	Dec-30-19 13:49	Dec-30-19 14:09		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.3 50.3	<50.3 50.3	<50.3 50.3		
Diesel Range Organics (DRO)		<49.9 49.9	<50.3 50.3	<50.3 50.3	<50.3 50.3		
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.3 50.3	<50.3 50.3	<50.3 50.3		
Total GRO-DRO		<49.9 49.9	<50.3 50.3	<50.3 50.3	<50.3 50.3		
Total TPH		<49.9 49.9	<50.3 50.3	<50.3 50.3	<50.3 50.3		

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

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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 647653

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH01B**
Lab Sample Id: 647653-001

Matrix: Soil
Date Collected: 12.20.19 11.30

Date Received: 12.30.19 12.50
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112084

Date Prep: 12.30.19 14.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5790	201	mg/kg	12.30.19 16.41	D	20

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112043

Date Prep: 12.30.19 13.15

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	12.30.19 13.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.30.19 13.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.30.19 13.29	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.30.19 13.29	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.30.19 13.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.30.19 13.29	
o-Terphenyl	84-15-1	107	%	70-135	12.30.19 13.29	



Certificate of Analytical Results 647653

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH01B**
Lab Sample Id: 647653-001

Matrix: Soil
Date Collected: 12.20.19 11.30

Date Received: 12.30.19 12.50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3112077

Date Prep: 12.30.19 14.40

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.30.19 16.06	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.30.19 16.06	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.30.19 16.06	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.30.19 16.06	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.30.19 16.06	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.30.19 16.06	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.30.19 16.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.30.19 16.06		
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.30.19 16.06		



Certificate of Analytical Results 647653

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH02B** Matrix: Soil Date Received: 12.30.19 12.50
 Lab Sample Id: 647653-002 Date Collected: 12.20.19 11.50 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 12.30.19 14.40 Basis: Wet Weight
 Seq Number: 3112084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9440	200	mg/kg	12.30.19 16.47	D	20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 12.30.19 13.15 Basis: Wet Weight
 Seq Number: 3112043

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.30.19 13.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.30.19 13.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.30.19 13.49	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.30.19 13.49	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.30.19 13.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.30.19 13.49	
o-Terphenyl	84-15-1	111	%	70-135	12.30.19 13.49	



Certificate of Analytical Results 647653

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH02B**
 Lab Sample Id: 647653-002

Matrix: Soil
 Date Collected: 12.20.19 11.50

Date Received: 12.30.19 12.50
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.30.19 12.20

Basis: Wet Weight

Seq Number: 3112077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.30.19 20.44	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.30.19 20.44	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.30.19 20.44	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.30.19 20.44	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.30.19 20.44	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.30.19 20.44	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.30.19 20.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	12.30.19 20.44		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.30.19 20.44		



Certificate of Analytical Results 647653

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH03** Matrix: Soil Date Received: 12.30.19 12.50
 Lab Sample Id: 647653-003 Date Collected: 12.20.19 15.20 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 12.30.19 14.40 Basis: Wet Weight
 Seq Number: 3112084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14200	99.8	mg/kg	12.30.19 15.55		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 12.30.19 13.15 Basis: Wet Weight
 Seq Number: 3112043

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.30.19 13.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.30.19 13.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.30.19 13.49	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.30.19 13.49	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.30.19 13.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	12.30.19 13.49	
o-Terphenyl	84-15-1	107	%	70-135	12.30.19 13.49	



Certificate of Analytical Results 647653

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **PH03**
Lab Sample Id: 647653-003

Matrix: Soil
Date Collected: 12.20.19 15.20

Date Received: 12.30.19 12.50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.30.19 12.20

Basis: Wet Weight

Seq Number: 3112077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.30.19 16.23	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.30.19 16.23	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.30.19 16.23	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.30.19 16.23	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.30.19 16.23	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.30.19 16.23	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.30.19 16.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.30.19 16.23		
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.30.19 16.23		



Certificate of Analytical Results 647653

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH05B**
Lab Sample Id: 647653-004

Matrix: Soil
Date Collected: 12.20.19 10.50

Date Received: 12.30.19 12.50
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112084

Date Prep: 12.30.19 14.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	54.9	9.94	mg/kg	12.30.19 16.01		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112043

Date Prep: 12.30.19 13.15

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	12.30.19 14.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.30.19 14.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.30.19 14.09	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.30.19 14.09	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.30.19 14.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.30.19 14.09	
o-Terphenyl	84-15-1	111	%	70-135	12.30.19 14.09	



Certificate of Analytical Results 647653

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **BH05B**
Lab Sample Id: 647653-004

Matrix: Soil
Date Collected: 12.20.19 10.50

Date Received: 12.30.19 12.50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.30.19 12.20

Basis: Wet Weight

Seq Number: 3112077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.30.19 16.41	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.30.19 16.41	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.30.19 16.41	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.30.19 16.41	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.30.19 16.41	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.30.19 16.41	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.30.19 16.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.30.19 16.41		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.30.19 16.41		



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 159

Analytical Method: Chloride by EPA 300

Seq Number: 3112084

MB Sample Id: 7693510-1-BLK

Matrix: Solid

LCS Sample Id: 7693510-1-BKS

Prep Method: E300P

Date Prep: 12.30.19

LCSD Sample Id: 7693510-1-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	264	106	270	108	90-110	2	20	mg/kg	12.30.19 14:45	

Analytical Method: Chloride by EPA 300

Seq Number: 3112084

Parent Sample Id: 647639-001

Matrix: Soil

MS Sample Id: 647639-001 S

Prep Method: E300P

Date Prep: 12.30.19

MSD Sample Id: 647639-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7480	203	7590	54	7570	45	90-110	0	20	mg/kg	12.30.19 15:03	X

Analytical Method: Chloride by EPA 300

Seq Number: 3112084

Parent Sample Id: 647679-003

Matrix: Soil

MS Sample Id: 647679-003 S

Prep Method: E300P

Date Prep: 12.30.19

MSD Sample Id: 647679-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2200	201	2360	80	2350	75	90-110	0	20	mg/kg	12.30.19 17:24	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112043

MB Sample Id: 7693514-1-BLK

Matrix: Solid

LCS Sample Id: 7693514-1-BKS

Prep Method: SW8015P

Date Prep: 12.30.19

LCSD Sample Id: 7693514-1-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	1070	107	70-135	6	35	mg/kg	12.30.19 12:29	
Diesel Range Organics (DRO)	<50.0	1000	1260	126	1220	122	70-135	3	35	mg/kg	12.30.19 12:29	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		128		121		70-135	%	12.30.19 12:29
o-Terphenyl	109		123		119		70-135	%	12.30.19 12:29

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112043

Matrix: Solid

MB Sample Id: 7693514-1-BLK

Prep Method: SW8015P

Date Prep: 12.30.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.30.19 12:09	

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112043

Parent Sample Id: 647639-001

Matrix: Soil

MS Sample Id: 647639-001 S

Prep Method: SW8015P

Date Prep: 12.30.19

MSD Sample Id: 647639-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	1050	105	1120	113	70-135	6	35	mg/kg	12.30.19 12:49	
Diesel Range Organics (DRO)	<50.1	1000	1210	121	1240	125	70-135	2	35	mg/kg	12.30.19 12:49	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		118		70-135	%	12.30.19 12:49
o-Terphenyl	121		119		70-135	%	12.30.19 12:49

Analytical Method: BTEX by EPA 8021B

Seq Number: 3112077

MB Sample Id: 7693507-1-BLK

Matrix: Solid

LCS Sample Id: 7693507-1-BKS

Prep Method: SW5030B

Date Prep: 12.30.19

LCSD Sample Id: 7693507-1-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	0.0926	93	0.100	100	70-130	8	35	mg/kg	12.30.19 13:30	
Toluene	<0.00200	0.100	0.0955	96	0.102	102	70-130	7	35	mg/kg	12.30.19 13:30	
Ethylbenzene	<0.00200	0.100	0.0944	94	0.101	101	71-129	7	35	mg/kg	12.30.19 13:30	
m,p-Xylenes	<0.00400	0.200	0.195	98	0.209	105	70-135	7	35	mg/kg	12.30.19 13:30	
o-Xylene	<0.00200	0.100	0.0945	95	0.101	101	71-133	7	35	mg/kg	12.30.19 13:30	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		96		99		70-130	%	12.30.19 13:30
4-Bromofluorobenzene	97		95		98		70-130	%	12.30.19 13:30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3112077

Parent Sample Id: 647639-001

Matrix: Soil

MS Sample Id: 647639-001 S

Prep Method: SW5030B

Date Prep: 12.30.19

MSD Sample Id: 647639-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0980	98	0.0957	96	70-130	2	35	mg/kg	12.30.19 14:05	
Toluene	<0.00200	0.0998	0.0953	95	0.0928	93	70-130	3	35	mg/kg	12.30.19 14:05	
Ethylbenzene	<0.00200	0.0998	0.0900	90	0.0877	88	71-129	3	35	mg/kg	12.30.19 14:05	
m,p-Xylenes	0.000782	0.200	0.186	93	0.180	89	70-135	3	35	mg/kg	12.30.19 14:05	
o-Xylene	0.000581	0.0998	0.0913	91	0.0891	89	71-133	2	35	mg/kg	12.30.19 14:05	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	12.30.19 14:05
4-Bromofluorobenzene	103		106		70-130	%	12.30.19 14:05

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

Work Order No: 047053

Page 1 of 1
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Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	slc@ltenv.com, dmoir@ltenv.com

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

[illegible][illegible]

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

<i>[Signature]</i>	<i>[Signature]</i>	2	12/30/19	12:50	2	12/30/19	12:50	2
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[illegible][illegible][illegible]



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/30/2019 12:50:00 PM

Work Order #: 647653

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist**Comments**

#1 *Temperature of cooler(s)?	5.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	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: 12/30/2019

Checklist reviewed by:

Jessica Kramer

Date: 12/31/2019



Certificate of Analysis Summary 648838

LT Environmental, Inc., Arvada, CO

Project Name: PLU159

Project Id: 012919161

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon 01.13.2020 12:40

Report Date: 05.28.2020 17:22

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	648838-001	648838-002	648838-003			
	<i>Field Id:</i>	BH02A	BH04A	BH06A			
	<i>Depth:</i>	3- ft	4- ft	5- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	01.03.2020 15:00	01.03.2020 14:00	01.03.2020 16:00			
BTEX by EPA 8021B	<i>Extracted:</i>	01.13.2020 17:30	01.13.2020 17:30	01.13.2020 17:30			
	<i>Analyzed:</i>	01.13.2020 20:52	01.13.2020 21:11	01.13.2020 21:30			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201			
Toluene		<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201			
Ethylbenzene		<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201			
m,p-Xylenes		<0.00402 0.00402	<0.00403 0.00403	<0.00402 0.00402			
o-Xylene		<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201			
Total Xylenes		<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201			
Total BTEX		<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201			
Chloride by EPA 300	<i>Extracted:</i>	01.13.2020 17:30	01.13.2020 17:30	01.13.2020 18:00			
	<i>Analyzed:</i>	01.13.2020 21:13	01.13.2020 21:19	01.13.2020 21:54			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		332 9.92	<9.98 9.98	10600 100			
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	01.17.2020 17:30	01.17.2020 17:30	01.17.2020 08:30			
	<i>Analyzed:</i>	01.19.2020 04:51	01.19.2020 05:13	01.17.2020 20:03			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<49.9 49.9	<50.0 50.0			
Diesel Range Organics (DRO)		<49.8 49.8	<49.9 49.9	<50.0 50.0			
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<49.9 49.9	<50.0 50.0			
Total GRO-DRO		<49.8 49.8	<49.9 49.9	<50.0 50.0			
Total TPH		<49.8 49.8	<49.9 49.9	<50.0 50.0			

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

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

John Builes
Project Manager



Analytical Report 648838

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU159

012919161

05.28.2020

Collected By: Kaeli Jennings

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-6)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



05.28.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **648838**

PLU159

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) 648838. 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. 648838 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, appearing to read 'JB', is written over a light blue rectangular background.

John Builes
Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 648838****LT Environmental, Inc., Arvada, CO**

PLU159

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH02A	S	01.03.2020 15:00	3 ft	648838-001
BH04A	S	01.03.2020 14:00	4 ft	648838-002
BH06A	S	01.03.2020 16:00	5 ft	648838-003



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU159

Project ID: 012919161
Work Order Number(s): 648838

Report Date: 05.28.2020
Date Received: 01.13.2020

Sample receipt non conformances and comments:

Revised report issued to correct transcription error from the COC in sample names. JB 5/28/2020

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3113150 BTEX by EPA 8021B

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



Certificate of Analytical Results 648838

LT Environmental, Inc., Arvada, CO

PLU159

Sample Id: **BH02A** Matrix: Soil Date Received: 01.13.2020 12:40
 Lab Sample Id: 648838-001 Date Collected: 01.03.2020 15:00 Sample Depth: 3 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 01.13.2020 17:30 Basis: Wet Weight
 Seq Number: 3113138

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	332	9.92	mg/kg	01.13.2020 21:13		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: LRI % Moisture:
 Analyst: ARM Date Prep: 01.17.2020 17:30 Basis: Wet Weight
 Seq Number: 3113770 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	01.19.2020 04:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.19.2020 04:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.19.2020 04:51	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	01.19.2020 04:51	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.19.2020 04:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	01.19.2020 04:51	
o-Terphenyl	84-15-1	121	%	70-135	01.19.2020 04:51	



Certificate of Analytical Results 648838

LT Environmental, Inc., Arvada, CO

PLU159

Sample Id: **BH02A**
Lab Sample Id: 648838-001

Matrix: Soil
Date Collected: 01.03.2020 15:00

Date Received: 01.13.2020 12:40
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.2020 17:30

Basis: Wet Weight

Seq Number: 3113150

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.13.2020 20:52	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.13.2020 20:52	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.13.2020 20:52	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.13.2020 20:52	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.13.2020 20:52	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.13.2020 20:52	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.13.2020 20:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	01.13.2020 20:52	
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.13.2020 20:52	



Certificate of Analytical Results 648838

LT Environmental, Inc., Arvada, CO

PLU159

Sample Id: **BH04A**
Lab Sample Id: 648838-002

Matrix: Soil
Date Collected: 01.03.2020 14:00

Date Received: 01.13.2020 12:40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113138

Date Prep: 01.13.2020 17:30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	01.13.2020 21:19	U	1

Analytical Method: TPH by SW8015 Mod

Tech: LRI

Analyst: ARM

Seq Number: 3113770

Date Prep: 01.17.2020 17:30

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	01.19.2020 05:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.19.2020 05:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.19.2020 05:13	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	01.19.2020 05:13	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.19.2020 05:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	01.19.2020 05:13	
o-Terphenyl	84-15-1	116	%	70-135	01.19.2020 05:13	



Certificate of Analytical Results 648838

LT Environmental, Inc., Arvada, CO

PLU159

Sample Id: **BH04A**
Lab Sample Id: 648838-002

Matrix: Soil
Date Collected: 01.03.2020 14:00

Date Received: 01.13.2020 12:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.2020 17:30

Basis: Wet Weight

Seq Number: 3113150

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.13.2020 21:11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.13.2020 21:11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.13.2020 21:11	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.13.2020 21:11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.13.2020 21:11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.13.2020 21:11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.13.2020 21:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.13.2020 21:11	
4-Bromofluorobenzene	460-00-4	102	%	70-130	01.13.2020 21:11	



Certificate of Analytical Results 648838

LT Environmental, Inc., Arvada, CO

PLU159

Sample Id: **BH06A** Matrix: Soil Date Received: 01.13.2020 12:40
 Lab Sample Id: 648838-003 Date Collected: 01.03.2020 16:00 Sample Depth: 5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 01.13.2020 18:00 Basis: Wet Weight
 Seq Number: 3113141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10600	100	mg/kg	01.13.2020 21:54		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 01.17.2020 08:30 Basis: Wet Weight
 Seq Number: 3113637 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	01.17.2020 20:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.17.2020 20:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.17.2020 20:03	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.17.2020 20:03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.17.2020 20:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	01.17.2020 20:03	
o-Terphenyl	84-15-1	110	%	70-135	01.17.2020 20:03	



Certificate of Analytical Results 648838

LT Environmental, Inc., Arvada, CO

PLU159

Sample Id: **BH06A**
Lab Sample Id: 648838-003

Matrix: Soil
Date Collected: 01.03.2020 16:00

Date Received: 01.13.2020 12:40
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3113150

Prep Method: SW5030B

% Moisture:

Date Prep: 01.13.2020 17:30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.13.2020 21:30	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.13.2020 21:30	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.13.2020 21:30	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.13.2020 21:30	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.13.2020 21:30	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.13.2020 21:30	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.13.2020 21:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.13.2020 21:30	
4-Bromofluorobenzene	460-00-4	102	%	70-130	01.13.2020 21:30	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

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.

PLU159

Analytical Method: Chloride by EPA 300

Seq Number: 3113138

MB Sample Id: 7694270-1-BLK

Matrix: Solid

LCS Sample Id: 7694270-1-BKS

Prep Method: E300P

Date Prep: 01.13.2020

LCSD Sample Id: 7694270-1-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	247	99	247	99	90-110	0	20	mg/kg	01.13.2020 18:36	

Analytical Method: Chloride by EPA 300

Seq Number: 3113141

MB Sample Id: 7694273-1-BLK

Matrix: Solid

LCS Sample Id: 7694273-1-BKS

Prep Method: E300P

Date Prep: 01.13.2020

LCSD Sample Id: 7694273-1-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	248	99	248	99	90-110	0	20	mg/kg	01.13.2020 21:42	

Analytical Method: Chloride by EPA 300

Seq Number: 3113138

Parent Sample Id: 648831-021

Matrix: Soil

MS Sample Id: 648831-021 S

Prep Method: E300P

Date Prep: 01.13.2020

MSD Sample Id: 648831-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.07	200	199	96	198	95	90-110	1	20	mg/kg	01.13.2020 18:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3113138

Parent Sample Id: 648878-001

Matrix: Soil

MS Sample Id: 648878-001 S

Prep Method: E300P

Date Prep: 01.13.2020

MSD Sample Id: 648878-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.45	199	196	95	196	95	90-110	0	20	mg/kg	01.13.2020 20:09	

Analytical Method: Chloride by EPA 300

Seq Number: 3113141

Parent Sample Id: 648838-003

Matrix: Soil

MS Sample Id: 648838-003 S

Prep Method: E300P

Date Prep: 01.13.2020

MSD Sample Id: 648838-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10600	203	10800	99	10800	99	90-110	0	20	mg/kg	01.13.2020 22:00	

Analytical Method: Chloride by EPA 300

Seq Number: 3113141

Parent Sample Id: 648878-010

Matrix: Soil

MS Sample Id: 648878-010 S

Prep Method: E300P

Date Prep: 01.13.2020

MSD Sample Id: 648878-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.6	200	217	97	213	96	90-110	2	20	mg/kg	01.13.2020 23:21	

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

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

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

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



LT Environmental, Inc.

PLU159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113637

MB Sample Id: 7694612-1-BLK

Matrix: Solid

LCS Sample Id: 7694612-1-BKS

Prep Method: SW8015P

Date Prep: 01.17.2020

LCSD Sample Id: 7694612-1-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	1100	110	1160	116	70-135	5	20	mg/kg	01.17.2020 11:38	
Diesel Range Organics (DRO)	<15.0	1000	1020	102	926	93	70-135	10	20	mg/kg	01.17.2020 11:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		103		109		70-135	%	01.17.2020 11:38
o-Terphenyl	96		99		96		70-135	%	01.17.2020 11:38

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113770

MB Sample Id: 7694685-1-BLK

Matrix: Solid

LCS Sample Id: 7694685-1-BKS

Prep Method: SW8015P

Date Prep: 01.17.2020

LCSD Sample Id: 7694685-1-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	1180	118	1100	110	70-135	7	20	mg/kg	01.18.2020 20:46	
Diesel Range Organics (DRO)	<15.0	1000	1040	104	1120	112	70-135	7	20	mg/kg	01.18.2020 20:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		115		109		70-135	%	01.18.2020 20:46
o-Terphenyl	122		110		108		70-135	%	01.18.2020 20:46

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113637

Matrix: Solid

MB Sample Id: 7694612-1-BLK

Prep Method: SW8015P

Date Prep: 01.17.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.17.2020 11:17	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113770

Matrix: Solid

MB Sample Id: 7694685-1-BLK

Prep Method: SW8015P

Date Prep: 01.17.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.18.2020 20:25	

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

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

PLU159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113637

Parent Sample Id: 649378-001

Matrix: Soil

MS Sample Id: 649378-001 S

Prep Method: SW8015P

Date Prep: 01.17.2020

MSD Sample Id: 649378-001 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)	20.9	999	1120	110	1090	107	70-135	3	20	mg/kg	01.17.2020 12:41	
Diesel Range Organics (DRO)	<15.0	999	913	91	956	96	70-135	5	20	mg/kg	01.17.2020 12:41	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		98		70-135	%	01.17.2020 12:41
o-Terphenyl	96		87		70-135	%	01.17.2020 12:41

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113770

Parent Sample Id: 648890-021

Matrix: Soil

MS Sample Id: 648890-021 S

Prep Method: SW8015P

Date Prep: 01.17.2020

MSD Sample Id: 648890-021 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)	19.0	999	1180	116	1170	115	70-135	1	20	mg/kg	01.18.2020 21:50	
Diesel Range Organics (DRO)	15.1	999	1030	102	1010	100	70-135	2	20	mg/kg	01.18.2020 21:50	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		110		70-135	%	01.18.2020 21:50
o-Terphenyl	106		105		70-135	%	01.18.2020 21:50

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113150

MB Sample Id: 7694257-1-BLK

Matrix: Solid

LCS Sample Id: 7694257-1-BKS

Prep Method: SW5030B

Date Prep: 01.13.2020

LCSD Sample Id: 7694257-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0952	95	0.105	105	70-130	10	35	mg/kg	01.13.2020 14:42	
Toluene	<0.00200	0.100	0.0923	92	0.103	103	70-130	11	35	mg/kg	01.13.2020 14:42	
Ethylbenzene	<0.00200	0.100	0.0928	93	0.104	104	71-129	11	35	mg/kg	01.13.2020 14:42	
m,p-Xylenes	<0.00400	0.200	0.185	93	0.209	105	70-135	12	35	mg/kg	01.13.2020 14:42	
o-Xylene	<0.00200	0.100	0.0923	92	0.104	104	71-133	12	35	mg/kg	01.13.2020 14:42	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		100		102		70-130	%	01.13.2020 14:42
4-Bromofluorobenzene	106		98		106		70-130	%	01.13.2020 14:42

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.

PLU159

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113150

Parent Sample Id: 648831-021

Matrix: Soil

MS Sample Id: 648831-021 S

Prep Method: SW5030B

Date Prep: 01.13.2020

MSD Sample Id: 648831-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0957	95	0.109	109	70-130	13	35	mg/kg	01.13.2020 15:21	
Toluene	<0.00202	0.101	0.0899	89	0.105	105	70-130	15	35	mg/kg	01.13.2020 15:21	
Ethylbenzene	<0.00202	0.101	0.0843	83	0.104	104	71-129	21	35	mg/kg	01.13.2020 15:21	
m,p-Xylenes	<0.00405	0.202	0.167	83	0.206	103	70-135	21	35	mg/kg	01.13.2020 15:21	
o-Xylene	<0.00202	0.101	0.0826	82	0.116	116	71-133	34	35	mg/kg	01.13.2020 15:21	

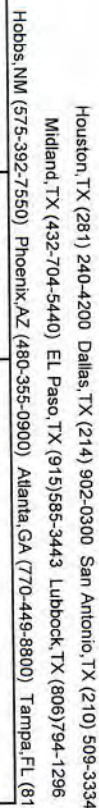
Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		104		70-130	%	01.13.2020 15:21
4-Bromofluorobenzene	100		108		70-130	%	01.13.2020 15:21

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

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

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

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



Chain of Custody

Work Order No: 648838

Project Manager:		Dan Moir	Bill to: (if different)	Kyle Litrell
Company Name:		LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:		3300 North A Street	Address:	3104 E Green Street
City, State ZIP:		Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:		432.236.3849	Email:	permi@xto.com kjenning@xto.com

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

Work Order Notes	
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Project Name:		PLU 139		Turn Around	
Project Number:		012919101		Routine ☒	
P.O. Number:		Kaeli Jennings		Rush:	
Sampler's Name:		Benjamin Beall Site		Due Date:	
SAMPLE RECEIPT				Temp Blank:	Yes No
Temperature (°C):		1.0		Thermometer ID	
Received Intact:		(Yes) No		Correction Factor:	TMM007
Cooler Custody Seals:		Yes (No) N/A		Total Containers:	-0-2
Sample Custody Seals:		Yes No N/A			3
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth
BH02A		S	1/3/20	15:00	3'
BH04A		S	1/3/20	14:00	4'
BH06A		S	1/2/20	16:00	5'
Number of Containers					
TPH (EPA 8015)					
BTEX (EPA 0=8021)					
Chloride (EPA 300.0)					
TAT starts the day received by the lab, if received by 4:30pm					
Sample Comments					

Total	200.7 / 6010	200.8 / 6020:	
<i>Circle Method(s) and Metal(s) to be analyzed</i>			
8RCRA	13PPM	Texas	11
AI	Sb	As	Ba
Be	B	Cd	Ca
Cr	Co	Cu	Pb
Mn	Mo	Ni	Se
Ag	Ti	U	
1631 / 245.1 / 7470 / 7471 : Hg			

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		12:00pm / 1/13/08			11/3/20 12:20

Revised Date 05/14/18 Rev. 2018.



Inter-Office Shipment

Page 1 of 1

IOS Number **55954**

Date/Time: 01/13/20 15:28

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.: 777466121006

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
648838-001	S	BH02A	01/03/20 15:00	SW8015MOD_NM	TPH by SW8015 Mod	01/17/20	01/17/20 15:00	JKR	GRO-DRO PHCC10C28 PF	
648838-002	S	BH04A	01/03/20 14:00	SW8015MOD_NM	TPH by SW8015 Mod	01/17/20	01/17/20 14:00	JKR	GRO-DRO PHCC10C28 PF	
648838-003	S	BH06A	01/03/20 16:00	SW8015MOD_NM	TPH by SW8015 Mod	01/17/20	01/17/20 16:00	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 01/13/2020

Received By:

Brianna Teel

Date Received: 01/14/2020 12:54

Cooler Temperature: 0.7



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 55954

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sent By: Elizabeth McClellan

Date Sent: 01/13/2020 03:28 PM

Received By: Brianna Teel

Date Received: 01/14/2020 12:54 PM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.7
#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: 01/14/2020

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.13.2020 12.40.00 PM

Work Order #: 648838

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)?	Yes
#18 Water VOC samples have zero headspace?	N/A

Samples split and TPH sent to Midland.

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 01.13.2020

Checklist reviewed by:



Jessica Kramer

Date: 01.13.2020



Certificate of Analysis Summary 655787

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159 SWD

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon 03.16.2020 12:35

Report Date: 05.28.2020 17:10

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	655787-001	655787-002	655787-003	655787-004	655787-005	
	<i>Field Id:</i>	BH01B	BH02C	PH01C	PH02C	PH03B	
	<i>Depth:</i>	5- ft	5- ft	5- ft	7.5- ft	6- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	03.12.2020 11:00	03.12.2020 12:20	03.12.2020 14:45	03.12.2020 14:20	03.12.2020 13:20	
BTEX by EPA 8021B	<i>Extracted:</i>	03.16.2020 23:08	03.16.2020 23:08	03.16.2020 23:08	03.16.2020 23:08	03.16.2020 23:08	
	<i>Analyzed:</i>	03.17.2020 02:14	03.17.2020 02:34	03.17.2020 02:54	03.17.2020 03:15	03.17.2020 03:35	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00402 0.00402	<0.00401 0.00401	<0.00402 0.00402	
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	
Chloride by EPA 300	<i>Extracted:</i>	03.17.2020 17:00	03.17.2020 17:00	03.17.2020 17:00	03.17.2020 17:00	03.17.2020 17:00	
	<i>Analyzed:</i>	03.17.2020 20:22	03.17.2020 20:27	03.17.2020 21:02	03.17.2020 21:19	03.17.2020 21:25	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		41.2 10.1	74.6 10.1	572 9.94	1130 10.0	152 9.96	
TPH by SW8015 Mod	<i>Extracted:</i>	03.16.2020 16:00	03.16.2020 16:00	03.16.2020 16:00	03.16.2020 16:00	03.16.2020 16:00	
	<i>Analyzed:</i>	03.16.2020 20:20	03.16.2020 20:41	03.16.2020 21:01	03.16.2020 21:21	03.16.2020 21:42	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.3 50.3	
Diesel Range Organics (DRO)		<50.3 50.3	<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.3 50.3	
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.3 50.3	
Total GRO-DRO		<50.3 50.3	<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.3 50.3	
Total TPH		<50.3 50.3	<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.3 50.3	

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

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

John Builes
Project Manager



Analytical Report 655787

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159 SWD

05.28.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-6)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



05.28.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **655787**

PLU 159 SWD

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) 655787. 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. 655787 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, appearing to read 'JB', is written over a light blue rectangular background.

John Builes
Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 655787****LT Environmental, Inc., Arvada, CO**

PLU 159 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01B	S	03.12.2020 11:00	5 ft	655787-001
BH02C	S	03.12.2020 12:20	5 ft	655787-002
PH01C	S	03.12.2020 14:45	5 ft	655787-003
PH02C	S	03.12.2020 14:20	7.5 ft	655787-004
PH03B	S	03.12.2020 13:20	6 ft	655787-005



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 159 SWD

Project ID:
Work Order Number(s): 655787

Report Date: 05.28.2020
Date Received: 03.16.2020

Sample receipt non conformances and comments:

Revised report issued to correct transcription error from sample name on COC. JB 5/28/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3119914 BTEX by EPA 8021B

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



Certificate of Analytical Results 655787

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH01B**
Lab Sample Id: 655787-001

Matrix: Soil
Date Collected: 03.12.2020 11:00

Date Received: 03.16.2020 12:35
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3120039

Date Prep: 03.17.2020 17:00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	41.2	10.1	mg/kg	03.17.2020 20:22		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3119850

Date Prep: 03.16.2020 16:00

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	03.16.2020 20:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	03.16.2020 20:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	03.16.2020 20:20	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	03.16.2020 20:20	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	03.16.2020 20:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	03.16.2020 20:20	
o-Terphenyl	84-15-1	113	%	70-135	03.16.2020 20:20	



Certificate of Analytical Results 655787

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH01B**
Lab Sample Id: 655787-001

Matrix: Soil
Date Collected: 03.12.2020 11:00

Date Received: 03.16.2020 12:35
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: JUM

Analyst: MAB

Seq Number: 3119914

Date Prep: 03.16.2020 23:08

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.17.2020 02:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.17.2020 02:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.17.2020 02:14	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.17.2020 02:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.17.2020 02:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.17.2020 02:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.17.2020 02:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.17.2020 02:14	
4-Bromofluorobenzene	460-00-4	95	%	70-130	03.17.2020 02:14	



Certificate of Analytical Results 655787

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH02C** Matrix: Soil Date Received: 03.16.2020 12:35
 Lab Sample Id: 655787-002 Date Collected: 03.12.2020 12:20 Sample Depth: 5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 03.17.2020 17:00 Basis: Wet Weight
 Seq Number: 3120039

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	74.6	10.1	mg/kg	03.17.2020 20:27		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 03.16.2020 16:00 Basis: Wet Weight
 Seq Number: 3119850

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	03.16.2020 20:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	03.16.2020 20:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	03.16.2020 20:41	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	03.16.2020 20:41	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	03.16.2020 20:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	03.16.2020 20:41	
o-Terphenyl	84-15-1	111	%	70-135	03.16.2020 20:41	



Certificate of Analytical Results 655787

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH02C**
Lab Sample Id: 655787-002

Matrix: Soil
Date Collected: 03.12.2020 12:20

Date Received: 03.16.2020 12:35
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: JUM

% Moisture:

Analyst: MAB

Date Prep: 03.16.2020 23:08

Basis: Wet Weight

Seq Number: 3119914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.17.2020 02:34	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.17.2020 02:34	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.17.2020 02:34	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.17.2020 02:34	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.17.2020 02:34	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.17.2020 02:34	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.17.2020 02:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	03.17.2020 02:34	
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.17.2020 02:34	



Certificate of Analytical Results 655787

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **PH01C** Matrix: Soil Date Received: 03.16.2020 12:35
 Lab Sample Id: 655787-003 Date Collected: 03.12.2020 14:45 Sample Depth: 5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 03.17.2020 17:00 Basis: Wet Weight
 Seq Number: 3120043

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	572	9.94	mg/kg	03.17.2020 21:02		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 03.16.2020 16:00 Basis: Wet Weight
 Seq Number: 3119850

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	03.16.2020 21:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	03.16.2020 21:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	03.16.2020 21:01	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	03.16.2020 21:01	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	03.16.2020 21:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	03.16.2020 21:01	
o-Terphenyl	84-15-1	124	%	70-135	03.16.2020 21:01	



Certificate of Analytical Results 655787

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **PH01C**
Lab Sample Id: 655787-003

Matrix: Soil
Date Collected: 03.12.2020 14:45

Date Received: 03.16.2020 12:35
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: JUM

Analyst: MAB

Seq Number: 3119914

Date Prep: 03.16.2020 23:08

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.17.2020 02:54	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.17.2020 02:54	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.17.2020 02:54	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.17.2020 02:54	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.17.2020 02:54	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.17.2020 02:54	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.17.2020 02:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	03.17.2020 02:54	
1,4-Difluorobenzene	540-36-3	107	%	70-130	03.17.2020 02:54	



Certificate of Analytical Results 655787

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **PH02C**
Lab Sample Id: 655787-004

Matrix: Soil
Date Collected: 03.12.2020 14:20

Date Received: 03.16.2020 12:35
Sample Depth: 7.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3120043

Date Prep: 03.17.2020 17:00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1130	10.0	mg/kg	03.17.2020 21:19		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3119850

Date Prep: 03.16.2020 16:00

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	03.16.2020 21:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.16.2020 21:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.16.2020 21:21	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	03.16.2020 21:21	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.16.2020 21:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	03.16.2020 21:21	
o-Terphenyl	84-15-1	122	%	70-135	03.16.2020 21:21	



Certificate of Analytical Results 655787

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **PH02C**
Lab Sample Id: 655787-004

Matrix: Soil
Date Collected: 03.12.2020 14:20

Date Received: 03.16.2020 12:35
Sample Depth: 7.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: JUM

% Moisture:

Analyst: MAB

Date Prep: 03.16.2020 23:08

Basis: Wet Weight

Seq Number: 3119914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.17.2020 03:15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.17.2020 03:15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.17.2020 03:15	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.17.2020 03:15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.17.2020 03:15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.17.2020 03:15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.17.2020 03:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.17.2020 03:15		
4-Bromofluorobenzene	460-00-4	97	%	70-130	03.17.2020 03:15		



Certificate of Analytical Results 655787

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **PH03B** Matrix: Soil Date Received: 03.16.2020 12:35
 Lab Sample Id: 655787-005 Date Collected: 03.12.2020 13:20 Sample Depth: 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 03.17.2020 17:00 Basis: Wet Weight
 Seq Number: 3120043

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	152	9.96	mg/kg	03.17.2020 21:25		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 03.16.2020 16:00 Basis: Wet Weight
 Seq Number: 3119850

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	03.16.2020 21:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	03.16.2020 21:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	03.16.2020 21:42	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	03.16.2020 21:42	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	03.16.2020 21:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.16.2020 21:42	
o-Terphenyl	84-15-1	102	%	70-135	03.16.2020 21:42	



Certificate of Analytical Results 655787

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **PH03B**
Lab Sample Id: 655787-005

Matrix: Soil
Date Collected: 03.12.2020 13:20

Date Received: 03.16.2020 12:35
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: JUM

Analyst: MAB

Seq Number: 3119914

Date Prep: 03.16.2020 23:08

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.17.2020 03:35	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.17.2020 03:35	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.17.2020 03:35	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.17.2020 03:35	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.17.2020 03:35	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.17.2020 03:35	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.17.2020 03:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	03.17.2020 03:35	
4-Bromofluorobenzene	460-00-4	93	%	70-130	03.17.2020 03:35	



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. **ND** Not Detected.

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 159 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3120039

MB Sample Id: 7699128-1-BLK

Matrix: Solid

LCS Sample Id: 7699128-1-BKS

Prep Method: E300P

Date Prep: 03.17.2020

LCSD Sample Id: 7699128-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	261	104	90-110	1	20	mg/kg	03.17.2020 17:34	

Analytical Method: Chloride by EPA 300

Seq Number: 3120043

MB Sample Id: 7699130-1-BLK

Matrix: Solid

LCS Sample Id: 7699130-1-BKS

Prep Method: E300P

Date Prep: 03.17.2020

LCSD Sample Id: 7699130-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	260	104	90-110	0	20	mg/kg	03.17.2020 20:50	

Analytical Method: Chloride by EPA 300

Seq Number: 3120039

Parent Sample Id: 655954-001

Matrix: Soil

MS Sample Id: 655954-001 S

Prep Method: E300P

Date Prep: 03.17.2020

MSD Sample Id: 655954-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.4	200	211	99	215	101	90-110	2	20	mg/kg	03.17.2020 17:51	

Analytical Method: Chloride by EPA 300

Seq Number: 3120039

Parent Sample Id: 655975-009

Matrix: Soil

MS Sample Id: 655975-009 S

Prep Method: E300P

Date Prep: 03.17.2020

MSD Sample Id: 655975-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	241	200	452	106	450	105	90-110	0	20	mg/kg	03.17.2020 19:18	

Analytical Method: Chloride by EPA 300

Seq Number: 3120043

Parent Sample Id: 655787-003

Matrix: Soil

MS Sample Id: 655787-003 S

Prep Method: E300P

Date Prep: 03.17.2020

MSD Sample Id: 655787-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	572	200	780	104	781	105	90-110	0	20	mg/kg	03.17.2020 21:08	

Analytical Method: Chloride by EPA 300

Seq Number: 3120043

Parent Sample Id: 656009-008

Matrix: Soil

MS Sample Id: 656009-008 S

Prep Method: E300P

Date Prep: 03.17.2020

MSD Sample Id: 656009-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.8	200	229	105	237	110	90-110	3	20	mg/kg	03.17.2020 22:33	

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 159 SWD

Analytical Method: TPH by SW8015 Mod

Seq Number: 3119850

MB Sample Id: 7698975-1-BLK

Matrix: Solid

LCS Sample Id: 7698975-1-BKS

Prep Method: SW8015P

Date Prep: 03.16.2020

LCSD Sample Id: 7698975-1-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	811	81	778	78	70-135	4	35	mg/kg	03.16.2020 13:31	
Diesel Range Organics (DRO)	<50.0	1000	896	90	853	85	70-135	5	35	mg/kg	03.16.2020 13:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	82		98		105		70-135	%	03.16.2020 13:31
o-Terphenyl	89		98		93		70-135	%	03.16.2020 13:31

Analytical Method: TPH by SW8015 Mod

Seq Number: 3119850

Matrix: Solid

MB Sample Id: 7698975-1-BLK

Prep Method: SW8015P

Date Prep: 03.16.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.16.2020 13:10	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3119850

Matrix: Soil

Parent Sample Id: 655734-008

MS Sample Id: 655734-008 S

Prep Method: SW8015P

Date Prep: 03.16.2020

MSD Sample Id: 655734-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	1000	100	1030	103	70-135	3	35	mg/kg	03.16.2020 14:32	
Diesel Range Organics (DRO)	<50.1	1000	1110	111	1140	114	70-135	3	35	mg/kg	03.16.2020 14:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		114		70-135	%	03.16.2020 14:32
o-Terphenyl	121		119		70-135	%	03.16.2020 14:32

Analytical Method: BTEX by EPA 8021B

Seq Number: 3119914

Matrix: Solid

MB Sample Id: 7699005-1-BLK

LCS Sample Id: 7699005-1-BKS

Prep Method: SW5030B

Date Prep: 03.16.2020

LCSD Sample Id: 7699005-1-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	0.101	101	0.101	101	70-130	0	35	mg/kg	03.16.2020 20:07	
Toluene	<0.00200	0.100	0.101	101	0.0974	97	70-130	4	35	mg/kg	03.16.2020 20:07	
Ethylbenzene	<0.00200	0.100	0.101	101	0.0937	94	71-129	7	35	mg/kg	03.16.2020 20:07	
m,p-Xylenes	<0.00400	0.200	0.210	105	0.194	97	70-135	8	35	mg/kg	03.16.2020 20:07	
o-Xylene	<0.00200	0.100	0.105	105	0.0965	97	71-133	8	35	mg/kg	03.16.2020 20:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		106		108		70-130	%	03.16.2020 20:07
4-Bromofluorobenzene	94		97		93		70-130	%	03.16.2020 20:07

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

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

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

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



LT Environmental, Inc.

PLU 159 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3119914

Parent Sample Id: 655779-001

Matrix: Soil

MS Sample Id: 655779-001 S

Prep Method: SW5030B

Date Prep: 03.16.2020

MSD Sample Id: 655779-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.0740	75	0.0615	62	70-130	18	35	mg/kg	03.16.2020 20:47	X
Toluene	<0.00198	0.0990	0.0709	72	0.0590	59	70-130	18	35	mg/kg	03.16.2020 20:47	X
Ethylbenzene	<0.00198	0.0990	0.0658	66	0.0553	55	71-129	17	35	mg/kg	03.16.2020 20:47	X
m,p-Xylenes	<0.00396	0.198	0.136	69	0.114	57	70-135	18	35	mg/kg	03.16.2020 20:47	X
o-Xylene	<0.00198	0.0990	0.0710	72	0.0580	58	71-133	20	35	mg/kg	03.16.2020 20:47	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		107		70-130	%	03.16.2020 20:47
4-Bromofluorobenzene	94		97		70-130	%	03.16.2020 20:47

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

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

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

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



Chain of Custody

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

Work Order No: 1058787

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Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrel
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 mcafee@ltenv.com

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

Project Name:	PLU 159 SWD	Turn Around	☒ Routine ☐ Rush:	ANALYSIS REQUEST																Work Order Notes
Project Number:																				
P.O. Number:																				
Sampler's Name:	Robert McAfee	Due Date:																		

SAMPLE RECEIPT				Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No																
Temperature (°C):	1.6°C	Thermometer ID																					
Received Intact:	☒ Yes ☐ No	Correction Factor:	T-NM-007																				
Cooler Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	5																				
Sample Custody Seals:	Yes ☒ No ☐ N/A																						

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers																Sample Comments	
					TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)															
BH01B	S	03/12/20	1100	5'	1	X	X	X														discrete
BH02C			1220	5'		X	X	X														
PH01C			1445	5'		X	X	X														
PH02C			1420	7.5'		X	X	X														
PH03B			1320	6'		X	X	X														

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

ce: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each sample 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>Robert McAfee</i>	<i>Dan Moir</i>	12:35 03/16/20			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03.16.2020 12.35.00 PM

Work Order #: 655787

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	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: 03.16.2020

Checklist reviewed by:



Jessica Kramer

Date: 03.17.2020



Certificate of Analysis Summary 660930

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159 SWD

Project Id: 012919161

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu 05.07.2020 12:30

Report Date: 05.28.2020 17:26

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	660930-001	660930-002	660930-003	660930-004		
	<i>Field Id:</i>	BH06	BH07	BH08	BH09		
	<i>Depth:</i>	2- ft	2- ft	2- ft	2- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	05.06.2020 11:10	05.06.2020 11:20	05.06.2020 11:30	05.06.2020 11:40		
BTEX by EPA 8021B	<i>Extracted:</i>	05.08.2020 17:07	05.08.2020 17:07	05.08.2020 17:07	05.08.2020 17:07		
	<i>Analyzed:</i>	05.09.2020 04:13	05.09.2020 04:34	05.09.2020 04:55	05.09.2020 05:17		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Chloride by EPA 300	<i>Extracted:</i>	05.07.2020 16:42	05.07.2020 16:42	05.07.2020 16:42	05.07.2020 16:42		
	<i>Analyzed:</i>	05.07.2020 20:20	05.07.2020 20:38	05.07.2020 20:43	05.07.2020 20:49		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		220 10.0	245 10.1	189 9.98	53.0 10.0		
TPH by SW8015 Mod	<i>Extracted:</i>	05.08.2020 17:30	05.08.2020 17:30	05.08.2020 17:30	05.08.2020 17:30		
	<i>Analyzed:</i>	05.08.2020 21:46	05.08.2020 22:07	05.08.2020 22:27	05.08.2020 22:47		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.2 50.2	<50.0 50.0	<50.2 50.2		
Diesel Range Organics (DRO)		<50.2 50.2	<50.2 50.2	<50.0 50.0	<50.2 50.2		
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.2 50.2	<50.0 50.0	<50.2 50.2		
Total GRO-DRO		<50.2 50.2	<50.2 50.2	<50.0 50.0	<50.2 50.2		
Total TPH		<50.2 50.2	<50.2 50.2	<50.0 50.0	<50.2 50.2		

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

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

John Builes
Project Manager



Analytical Report 660930

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159 SWD

012919161

05.28.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-6)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



05.28.2020

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

Reference: XENCO Report No(s): **660930**
PLU 159 SWD
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) 660930. 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. 660930 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, appearing to read 'JB', is written over a light blue rectangular background.

John Builes
Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 660930****LT Environmental, Inc., Arvada, CO**

PLU 159 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH06	S	05.06.2020 11:10	2 ft	660930-001
BH07	S	05.06.2020 11:20	2 ft	660930-002
BH08	S	05.06.2020 11:30	2 ft	660930-003
BH09	S	05.06.2020 11:40	2 ft	660930-004



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 159 SWD*

Project ID: 012919161
Work Order Number(s): 660930

Report Date: 05.28.2020
Date Received: 05.07.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 660930

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH06**
Lab Sample Id: 660930-001

Matrix: Soil
Date Collected: 05.06.2020 11:10

Date Received: 05.07.2020 12:30
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3125427

Date Prep: 05.07.2020 16:42

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	220	10.0	mg/kg	05.07.2020 20:20		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3125528

Date Prep: 05.08.2020 17:30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.08.2020 21:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.08.2020 21:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.08.2020 21:46	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.08.2020 21:46	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.08.2020 21:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	05.08.2020 21:46	
o-Terphenyl	84-15-1	76	%	70-135	05.08.2020 21:46	



Certificate of Analytical Results 660930

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH06**
Lab Sample Id: 660930-001

Matrix: Soil
Date Collected: 05.06.2020 11:10

Date Received: 05.07.2020 12:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.08.2020 17:07

Basis: Wet Weight

Seq Number: 3125536

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.09.2020 04:13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.09.2020 04:13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.09.2020 04:13	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.09.2020 04:13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.09.2020 04:13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.09.2020 04:13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.09.2020 04:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	05.09.2020 04:13	
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.09.2020 04:13	



Certificate of Analytical Results 660930

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH07** Matrix: Soil Date Received: 05.07.2020 12:30
 Lab Sample Id: 660930-002 Date Collected: 05.06.2020 11:20 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.07.2020 16:42 Basis: Wet Weight
 Seq Number: 3125427

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	245	10.1	mg/kg	05.07.2020 20:38		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.08.2020 17:30 Basis: Wet Weight
 Seq Number: 3125528

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.08.2020 22:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.08.2020 22:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.08.2020 22:07	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.08.2020 22:07	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.08.2020 22:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	05.08.2020 22:07	
o-Terphenyl	84-15-1	73	%	70-135	05.08.2020 22:07	



Certificate of Analytical Results 660930

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH07**
Lab Sample Id: 660930-002

Matrix: Soil
Date Collected: 05.06.2020 11:20

Date Received: 05.07.2020 12:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.08.2020 17:07

Basis: Wet Weight

Seq Number: 3125536

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.09.2020 04:34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.09.2020 04:34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.09.2020 04:34	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.09.2020 04:34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.09.2020 04:34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.09.2020 04:34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.09.2020 04:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.09.2020 04:34	
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.09.2020 04:34	



Certificate of Analytical Results 660930

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH08** Matrix: Soil Date Received: 05.07.2020 12:30
 Lab Sample Id: 660930-003 Date Collected: 05.06.2020 11:30 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.07.2020 16:42 Basis: Wet Weight
 Seq Number: 3125427

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	189	9.98	mg/kg	05.07.2020 20:43		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.08.2020 17:30 Basis: Wet Weight
 Seq Number: 3125528

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.08.2020 22:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.08.2020 22:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.08.2020 22:27	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.08.2020 22:27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.08.2020 22:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	05.08.2020 22:27	
o-Terphenyl	84-15-1	76	%	70-135	05.08.2020 22:27	



Certificate of Analytical Results 660930

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH08**
Lab Sample Id: 660930-003

Matrix: Soil
Date Collected: 05.06.2020 11:30

Date Received: 05.07.2020 12:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.08.2020 17:07

Basis: Wet Weight

Seq Number: 3125536

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.09.2020 04:55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.09.2020 04:55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.09.2020 04:55	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.09.2020 04:55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.09.2020 04:55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.09.2020 04:55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.09.2020 04:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	05.09.2020 04:55	
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.09.2020 04:55	



Certificate of Analytical Results 660930

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH09** Matrix: Soil Date Received: 05.07.2020 12:30
 Lab Sample Id: 660930-004 Date Collected: 05.06.2020 11:40 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.07.2020 16:42 Basis: Wet Weight
 Seq Number: 3125427

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	53.0	10.0	mg/kg	05.07.2020 20:49		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.08.2020 17:30 Basis: Wet Weight
 Seq Number: 3125528

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.08.2020 22:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.08.2020 22:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.08.2020 22:47	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.08.2020 22:47	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.08.2020 22:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	05.08.2020 22:47	
o-Terphenyl	84-15-1	75	%	70-135	05.08.2020 22:47	



Certificate of Analytical Results 660930

LT Environmental, Inc., Arvada, CO

PLU 159 SWD

Sample Id: **BH09**
Lab Sample Id: 660930-004

Matrix: Soil
Date Collected: 05.06.2020 11:40

Date Received: 05.07.2020 12:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3125536

Prep Method: SW5035A

% Moisture:

Date Prep: 05.08.2020 17:07

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.09.2020 05:17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.09.2020 05:17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.09.2020 05:17	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.09.2020 05:17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.09.2020 05:17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.09.2020 05:17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.09.2020 05:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	05.09.2020 05:17	
1,4-Difluorobenzene	540-36-3	112	%	70-130	05.09.2020 05:17	



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. **ND** Not Detected.

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 159 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3125427

MB Sample Id: 7702952-1-BLK

Matrix: Solid

LCS Sample Id: 7702952-1-BKS

Prep Method: E300P

Date Prep: 05.07.2020

LCSD Sample Id: 7702952-1-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	253	101	252	101	90-110	0	20	mg/kg	05.07.2020 18:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3125427

Parent Sample Id: 660927-007

Matrix: Soil

MS Sample Id: 660927-007 S

Prep Method: E300P

Date Prep: 05.07.2020

MSD Sample Id: 660927-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	106	200	320	107	322	108	90-110	1	20	mg/kg	05.07.2020 19:10	

Analytical Method: Chloride by EPA 300

Seq Number: 3125427

Parent Sample Id: 660930-001

Matrix: Soil

MS Sample Id: 660930-001 S

Prep Method: E300P

Date Prep: 05.07.2020

MSD Sample Id: 660930-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	220	201	422	100	423	101	90-110	0	20	mg/kg	05.07.2020 20:26	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3125528

MB Sample Id: 7703005-1-BLK

Matrix: Solid

LCS Sample Id: 7703005-1-BKS

Prep Method: SW8015P

Date Prep: 05.08.2020

LCSD Sample Id: 7703005-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1120	112	1090	109	70-135	3	35	mg/kg	05.08.2020 19:04	
Diesel Range Organics (DRO)	<50.0	1000	1200	120	1120	112	70-135	7	35	mg/kg	05.08.2020 19:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	73		116		127		70-135	%	05.08.2020 19:04
o-Terphenyl	71		103		99		70-135	%	05.08.2020 19:04

Analytical Method: TPH by SW8015 Mod

Seq Number: 3125528

Matrix: Solid

MB Sample Id: 7703005-1-BLK

Prep Method: SW8015P

Date Prep: 05.08.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.08.2020 18:43	

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 159 SWD

Analytical Method: TPH by SW8015 Mod

Seq Number: 3125528

Parent Sample Id: 660927-012

Matrix: Soil

MS Sample Id: 660927-012 S

Prep Method: SW8015P

Date Prep: 05.08.2020

MSD Sample Id: 660927-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	1300	129	1250	125	70-135	4	35	mg/kg	05.08.2020 20:05	
Diesel Range Organics (DRO)	<50.3	1010	1230	122	1180	118	70-135	4	35	mg/kg	05.08.2020 20:05	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		105		70-135	%	05.08.2020 20:05
o-Terphenyl	90		90		70-135	%	05.08.2020 20:05

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125536

MB Sample Id: 7703029-1-BLK

Matrix: Solid

LCS Sample Id: 7703029-1-BKS

Prep Method: SW5035A

Date Prep: 05.08.2020

LCSD Sample Id: 7703029-1-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	0.115	115	0.113	113	70-130	2	35	mg/kg	05.09.2020 02:04	
Toluene	<0.00200	0.100	0.104	104	0.101	101	70-130	3	35	mg/kg	05.09.2020 02:04	
Ethylbenzene	<0.00200	0.100	0.0970	97	0.0944	94	71-129	3	35	mg/kg	05.09.2020 02:04	
m,p-Xylenes	<0.00400	0.200	0.186	93	0.182	91	70-135	2	35	mg/kg	05.09.2020 02:04	
o-Xylene	<0.00200	0.100	0.0965	97	0.0940	94	71-133	3	35	mg/kg	05.09.2020 02:04	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	117		108		108		70-130	%	05.09.2020 02:04
4-Bromofluorobenzene	108		98		99		70-130	%	05.09.2020 02:04

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125536

Parent Sample Id: 660927-015

Matrix: Soil

MS Sample Id: 660927-015 S

Prep Method: SW5035A

Date Prep: 05.08.2020

MSD Sample Id: 660927-015 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	0.104	104	0.109	109	70-130	5	35	mg/kg	05.09.2020 02:47	
Toluene	<0.00200	0.100	0.0928	93	0.0972	97	70-130	5	35	mg/kg	05.09.2020 02:47	
Ethylbenzene	<0.00200	0.100	0.0861	86	0.0900	90	71-129	4	35	mg/kg	05.09.2020 02:47	
m,p-Xylenes	<0.00400	0.200	0.164	82	0.172	86	70-135	5	35	mg/kg	05.09.2020 02:47	
o-Xylene	<0.00200	0.100	0.0845	85	0.0887	89	71-133	5	35	mg/kg	05.09.2020 02:47	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		107		70-130	%	05.09.2020 02:47
4-Bromofluorobenzene	102		98		70-130	%	05.09.2020 02:47

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
Hobbs, NM (575-392-7550) Phoenix, AZ (480-356-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Work Order No: 020120

Page 1 of 1

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Chain of Custody

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	sio@ltenv.com , dmoir@ltenv.com

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

[illegible]

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05.07.2020 12.30.00 PM

Work Order #: 660930

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

Samples received in bulk containers.

* 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: 05.07.2020

Checklist reviewed by:



Jessica Kramer

Date: 05.08.2020



Certificate of Analysis Summary 661339

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Tue 05.12.2020 16:45

Report Date: 05.15.2020 15:43

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	661339-001	661339-002	661339-003	661339-004	661339-005	661339-006
	<i>Field Id:</i>	SW01	SW02	SW03	SW04	SW05	SW06
	<i>Depth:</i>	0-4 ft	0-4 ft	0-4 ft	0-4 ft	0-4 ft	0-4 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	05.12.2020 10:43	05.12.2020 11:06	05.12.2020 12:36	05.12.2020 12:32	05.12.2020 13:14	05.12.2020 13:17
BTEX by EPA 8021B	<i>Extracted:</i>	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *
	<i>Analyzed:</i>	05.13.2020 10:31	05.13.2020 10:51	05.13.2020 11:12	05.13.2020 11:32	05.13.2020 11:53	05.13.2020 12:54
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00398 0.00398	<0.00402 0.00402	<0.00399 0.00399	<0.00399 0.00399	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	05.12.2020 17:52	05.12.2020 17:52	05.12.2020 17:52	05.12.2020 17:52	05.12.2020 17:52	05.12.2020 17:52
	<i>Analyzed:</i>	05.13.2020 01:58	05.13.2020 02:16	05.13.2020 02:22	05.13.2020 02:28	05.13.2020 02:34	05.13.2020 02:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		677 49.7	203 9.98	58.6 9.96	482 9.96	405 9.94	250 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	05.13.2020 11:40	05.13.2020 11:40	05.14.2020 12:00	05.14.2020 12:00	05.14.2020 12:00	05.14.2020 12:00
	<i>Analyzed:</i>	05.14.2020 06:00	05.14.2020 06:21	05.14.2020 14:57	05.14.2020 16:00	05.14.2020 16:20	05.14.2020 16:42
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.0 50.0
Diesel Range Organics (DRO)		<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.0 50.0
Total GRO-DRO		<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.0 50.0
Total TPH		<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.0 50.0

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

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 661339

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Tue 05.12.2020 16:45

Report Date: 05.15.2020 15:43

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	661339-007	661339-008	661339-009	661339-010	661339-011	
	<i>Field Id:</i>	SW07	SW08	FS04	FS05	FS06	
	<i>Depth:</i>	0-4 ft	0-4 ft	4- ft	4- ft	4- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	05.12.2020 14:05	05.12.2020 14:07	05.12.2020 14:22	05.12.2020 14:23	05.12.2020 14:25	
BTEX by EPA 8021B	<i>Extracted:</i>	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *	
	<i>Analyzed:</i>	05.13.2020 13:14	05.13.2020 13:35	05.13.2020 13:55	05.13.2020 14:16	05.13.2020 14:36	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00398 0.00398	<0.00401 0.00401	<0.00399 0.00399	
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
Chloride by EPA 300	<i>Extracted:</i>	05.12.2020 17:52	05.12.2020 17:52	05.12.2020 17:52	05.12.2020 17:52	05.12.2020 17:52	
	<i>Analyzed:</i>	05.13.2020 02:57	05.13.2020 03:03	05.13.2020 03:09	05.13.2020 03:15	05.13.2020 03:21	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		37.7 9.98	154 10.0	3460 50.1	1410 10.0	717 10.0	
TPH by SW8015 Mod	<i>Extracted:</i>	05.14.2020 12:00	05.14.2020 12:00	05.14.2020 12:00	05.14.2020 12:00	05.14.2020 12:00	
	<i>Analyzed:</i>	05.14.2020 17:02	05.14.2020 17:22	05.14.2020 17:43	05.14.2020 18:04	05.14.2020 18:25	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.1 50.1	<49.9 49.9	<49.8 49.8	<49.8 49.8	
Diesel Range Organics (DRO)		<49.9 49.9	<50.1 50.1	<49.9 49.9	<49.8 49.8	<49.8 49.8	
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.1 50.1	<49.9 49.9	<49.8 49.8	<49.8 49.8	
Total GRO-DRO		<49.9 49.9	<50.1 50.1	<49.9 49.9	<49.8 49.8	<49.8 49.8	
Total TPH		<49.9 49.9	<50.1 50.1	<49.9 49.9	<49.8 49.8	<49.8 49.8	

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

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Jessica Kramer
Project Manager



Analytical Report 661339

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159

012919161

05.15.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
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)



05.15.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **661339**

PLU 159

Project Address: Eddy

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) 661339. 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. 661339 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 Manager

A Small Business and Minority Company

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

**Sample Cross Reference 661339****LT Environmental, Inc., Arvada, CO**

PLU 159

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	05.12.2020 10:43	0 - 4 ft	661339-001
SW02	S	05.12.2020 11:06	0 - 4 ft	661339-002
SW03	S	05.12.2020 12:36	0 - 4 ft	661339-003
SW04	S	05.12.2020 12:32	0 - 4 ft	661339-004
SW05	S	05.12.2020 13:14	0 - 4 ft	661339-005
SW06	S	05.12.2020 13:17	0 - 4 ft	661339-006
SW07	S	05.12.2020 14:05	0 - 4 ft	661339-007
SW08	S	05.12.2020 14:07	0 - 4 ft	661339-008
FS04	S	05.12.2020 14:22	4 ft	661339-009
FS05	S	05.12.2020 14:23	4 ft	661339-010
FS06	S	05.12.2020 14:25	4 ft	661339-011



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 159*

Project ID: 012919161
Work Order Number(s): 661339

Report Date: 05.15.2020
Date Received: 05.12.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 661339

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW01** Matrix: Soil Date Received: 05.12.2020 16:45
 Lab Sample Id: 661339-001 Date Collected: 05.12.2020 10:43 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.12.2020 17:52 Basis: Wet Weight
 Seq Number: 3125750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	677	49.7	mg/kg	05.13.2020 01:58		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.13.2020 11:40 Basis: Wet Weight
 Seq Number: 3125908

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.14.2020 06:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.14.2020 06:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.14.2020 06:00	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.14.2020 06:00	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.14.2020 06:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	05.14.2020 06:00	
o-Terphenyl	84-15-1	111	%	70-135	05.14.2020 06:00	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW01**
Lab Sample Id: 661339-001

Matrix: Soil
Date Collected: 05.12.2020 10:43

Date Received: 05.12.2020 16:45
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.12.2020 14:21

Basis: Wet Weight

Seq Number: 3125867

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.13.2020 10:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.13.2020 10:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.13.2020 10:31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.13.2020 10:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.13.2020 10:31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.13.2020 10:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.13.2020 10:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.13.2020 10:31	
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.13.2020 10:31	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW02** Matrix: Soil Date Received: 05.12.2020 16:45
 Lab Sample Id: 661339-002 Date Collected: 05.12.2020 11:06 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.12.2020 17:52 Basis: Wet Weight
 Seq Number: 3125750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	203	9.98	mg/kg	05.13.2020 02:16		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.13.2020 11:40 Basis: Wet Weight
 Seq Number: 3125908

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.14.2020 06:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.14.2020 06:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.14.2020 06:21	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.14.2020 06:21	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.14.2020 06:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	05.14.2020 06:21	
o-Terphenyl	84-15-1	113	%	70-135	05.14.2020 06:21	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW02**
Lab Sample Id: 661339-002

Matrix: Soil
Date Collected: 05.12.2020 11:06

Date Received: 05.12.2020 16:45
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.12.2020 14:21

Basis: Wet Weight

Seq Number: 3125867

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.13.2020 10:51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.13.2020 10:51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.13.2020 10:51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.13.2020 10:51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.13.2020 10:51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.13.2020 10:51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.13.2020 10:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.13.2020 10:51	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.13.2020 10:51	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW03** Matrix: Soil Date Received: 05.12.2020 16:45
 Lab Sample Id: 661339-003 Date Collected: 05.12.2020 12:36 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.12.2020 17:52 Basis: Wet Weight
 Seq Number: 3125750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	58.6	9.96	mg/kg	05.13.2020 02:22		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 12:00 Basis: Wet Weight
 Seq Number: 3126032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.14.2020 14:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.14.2020 14:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.14.2020 14:57	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.14.2020 14:57	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.14.2020 14:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	05.14.2020 14:57	
o-Terphenyl	84-15-1	121	%	70-135	05.14.2020 14:57	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW03**
Lab Sample Id: 661339-003

Matrix: Soil
Date Collected: 05.12.2020 12:36

Date Received: 05.12.2020 16:45
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.12.2020 14:21

Basis: Wet Weight

Seq Number: 3125867

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.13.2020 11:12	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.13.2020 11:12	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.13.2020 11:12	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.13.2020 11:12	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.13.2020 11:12	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.13.2020 11:12	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.13.2020 11:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.13.2020 11:12	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.13.2020 11:12	



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LT Environmental, Inc., Arvada, CO

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Sample Id: **SW04** Matrix: Soil Date Received: 05.12.2020 16:45
 Lab Sample Id: 661339-004 Date Collected: 05.12.2020 12:32 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.12.2020 17:52 Basis: Wet Weight
 Seq Number: 3125750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	482	9.96	mg/kg	05.13.2020 02:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 12:00 Basis: Wet Weight
 Seq Number: 3126032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.14.2020 16:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.14.2020 16:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.14.2020 16:00	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.14.2020 16:00	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.14.2020 16:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	05.14.2020 16:00	
o-Terphenyl	84-15-1	123	%	70-135	05.14.2020 16:00	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW04**
Lab Sample Id: 661339-004

Matrix: Soil
Date Collected: 05.12.2020 12:32

Date Received: 05.12.2020 16:45
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3125867

Prep Method: SW5035A

% Moisture:

Date Prep: 05.12.2020 14:21

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.13.2020 11:32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.13.2020 11:32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.13.2020 11:32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.13.2020 11:32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.13.2020 11:32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.13.2020 11:32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.13.2020 11:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	05.13.2020 11:32	
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.13.2020 11:32	



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LT Environmental, Inc., Arvada, CO

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Sample Id: **SW05** Matrix: Soil Date Received: 05.12.2020 16:45
 Lab Sample Id: 661339-005 Date Collected: 05.12.2020 13:14 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.12.2020 17:52 Basis: Wet Weight
 Seq Number: 3125750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	405	9.94	mg/kg	05.13.2020 02:34		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 12:00 Basis: Wet Weight
 Seq Number: 3126032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.14.2020 16:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.14.2020 16:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.14.2020 16:20	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.14.2020 16:20	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.14.2020 16:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	05.14.2020 16:20	
o-Terphenyl	84-15-1	111	%	70-135	05.14.2020 16:20	



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LT Environmental, Inc., Arvada, CO

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Sample Id: **SW05**
Lab Sample Id: 661339-005

Matrix: Soil
Date Collected: 05.12.2020 13:14

Date Received: 05.12.2020 16:45
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.12.2020 14:21

Basis: Wet Weight

Seq Number: 3125867

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.13.2020 11:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.13.2020 11:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.13.2020 11:53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.13.2020 11:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.13.2020 11:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.13.2020 11:53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.13.2020 11:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.13.2020 11:53	
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.13.2020 11:53	



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LT Environmental, Inc., Arvada, CO

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Sample Id: **SW06** Matrix: Soil Date Received: 05.12.2020 16:45
 Lab Sample Id: 661339-006 Date Collected: 05.12.2020 13:17 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.12.2020 17:52 Basis: Wet Weight
 Seq Number: 3125750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	250	9.98	mg/kg	05.13.2020 02:51		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 12:00 Basis: Wet Weight
 Seq Number: 3126032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.14.2020 16:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.14.2020 16:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.14.2020 16:42	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.14.2020 16:42	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.14.2020 16:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	05.14.2020 16:42	
o-Terphenyl	84-15-1	113	%	70-135	05.14.2020 16:42	



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LT Environmental, Inc., Arvada, CO

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Sample Id: **SW06**
Lab Sample Id: 661339-006

Matrix: Soil
Date Collected: 05.12.2020 13:17

Date Received: 05.12.2020 16:45
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3125867

Prep Method: SW5035A

% Moisture:

Date Prep: 05.12.2020 14:21

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.13.2020 12:54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.13.2020 12:54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.13.2020 12:54	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.13.2020 12:54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.13.2020 12:54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.13.2020 12:54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.13.2020 12:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.13.2020 12:54	
1,4-Difluorobenzene	540-36-3	107	%	70-130	05.13.2020 12:54	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW07** Matrix: Soil Date Received: 05.12.2020 16:45
 Lab Sample Id: 661339-007 Date Collected: 05.12.2020 14:05 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.12.2020 17:52 Basis: Wet Weight
 Seq Number: 3125750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	37.7	9.98	mg/kg	05.13.2020 02:57		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 12:00 Basis: Wet Weight
 Seq Number: 3126032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.14.2020 17:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.14.2020 17:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.14.2020 17:02	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.14.2020 17:02	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.14.2020 17:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	05.14.2020 17:02	
o-Terphenyl	84-15-1	113	%	70-135	05.14.2020 17:02	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW07**
Lab Sample Id: 661339-007

Matrix: Soil
Date Collected: 05.12.2020 14:05

Date Received: 05.12.2020 16:45
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.12.2020 14:21

Basis: Wet Weight

Seq Number: 3125867

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.13.2020 13:14	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.13.2020 13:14	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.13.2020 13:14	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.13.2020 13:14	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.13.2020 13:14	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.13.2020 13:14	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.13.2020 13:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.13.2020 13:14		
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.13.2020 13:14		



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW08** Matrix: Soil Date Received: 05.12.2020 16:45
 Lab Sample Id: 661339-008 Date Collected: 05.12.2020 14:07 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.12.2020 17:52 Basis: Wet Weight
 Seq Number: 3125750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	154	10.0	mg/kg	05.13.2020 03:03		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 12:00 Basis: Wet Weight
 Seq Number: 3126032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.14.2020 17:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.14.2020 17:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.14.2020 17:22	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.14.2020 17:22	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.14.2020 17:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	05.14.2020 17:22	
o-Terphenyl	84-15-1	113	%	70-135	05.14.2020 17:22	



Certificate of Analytical Results 661339

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW08**
Lab Sample Id: 661339-008

Matrix: Soil
Date Collected: 05.12.2020 14:07

Date Received: 05.12.2020 16:45
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.12.2020 14:21

Basis: Wet Weight

Seq Number: 3125867

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.13.2020 13:35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.13.2020 13:35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.13.2020 13:35	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.13.2020 13:35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.13.2020 13:35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.13.2020 13:35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.13.2020 13:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	05.13.2020 13:35	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.13.2020 13:35	



Certificate of Analytical Results 661339

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS04** Matrix: Soil Date Received: 05.12.2020 16:45
 Lab Sample Id: 661339-009 Date Collected: 05.12.2020 14:22 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.12.2020 17:52 Basis: Wet Weight
 Seq Number: 3125750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3460	50.1	mg/kg	05.13.2020 03:09		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 12:00 Basis: Wet Weight
 Seq Number: 3126032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.14.2020 17:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.14.2020 17:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.14.2020 17:43	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.14.2020 17:43	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.14.2020 17:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	05.14.2020 17:43	
o-Terphenyl	84-15-1	110	%	70-135	05.14.2020 17:43	



Certificate of Analytical Results 661339

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS04**
Lab Sample Id: 661339-009

Matrix: Soil
Date Collected: 05.12.2020 14:22

Date Received: 05.12.2020 16:45
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.12.2020 14:21

Basis: Wet Weight

Seq Number: 3125867

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.13.2020 13:55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.13.2020 13:55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.13.2020 13:55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.13.2020 13:55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.13.2020 13:55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.13.2020 13:55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.13.2020 13:55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.13.2020 13:55		
1,4-Difluorobenzene	540-36-3	107	%	70-130	05.13.2020 13:55		



Certificate of Analytical Results 661339

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS05** Matrix: Soil Date Received: 05.12.2020 16:45
 Lab Sample Id: 661339-010 Date Collected: 05.12.2020 14:23 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.12.2020 17:52 Basis: Wet Weight
 Seq Number: 3125750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1410	10.0	mg/kg	05.13.2020 03:15		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 12:00 Basis: Wet Weight
 Seq Number: 3126032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.14.2020 18:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.14.2020 18:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.14.2020 18:04	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.14.2020 18:04	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.14.2020 18:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.14.2020 18:04	
o-Terphenyl	84-15-1	113	%	70-135	05.14.2020 18:04	



Certificate of Analytical Results 661339

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS05**
Lab Sample Id: 661339-010

Matrix: Soil
Date Collected: 05.12.2020 14:23

Date Received: 05.12.2020 16:45
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3125867

Prep Method: SW5035A

% Moisture:

Date Prep: 05.12.2020 14:21

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.13.2020 14:16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.13.2020 14:16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.13.2020 14:16	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.13.2020 14:16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.13.2020 14:16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.13.2020 14:16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.13.2020 14:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	05.13.2020 14:16	
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.13.2020 14:16	



Certificate of Analytical Results 661339

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS06** Matrix: Soil Date Received: 05.12.2020 16:45
 Lab Sample Id: 661339-011 Date Collected: 05.12.2020 14:25 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.12.2020 17:52 Basis: Wet Weight
 Seq Number: 3125750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	717	10.0	mg/kg	05.13.2020 03:21		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 12:00 Basis: Wet Weight
 Seq Number: 3126032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.14.2020 18:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.14.2020 18:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.14.2020 18:25	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.14.2020 18:25	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.14.2020 18:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.14.2020 18:25	
o-Terphenyl	84-15-1	108	%	70-135	05.14.2020 18:25	



Certificate of Analytical Results 661339

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS06**
Lab Sample Id: 661339-011

Matrix: Soil
Date Collected: 05.12.2020 14:25

Date Received: 05.12.2020 16:45
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.12.2020 14:21

Basis: Wet Weight

Seq Number: 3125867

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.13.2020 14:36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.13.2020 14:36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.13.2020 14:36	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.13.2020 14:36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.13.2020 14:36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.13.2020 14:36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.13.2020 14:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.13.2020 14:36	
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.13.2020 14:36	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

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 159

Analytical Method: Chloride by EPA 300

Seq Number: 3125750

MB Sample Id: 7703212-1-BLK

Matrix: Solid

LCS Sample Id: 7703212-1-BKS

Prep Method: E300P

Date Prep: 05.12.2020

LCSD Sample Id: 7703212-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	250	100	90-110	0	20	mg/kg	05.13.2020 01:47	

Analytical Method: Chloride by EPA 300

Seq Number: 3125750

Parent Sample Id: 661339-001

Matrix: Soil

MS Sample Id: 661339-001 S

Prep Method: E300P

Date Prep: 05.12.2020

MSD Sample Id: 661339-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	677	199	868	96	872	98	90-110	0	20	mg/kg	05.13.2020 02:04	

Analytical Method: Chloride by EPA 300

Seq Number: 3125750

Parent Sample Id: 661339-011

Matrix: Soil

MS Sample Id: 661339-011 S

Prep Method: E300P

Date Prep: 05.12.2020

MSD Sample Id: 661339-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	717	200	897	90	898	91	90-110	0	20	mg/kg	05.13.2020 03:26	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3125908

MB Sample Id: 7703305-1-BLK

Matrix: Solid

LCS Sample Id: 7703305-1-BKS

Prep Method: SW8015P

Date Prep: 05.13.2020

LCSD Sample Id: 7703305-1-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	991	99	996	100	70-135	1	35	mg/kg	05.14.2020 09:59	
Diesel Range Organics (DRO)	<50.0	1000	1110	111	1090	109	70-135	2	35	mg/kg	05.14.2020 09:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	135		123		122		70-135	%	05.14.2020 09:59
o-Terphenyl	135		124		121		70-135	%	05.14.2020 09:59

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126032

MB Sample Id: 7703325-1-BLK

Matrix: Solid

LCS Sample Id: 7703325-1-BKS

Prep Method: SW8015P

Date Prep: 05.14.2020

LCSD Sample Id: 7703325-1-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	990	99	1030	103	70-135	4	35	mg/kg	05.14.2020 14:16	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	1130	113	70-135	5	35	mg/kg	05.14.2020 14:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		116		122		70-135	%	05.14.2020 14:16
o-Terphenyl	114		118		122		70-135	%	05.14.2020 14:16

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 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 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3125908

Matrix: Solid

Prep Method: SW8015P

Date Prep: 05.13.2020

MB Sample Id: 7703305-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

05.13.2020 12:23

Flag

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126032

Matrix: Solid

Prep Method: SW8015P

Date Prep: 05.14.2020

MB Sample Id: 7703325-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

05.14.2020 13:55

Flag

Analytical Method: TPH by SW8015 Mod

Seq Number: 3125908

Matrix: Soil

Prep Method: SW8015P

Date Prep: 05.13.2020

Parent Sample Id: 661180-001

MS Sample Id: 661180-001 S

MSD Sample Id: 661180-001 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<50.1

Spike
Amount

1000

MS
Result

1010

MS
%Rec

101

MSD
Result

1040

MSD
%Rec

104

Limits

70-135

%RPD

3

RPD
Limit

35

Units

mg/kg

Analysis
Date

05.13.2020 23:07

Flag

Diesel Range Organics (DRO)

1090

1000

2130

104

2300

121

70-135

8

35

mg/kg

05.13.2020 23:07

Surrogate

1-Chlorooctane

MS
%Rec

123

MS
FlagMSD
%Rec

122

MSD
Flag

Limits

70-135

Units

%

Analysis
Date

05.13.2020 23:07

o-Terphenyl

107

110

70-135

%

05.13.2020 23:07

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126032

Matrix: Soil

Prep Method: SW8015P

Date Prep: 05.14.2020

Parent Sample Id: 661339-003

MS Sample Id: 661339-003 S

MSD Sample Id: 661339-003 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<50.2

Spike
Amount

1000

MS
Result

966

MS
%Rec

97

MSD
Result

959

MSD
%Rec

96

Limits

70-135

%RPD

1

RPD
Limit

35

Units

mg/kg

Analysis
Date

05.14.2020 15:18

Flag

Diesel Range Organics (DRO)

<50.2

1000

1090

109

1040

104

70-135

5

35

mg/kg

05.14.2020 15:18

Surrogate

1-Chlorooctane

MS
%Rec

116

MS
FlagMSD
%Rec

93

MSD
Flag

Limits

70-135

Units

%

Analysis
Date

05.14.2020 15:18

o-Terphenyl

120

77

70-135

%

05.14.2020 15:18

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 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 159

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125867

MB Sample Id: 7703235-1-BLK

Matrix: Solid

LCS Sample Id: 7703235-1-BKS

Prep Method: SW5035A

Date Prep: 05.12.2020

LCSD Sample Id: 7703235-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.111	111	0.103	103	70-130	7	35	mg/kg	05.12.2020 23:25	
Toluene	<0.00200	0.100	0.106	106	0.0977	98	70-130	8	35	mg/kg	05.12.2020 23:25	
Ethylbenzene	<0.00200	0.100	0.0993	99	0.0915	92	71-129	8	35	mg/kg	05.12.2020 23:25	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.185	93	70-135	8	35	mg/kg	05.12.2020 23:25	
o-Xylene	<0.00200	0.100	0.103	103	0.0947	95	71-133	8	35	mg/kg	05.12.2020 23:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		104		104		70-130	%	05.12.2020 23:25
4-Bromofluorobenzene	96		92		94		70-130	%	05.12.2020 23:25

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125867

Parent Sample Id: 661298-001

Matrix: Soil

MS Sample Id: 661298-001 S

Prep Method: SW5035A

Date Prep: 05.12.2020

MSD Sample Id: 661298-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.104	104	0.0971	97	70-130	7	35	mg/kg	05.13.2020 00:06	
Toluene	<0.00200	0.0998	0.0970	97	0.0929	93	70-130	4	35	mg/kg	05.13.2020 00:06	
Ethylbenzene	<0.00200	0.0998	0.0887	89	0.0850	85	71-129	4	35	mg/kg	05.13.2020 00:06	
m,p-Xylenes	<0.00399	0.200	0.178	89	0.173	86	70-135	3	35	mg/kg	05.13.2020 00:06	
o-Xylene	<0.00200	0.0998	0.0911	91	0.0879	88	71-133	4	35	mg/kg	05.13.2020 00:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	05.13.2020 00:06
4-Bromofluorobenzene	94		100		70-130	%	05.13.2020 00:06

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 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
Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

Chain of Custody

Work Order No: 1631 / 245.1 / 7470 / 7471

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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:	wmather@ltenv.com, dmoir@ltenv.com

Program: ☒ UST/PST ☐ RP ☐ Trowfields ☐ RC ☐ Tperfund State of Project: ☐	
Reporting Level II	☐ Level III ☐ T/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

Project Name:		PLU 159		Turn Around	
Project Number:		012919161		Routine ☒	
P.O. Number:		Eddy		Rush:	
Sampler's Name:		William Mather		Due Date:	
SAMPLE RECEIPT		Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):		36 Thermometer ID			
Received Intact:		☒ Yes ☐ No T-NM-007			
Cooler Custody Seals:		☒ Yes ☐ No Correction Factor: -0.2			
Sample Custody Seals:		☒ Yes ☐ No Total Containers: 11			
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth
SW01		S	5/12/2020	10:43	0-4'
SW02		S	5/12/2020	11:06	0-4'
SW03		S	5/12/2020	12:36	0-4'
SW04		S	5/12/2020	12:32	0-4'
SW05		S	5/12/2020	13:14	0-4'
SW06		S	5/12/2020	13:17	0-4'
SW07		S	5/12/2020	14:05	0-4'
SW08		S	5/12/2020	14:07	0-4'
FS04		S	5/12/2020	14:22	4'
FS05		S	5/12/2020	14:23	4'
Number of Containers					
TPH (EPA 8015)					
BTEX (EPA 0=8021)					
Chloride (EPA 300.0)					

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	
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		5/12/2016			



Chain of Custody

Work Order No.:

Wei339

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) 877-7550
Hobbs, NM (575-392-7550)

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Page 5 of 5

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:	wmather@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:

Project Name:	PLU 159	Turn Around ANALYSIS REQUEST	Work Order Notes
Project Number:	012919161		
P.O. Number:	Eddy		
Sampler's Name:	William Mather		
	Due Date:		

SAMPLE RECEIPT			
Temp Blank:	Yes	No	Wet Ice: Yes No
Temperature (°C):	-18		
Received Intact:	Yes	No	Thermometer ID
Cooler Custody Seals:	Yes	No	Correction Factor:
Sample Custody Seals:	Yes	No	Total Containers:

[illegible]

Total 200.7 / 6010 200.8 / 6020:

[illegible]

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 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
[Handwritten Signature]	[Handwritten Signature]	7/27/20 14:45			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05.12.2020 04.45.00 PM

Work Order #: 661339

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	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

Samples received in bulk containers

*** 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: 05.12.2020

Checklist reviewed by:



Jessica Kramer

Date: 05.14.2020



Certificate of Analysis Summary 661534

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Wed 05.13.2020 16:30

Report Date: 05.18.2020 13:45

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	661534-001	661534-002	661534-003	661534-004	661534-005	661534-006
	<i>Field Id:</i>	FS07	FS08	FS09	FS10	FS11	FS12
	<i>Depth:</i>	2- ft	2- ft	2- ft	2- ft	2- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	05.13.2020 10:33	05.13.2020 10:35	05.13.2020 10:50	05.13.2020 11:01	05.13.2020 11:02	05.13.2020 11:11
BTEX by EPA 8021B	<i>Extracted:</i>	05.13.2020 17:37	05.13.2020 17:37	05.13.2020 17:37	05.13.2020 17:37	05.13.2020 17:37	05.13.2020 17:37
	<i>Analyzed:</i>	05.14.2020 04:53	05.14.2020 05:57	05.14.2020 06:19	05.14.2020 06:40	05.14.2020 07:01	05.14.2020 07:23
	<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	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
m,p-Xylenes		<0.00400 0.00400	<0.00399 0.00399	<0.00404 0.00404	<0.00399 0.00399	<0.00402 0.00402	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	05.14.2020 12:23	05.14.2020 12:23	05.14.2020 12:23	05.14.2020 12:23	05.14.2020 12:23	05.14.2020 12:23
	<i>Analyzed:</i>	05.14.2020 13:27	05.14.2020 13:45	05.14.2020 13:51	05.14.2020 13:57	05.14.2020 14:02	05.14.2020 14:20
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		551 9.92	474 10.0	144 10.0	592 9.92	383 9.98	85.5 9.96
TPH by SW8015 Mod	<i>Extracted:</i>	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00
	<i>Analyzed:</i>	05.15.2020 06:09	05.15.2020 06:29	05.15.2020 06:50	05.15.2020 07:10	05.15.2020 07:31	05.15.2020 07:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<50.2 50.2	<49.8 49.8	<49.9 49.9	<49.8 49.8	<49.9 49.9
Diesel Range Organics (DRO)		<50.1 50.1	<50.2 50.2	<49.8 49.8	<49.9 49.9	<49.8 49.8	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.2 50.2	<49.8 49.8	<49.9 49.9	<49.8 49.8	<49.9 49.9
Total GRO-DRO		<50.1 50.1	<50.2 50.2	<49.8 49.8	<49.9 49.9	<49.8 49.8	<49.9 49.9
Total TPH		<50.1 50.1	<50.2 50.2	<49.8 49.8	<49.9 49.9	<49.8 49.8	<49.9 49.9

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

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 661534

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Wed 05.13.2020 16:30

Report Date: 05.18.2020 13:45

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	661534-007	661534-008	661534-009	661534-010	661534-011	
	<i>Field Id:</i>	FS13	FS14	FS15	FS16	FS17	
	<i>Depth:</i>	2- ft	2- ft	2- ft	2- ft	2- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	05.13.2020 12:12	05.13.2020 12:15	05.13.2020 12:26	05.13.2020 12:28	05.13.2020 12:29	
BTEX by EPA 8021B	<i>Extracted:</i>	05.13.2020 17:37	05.13.2020 17:37	05.13.2020 17:37	05.13.2020 17:37	05.13.2020 17:37	
	<i>Analyzed:</i>	05.14.2020 07:44	05.14.2020 08:06	05.14.2020 08:27	05.14.2020 08:49	05.14.2020 09:10	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	
m,p-Xylenes		<0.00400 0.00400	<0.00403 0.00403	<0.00401 0.00401	<0.00400 0.00400	<0.00402 0.00402	
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	
Chloride by EPA 300	<i>Extracted:</i>	05.14.2020 12:23	05.14.2020 12:23	05.14.2020 12:23	05.14.2020 12:23	05.14.2020 12:23	
	<i>Analyzed:</i>	05.14.2020 14:26	05.14.2020 14:32	05.14.2020 14:38	05.14.2020 14:44	05.14.2020 14:49	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		27.6 10.0	43.9 10.0	21.9 9.96	807 9.98	57.1 10.0	
TPH by SW8015 Mod	<i>Extracted:</i>	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:30	05.14.2020 17:30	05.14.2020 17:30	
	<i>Analyzed:</i>	05.15.2020 08:12	05.15.2020 08:33	05.15.2020 00:58	05.15.2020 02:00	05.15.2020 13:50	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.2 50.2	<49.8 49.8	<49.9 49.9	<50.2 50.2	
Diesel Range Organics (DRO)		<49.8 49.8	<50.2 50.2	<49.8 49.8	<49.9 49.9	<50.2 50.2	
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.2 50.2	<49.8 49.8	<49.9 49.9	<50.2 50.2	
Total GRO-DRO		<49.8 49.8	<50.2 50.2	<49.8 49.8	<49.9 49.9	<50.2 50.2	
Total TPH		<49.8 49.8	<50.2 50.2	<49.8 49.8	<49.9 49.9	<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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Jessica Kramer
Project Manager



Analytical Report 661534

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159

012919161

05.18.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
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)



05.18.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **661534**

PLU 159

Project Address: Eddy

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) 661534. 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. 661534 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 Manager

A Small Business and Minority Company

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

**Sample Cross Reference 661534****LT Environmental, Inc., Arvada, CO**

PLU 159

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS07	S	05.13.2020 10:33	2 ft	661534-001
FS08	S	05.13.2020 10:35	2 ft	661534-002
FS09	S	05.13.2020 10:50	2 ft	661534-003
FS10	S	05.13.2020 11:01	2 ft	661534-004
FS11	S	05.13.2020 11:02	2 ft	661534-005
FS12	S	05.13.2020 11:11	2 ft	661534-006
FS13	S	05.13.2020 12:12	2 ft	661534-007
FS14	S	05.13.2020 12:15	2 ft	661534-008
FS15	S	05.13.2020 12:26	2 ft	661534-009
FS16	S	05.13.2020 12:28	2 ft	661534-010
FS17	S	05.13.2020 12:29	2 ft	661534-011



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 159*

Project ID: 012919161
Work Order Number(s): 661534

Report Date: 05.18.2020
Date Received: 05.13.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 661534

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS07** Matrix: Soil Date Received: 05.13.2020 16:30
 Lab Sample Id: 661534-001 Date Collected: 05.13.2020 10:33 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 12:23 Basis: Wet Weight
 Seq Number: 3126022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	551	9.92	mg/kg	05.14.2020 13:27		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 17:00 Basis: Wet Weight
 Seq Number: 3126015

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.15.2020 06:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.15.2020 06:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.15.2020 06:09	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.15.2020 06:09	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.15.2020 06:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	05.15.2020 06:09	
o-Terphenyl	84-15-1	115	%	70-135	05.15.2020 06:09	



Certificate of Analytical Results 661534

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS07**
Lab Sample Id: 661534-001

Matrix: Soil
Date Collected: 05.13.2020 10:33

Date Received: 05.13.2020 16:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3125893

Prep Method: SW5035A

% Moisture:

Date Prep: 05.13.2020 17:37

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.2020 04:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.2020 04:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.2020 04:53	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.14.2020 04:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.2020 04:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.2020 04:53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.2020 04:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	130	%	70-130	05.14.2020 04:53		
1,4-Difluorobenzene	540-36-3	112	%	70-130	05.14.2020 04:53		



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS08** Matrix: Soil Date Received: 05.13.2020 16:30
 Lab Sample Id: 661534-002 Date Collected: 05.13.2020 10:35 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 12:23 Basis: Wet Weight
 Seq Number: 3126022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	474	10.0	mg/kg	05.14.2020 13:45		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 17:00 Basis: Wet Weight
 Seq Number: 3126015

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.15.2020 06:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.15.2020 06:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.15.2020 06:29	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.15.2020 06:29	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.15.2020 06:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	05.15.2020 06:29	
o-Terphenyl	84-15-1	116	%	70-135	05.15.2020 06:29	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS08**
Lab Sample Id: 661534-002

Matrix: Soil
Date Collected: 05.13.2020 10:35

Date Received: 05.13.2020 16:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.13.2020 17:37

Basis: Wet Weight

Seq Number: 3125893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.2020 05:57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.2020 05:57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.2020 05:57	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.14.2020 05:57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.2020 05:57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.2020 05:57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.2020 05:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	70-130	05.14.2020 05:57	
4-Bromofluorobenzene	460-00-4	113	%	70-130	05.14.2020 05:57	



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Sample Id: **FS09** Matrix: Soil Date Received: 05.13.2020 16:30
 Lab Sample Id: 661534-003 Date Collected: 05.13.2020 10:50 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 12:23 Basis: Wet Weight
 Seq Number: 3126022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	144	10.0	mg/kg	05.14.2020 13:51		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 17:00 Basis: Wet Weight
 Seq Number: 3126015

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.15.2020 06:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.15.2020 06:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.15.2020 06:50	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.15.2020 06:50	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.15.2020 06:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	05.15.2020 06:50	
o-Terphenyl	84-15-1	113	%	70-135	05.15.2020 06:50	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS09**
Lab Sample Id: 661534-003

Matrix: Soil
Date Collected: 05.13.2020 10:50

Date Received: 05.13.2020 16:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.13.2020 17:37

Basis: Wet Weight

Seq Number: 3125893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.14.2020 06:19	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.14.2020 06:19	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.14.2020 06:19	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.14.2020 06:19	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.14.2020 06:19	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.14.2020 06:19	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.14.2020 06:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.14.2020 06:19	
4-Bromofluorobenzene	460-00-4	109	%	70-130	05.14.2020 06:19	



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Sample Id: **FS10** Matrix: Soil Date Received: 05.13.2020 16:30
 Lab Sample Id: 661534-004 Date Collected: 05.13.2020 11:01 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 12:23 Basis: Wet Weight
 Seq Number: 3126022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	592	9.92	mg/kg	05.14.2020 13:57		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 17:00 Basis: Wet Weight
 Seq Number: 3126015

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.15.2020 07:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.15.2020 07:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.15.2020 07:10	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.15.2020 07:10	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.15.2020 07:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.15.2020 07:10	
o-Terphenyl	84-15-1	110	%	70-135	05.15.2020 07:10	



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PLU 159

Sample Id: **FS10**
Lab Sample Id: 661534-004

Matrix: Soil
Date Collected: 05.13.2020 11:01

Date Received: 05.13.2020 16:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.13.2020 17:37

Basis: Wet Weight

Seq Number: 3125893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.2020 06:40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.2020 06:40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.2020 06:40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.14.2020 06:40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.2020 06:40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.2020 06:40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.2020 06:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	05.14.2020 06:40	
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.14.2020 06:40	



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Sample Id: **FS11** Matrix: Soil Date Received: 05.13.2020 16:30
 Lab Sample Id: 661534-005 Date Collected: 05.13.2020 11:02 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 12:23 Basis: Wet Weight
 Seq Number: 3126022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	383	9.98	mg/kg	05.14.2020 14:02		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 17:00 Basis: Wet Weight
 Seq Number: 3126015

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.15.2020 07:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.15.2020 07:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.15.2020 07:31	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.15.2020 07:31	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.15.2020 07:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.15.2020 07:31	
o-Terphenyl	84-15-1	108	%	70-135	05.15.2020 07:31	



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Sample Id: **FS11**
Lab Sample Id: 661534-005

Matrix: Soil
Date Collected: 05.13.2020 11:02

Date Received: 05.13.2020 16:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3125893

Prep Method: SW5035A

% Moisture:

Date Prep: 05.13.2020 17:37

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.14.2020 07:01	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.14.2020 07:01	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.14.2020 07:01	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.14.2020 07:01	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.14.2020 07:01	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.14.2020 07:01	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.14.2020 07:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.14.2020 07:01	
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.14.2020 07:01	



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Sample Id: **FS12** Matrix: Soil Date Received: 05.13.2020 16:30
 Lab Sample Id: 661534-006 Date Collected: 05.13.2020 11:11 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 12:23 Basis: Wet Weight
 Seq Number: 3126022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	85.5	9.96	mg/kg	05.14.2020 14:20		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 17:00 Basis: Wet Weight
 Seq Number: 3126015

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.15.2020 07:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.15.2020 07:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.15.2020 07:52	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.15.2020 07:52	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.15.2020 07:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.15.2020 07:52	
o-Terphenyl	84-15-1	107	%	70-135	05.15.2020 07:52	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS12**
Lab Sample Id: 661534-006

Matrix: Soil
Date Collected: 05.13.2020 11:11

Date Received: 05.13.2020 16:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.13.2020 17:37

Basis: Wet Weight

Seq Number: 3125893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.14.2020 07:23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.14.2020 07:23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.14.2020 07:23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.14.2020 07:23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.14.2020 07:23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.14.2020 07:23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.14.2020 07:23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	113	%	70-130	05.14.2020 07:23		
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.14.2020 07:23		



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Sample Id: **FS13** Matrix: Soil Date Received: 05.13.2020 16:30
 Lab Sample Id: 661534-007 Date Collected: 05.13.2020 12:12 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 12:23 Basis: Wet Weight
 Seq Number: 3126022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.6	10.0	mg/kg	05.14.2020 14:26		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 17:00 Basis: Wet Weight
 Seq Number: 3126015

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.15.2020 08:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.15.2020 08:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.15.2020 08:12	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.15.2020 08:12	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.15.2020 08:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.15.2020 08:12	
o-Terphenyl	84-15-1	107	%	70-135	05.15.2020 08:12	



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Sample Id: **FS13**
Lab Sample Id: 661534-007

Matrix: Soil
Date Collected: 05.13.2020 12:12

Date Received: 05.13.2020 16:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.13.2020 17:37

Basis: Wet Weight

Seq Number: 3125893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.2020 07:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.2020 07:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.2020 07:44	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.14.2020 07:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.2020 07:44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.2020 07:44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.2020 07:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	05.14.2020 07:44	
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.14.2020 07:44	



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Sample Id: **FS14** Matrix: Soil Date Received: 05.13.2020 16:30
 Lab Sample Id: 661534-008 Date Collected: 05.13.2020 12:15 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 12:23 Basis: Wet Weight
 Seq Number: 3126022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	43.9	10.0	mg/kg	05.14.2020 14:32		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 17:00 Basis: Wet Weight
 Seq Number: 3126015

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.15.2020 08:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.15.2020 08:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.15.2020 08:33	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.15.2020 08:33	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.15.2020 08:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.15.2020 08:33	
o-Terphenyl	84-15-1	107	%	70-135	05.15.2020 08:33	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS14**
Lab Sample Id: 661534-008

Matrix: Soil
Date Collected: 05.13.2020 12:15

Date Received: 05.13.2020 16:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3125893

Prep Method: SW5035A

% Moisture:

Date Prep: 05.13.2020 17:37

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.14.2020 08:06	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.14.2020 08:06	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.14.2020 08:06	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.14.2020 08:06	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.14.2020 08:06	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.14.2020 08:06	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.14.2020 08:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.14.2020 08:06	
4-Bromofluorobenzene	460-00-4	109	%	70-130	05.14.2020 08:06	



Certificate of Analytical Results 661534

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS15** Matrix: Soil Date Received: 05.13.2020 16:30
 Lab Sample Id: 661534-009 Date Collected: 05.13.2020 12:26 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 12:23 Basis: Wet Weight
 Seq Number: 3126022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.9	9.96	mg/kg	05.14.2020 14:38		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 17:30 Basis: Wet Weight
 Seq Number: 3126041

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.15.2020 00:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.15.2020 00:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.15.2020 00:58	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.15.2020 00:58	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.15.2020 00:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.15.2020 00:58	
o-Terphenyl	84-15-1	111	%	70-135	05.15.2020 00:58	



Certificate of Analytical Results 661534

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS15**
Lab Sample Id: 661534-009

Matrix: Soil
Date Collected: 05.13.2020 12:26

Date Received: 05.13.2020 16:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3125893

Prep Method: SW5035A

% Moisture:

Date Prep: 05.13.2020 17:37

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.2020 08:27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.2020 08:27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.2020 08:27	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.14.2020 08:27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.2020 08:27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.2020 08:27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.2020 08:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.14.2020 08:27	
1,4-Difluorobenzene	540-36-3	113	%	70-130	05.14.2020 08:27	



Certificate of Analytical Results 661534

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS16** Matrix: Soil Date Received: 05.13.2020 16:30
 Lab Sample Id: 661534-010 Date Collected: 05.13.2020 12:28 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 12:23 Basis: Wet Weight
 Seq Number: 3126022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	807	9.98	mg/kg	05.14.2020 14:44		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 17:30 Basis: Wet Weight
 Seq Number: 3126041

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.15.2020 02:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.15.2020 02:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.15.2020 02:00	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.15.2020 02:00	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.15.2020 02:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	05.15.2020 02:00	
o-Terphenyl	84-15-1	120	%	70-135	05.15.2020 02:00	



Certificate of Analytical Results 661534

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS16**
Lab Sample Id: 661534-010

Matrix: Soil
Date Collected: 05.13.2020 12:28

Date Received: 05.13.2020 16:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3125893

Prep Method: SW5035A

% Moisture:

Date Prep: 05.13.2020 17:37

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.2020 08:49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.2020 08:49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.2020 08:49	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.14.2020 08:49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.2020 08:49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.2020 08:49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.2020 08:49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.14.2020 08:49		
4-Bromofluorobenzene	460-00-4	109	%	70-130	05.14.2020 08:49		



Certificate of Analytical Results 661534

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS17** Matrix: Soil Date Received: 05.13.2020 16:30
 Lab Sample Id: 661534-011 Date Collected: 05.13.2020 12:29 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 12:23 Basis: Wet Weight
 Seq Number: 3126022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	57.1	10.0	mg/kg	05.14.2020 14:49		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.14.2020 17:30 Basis: Wet Weight
 Seq Number: 3126199

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.15.2020 13:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.15.2020 13:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.15.2020 13:50	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.15.2020 13:50	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.15.2020 13:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.15.2020 13:50	
o-Terphenyl	84-15-1	111	%	70-135	05.15.2020 13:50	



Certificate of Analytical Results 661534

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS17**
Lab Sample Id: 661534-011

Matrix: Soil
Date Collected: 05.13.2020 12:29

Date Received: 05.13.2020 16:30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.13.2020 17:37

Basis: Wet Weight

Seq Number: 3125893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.14.2020 09:10	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.14.2020 09:10	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.14.2020 09:10	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.14.2020 09:10	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.14.2020 09:10	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.14.2020 09:10	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.14.2020 09:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.14.2020 09:10	
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.14.2020 09:10	



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. **ND** Not Detected.

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 159

Analytical Method: Chloride by EPA 300

Seq Number: 3126022

MB Sample Id: 7703314-1-BLK

Matrix: Solid

LCS Sample Id: 7703314-1-BKS

Prep Method: E300P

Date Prep: 05.14.2020

LCSD Sample Id: 7703314-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	250	100	249	100	90-110	0	20	mg/kg	05.14.2020 13:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3126022

Parent Sample Id: 661534-001

Matrix: Soil

MS Sample Id: 661534-001 S

Prep Method: E300P

Date Prep: 05.14.2020

MSD Sample Id: 661534-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	551	199	741	95	740	95	90-110	0	20	mg/kg	05.14.2020 13:33	

Analytical Method: Chloride by EPA 300

Seq Number: 3126022

Parent Sample Id: 661534-011

Matrix: Soil

MS Sample Id: 661534-011 S

Prep Method: E300P

Date Prep: 05.14.2020

MSD Sample Id: 661534-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	57.1	201	246	94	246	94	90-110	0	20	mg/kg	05.14.2020 14:55	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126015

MB Sample Id: 7703385-1-BLK

Matrix: Solid

LCS Sample Id: 7703385-1-BKS

Prep Method: SW8015P

Date Prep: 05.14.2020

LCSD Sample Id: 7703385-1-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	923	92	954	95	70-135	3	35	mg/kg	05.15.2020 00:16	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1150	115	70-135	4	35	mg/kg	05.15.2020 00:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		119		119		70-135	%	05.15.2020 00:16
o-Terphenyl	110		121		125		70-135	%	05.15.2020 00:16

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126041

MB Sample Id: 7703406-1-BLK

Matrix: Solid

LCS Sample Id: 7703406-1-BKS

Prep Method: SW8015P

Date Prep: 05.14.2020

LCSD Sample Id: 7703406-1-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	999	100	1010	101	70-135	1	35	mg/kg	05.15.2020 00:16	
Diesel Range Organics (DRO)	<50.0	1000	1120	112	1120	112	70-135	0	35	mg/kg	05.15.2020 00:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		118		120		70-135	%	05.15.2020 00:16
o-Terphenyl	117		125		120		70-135	%	05.15.2020 00:16

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 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 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126199

MB Sample Id: 7703409-1-BLK

Matrix: Solid

LCS Sample Id: 7703409-1-BKS

Prep Method: SW8015P

Date Prep: 05.14.2020

LCSD Sample Id: 7703409-1-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	1070	107	933	93	70-135	14	35	mg/kg	05.15.2020 09:41	
Diesel Range Organics (DRO)	<50.0	1000	1120	112	1070	107	70-135	5	35	mg/kg	05.15.2020 09:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		135		122		70-135	%	05.15.2020 09:41
o-Terphenyl	111		117		122		70-135	%	05.15.2020 09:41

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126015

Matrix: Solid

MB Sample Id: 7703385-1-BLK

Prep Method: SW8015P

Date Prep: 05.14.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.14.2020 23:56	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126041

Matrix: Solid

MB Sample Id: 7703406-1-BLK

Prep Method: SW8015P

Date Prep: 05.14.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.14.2020 23:56	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126199

Matrix: Solid

MB Sample Id: 7703409-1-BLK

Prep Method: SW8015P

Date Prep: 05.14.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.15.2020 09:20	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126015

Matrix: Soil

Parent Sample Id: 661526-003

MS Sample Id: 661526-003 S

Prep Method: SW8015P

Date Prep: 05.14.2020

MSD Sample Id: 661526-003 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	863	86	909	91	70-135	5	35	mg/kg	05.15.2020 01:18	
Diesel Range Organics (DRO)	<50.2	1000	995	100	1060	106	70-135	6	35	mg/kg	05.15.2020 01:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		123		70-135	%	05.15.2020 01:18
o-Terphenyl	122		124		70-135	%	05.15.2020 01:18

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 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 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126041

Parent Sample Id: 661534-009

Matrix: Soil

MS Sample Id: 661534-009 S

Prep Method: SW8015P

Date Prep: 05.14.2020

MSD Sample Id: 661534-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	1120	112	1070	106	70-135	5	35	mg/kg	05.15.2020 01:18	
Diesel Range Organics (DRO)	<50.1	1000	1100	110	1210	120	70-135	10	35	mg/kg	05.15.2020 01:18	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		127		70-135	%	05.15.2020 01:18
o-Terphenyl	116		132		70-135	%	05.15.2020 01:18

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126199

Parent Sample Id: 661663-001

Matrix: Soil

MS Sample Id: 661663-001 S

Prep Method: SW8015P

Date Prep: 05.14.2020

MSD Sample Id: 661663-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	1010	100	967	97	70-135	4	35	mg/kg	05.15.2020 10:44	
Diesel Range Organics (DRO)	<50.3	1010	1170	116	1150	116	70-135	2	35	mg/kg	05.15.2020 10:44	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		119		70-135	%	05.15.2020 10:44
o-Terphenyl	124		123		70-135	%	05.15.2020 10:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125893

MB Sample Id: 7703290-1-BLK

Matrix: Solid

LCS Sample Id: 7703290-1-BKS

Prep Method: SW5035A

Date Prep: 05.13.2020

LCSD Sample Id: 7703290-1-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	0.113	113	0.117	117	70-130	3	35	mg/kg	05.13.2020 23:53	
Toluene	<0.00200	0.100	0.102	102	0.108	108	70-130	6	35	mg/kg	05.13.2020 23:53	
Ethylbenzene	<0.00200	0.100	0.0947	95	0.100	100	71-129	5	35	mg/kg	05.13.2020 23:53	
m,p-Xylenes	<0.00400	0.200	0.182	91	0.194	97	70-135	6	35	mg/kg	05.13.2020 23:53	
o-Xylene	<0.00200	0.100	0.0949	95	0.100	100	71-133	5	35	mg/kg	05.13.2020 23:53	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	114		108		108		70-130	%	05.13.2020 23:53
4-Bromofluorobenzene	107		98		99		70-130	%	05.13.2020 23:53

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125893

Parent Sample Id: 661526-008

Matrix: Soil

MS Sample Id: 661526-008 S

Prep Method: SW5035A

Date Prep: 05.13.2020

MSD Sample Id: 661526-008 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	0.0805	81	0.105	105	70-130	26	35	mg/kg	05.14.2020 00:36	
Toluene	<0.00200	0.100	0.0842	84	0.0926	93	70-130	10	35	mg/kg	05.14.2020 00:36	
Ethylbenzene	<0.00200	0.100	0.0877	88	0.0854	86	71-129	3	35	mg/kg	05.14.2020 00:36	
m,p-Xylenes	<0.00400	0.200	0.158	79	0.163	82	70-135	3	35	mg/kg	05.14.2020 00:36	
o-Xylene	<0.00200	0.100	0.0829	83	0.0859	86	71-133	4	35	mg/kg	05.14.2020 00:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		70-130	%	05.14.2020 00:36
4-Bromofluorobenzene	102		104		70-130	%	05.14.2020 00:36

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

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

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

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



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

Chain of Custody

Work Order No:

1001534

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

Project Name:	PLU 159	Turn Around	
Project Number:	12919161	Routine	
P.O. Number:	Eddy	Rush:	
Sampler's Name:	William Mather	Due Date:	
SAMPLE RECEIPT			
Temperature (°C):	Temp Blank:	Yes	No
Received Intact:	Yes	No	
Cooler Custody Seals:	Yes	No	
Sample Custody Seals:	Yes	No	
Thermometer ID	Correction Factor:		
Total Containers:			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST										Sample Comments
FS07	S	5/13/2020	10:33	2'	1	X	X	X											Composite
FS08	S	5/13/2020	10:35	2'	1	X	X	X											Composite
FS09	S	5/13/2020	10:50	2'	1	X	X	X											Composite
FS10	S	5/13/2020	11:01	2'	1	X	X	X											Composite
FS11	S	5/13/2020	11:02	2'	1	X	X	X											Composite
FS12	S	5/13/2020	11:11	2'	1	X	X	X											Composite
FS13	S	5/13/2020	12:12	2'	1	X	X	X											Composite
FS14	S	5/13/2020	12:15	2'	1	X	X	X											Composite
FS15	S	5/13/2020	12:26	2'	1	X	X	X											Composite
FS16	S	5/13/2020	12:28	2'	1	X	X	X											Composite

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

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
		5/13/20 14:30			



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
Phoenix, AZ (480-385-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 281-2811
Hobbs, NM (575-392-7550)

Work Order No: 2210377

www.xenco.com Page 2 of 2

Chain of Custody

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:	wmair@ltenv.com

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

Project Name:						PLU 159							Turn Around										
Project Number:						012919161							Routine R										
P.O. Number:						Eddy							Rush:										
Sampler's Name:						William Mather							Due Date:										
SAMPLE RECEIPT																							
Temperature (°C):						Temp Blank:						Yes No				Wet Ice:				Yes No			
Received Intact:						Yes No						Thermometer ID											
Cooler Custody Seals:						Yes No N/A						Correction Factor:											
Sample Custody Seals:						Yes No N/A						Total Containers:											
Number of Containers																							
PA 8015)																							
EPA 0=8021)																							
le (EPA 300.0)																							
TAT starts the day received by the lab, if received by 4:30pm																							
Work Order Notes																							

[illegible]

Circle Method(s) and Metal(s) to be analyzed	200.7 / 6010	200.8 / 6020:
8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn	
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 relinquishing of samples constitutes a valid purchase order from client company to Xencio, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xencio will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xencio. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xencio, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		9/13/2014:30			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05.13.2020 04.30.00 PM

Work Order #: 661534

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.9
#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

Samples received in bulk containers.

* 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: 05.13.2020

Checklist reviewed by:



Jessica Kramer

Date: 05.14.2020



Certificate of Analysis Summary 661721

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Fri 05.15.2020 09:27

Report Date: 05.18.2020 14:05

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	661721-001	661721-002	661721-003	661721-004	661721-005	661721-006
	<i>Field Id:</i>	FS18	FS19	FS20	FS21	FS22	FS23
	<i>Depth:</i>	2- ft	2- ft	2- ft	2- ft	2- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	05.14.2020 10:23	05.14.2020 10:30	05.14.2020 10:48	05.14.2020 10:50	05.14.2020 11:05	05.14.2020 11:06
BTEX by EPA 8021B	<i>Extracted:</i>	05.15.2020 11:07	05.15.2020 11:07	05.15.2020 11:07	05.15.2020 11:07	05.15.2020 11:07	05.15.2020 11:07
	<i>Analyzed:</i>	05.15.2020 15:01	05.15.2020 15:22	05.15.2020 15:44	05.15.2020 16:05	05.15.2020 16:27	05.15.2020 16:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00402 0.00402	<0.00400 0.00400	<0.00404 0.00404	<0.00398 0.00398	<0.00401 0.00401	<0.00401 0.00401
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	05.15.2020 15:12	05.15.2020 15:12	05.15.2020 15:12	05.15.2020 15:12	05.15.2020 15:12	05.15.2020 15:12
	<i>Analyzed:</i>	05.15.2020 17:53	05.15.2020 17:59	05.15.2020 18:17	05.15.2020 18:23	05.15.2020 18:29	05.15.2020 18:35
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		31.6 10.0	246 10.1	93.9 10.1	243 9.94	221 9.98	521 10.0
TPH by SW8015 Mod	<i>Extracted:</i>	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30
	<i>Analyzed:</i>	05.16.2020 03:16	05.16.2020 06:21	05.16.2020 07:24	05.15.2020 21:05	05.15.2020 22:07	05.15.2020 22:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<50.2 50.2	<49.8 49.8	<50.2 50.2	<50.1 50.1	<50.2 50.2
Diesel Range Organics (DRO)		<50.1 50.1	67.2 50.2	60.5 49.8	413 50.2	364 50.1	583 50.2
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.2 50.2	<49.8 49.8	65.7 50.2	57.5 50.1	88.9 50.2
Total GRO-DRO		<50.1 50.1	67.2 50.2	60.5 49.8	413 50.2	364 50.1	583 50.2
Total TPH		<50.1 50.1	67.2 50.2	60.5 49.8	479 50.2	422 50.1	672 50.2

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

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

Jessica Kramer
Project Manager



Analytical Report 661721

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159

012919161

05.18.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
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)



05.18.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **661721**

PLU 159

Project Address: Eddy

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) 661721. 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. 661721 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 Manager

A Small Business and Minority Company

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

**Sample Cross Reference 661721****LT Environmental, Inc., Arvada, CO**

PLU 159

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS18	S	05.14.2020 10:23	2 ft	661721-001
FS19	S	05.14.2020 10:30	2 ft	661721-002
FS20	S	05.14.2020 10:48	2 ft	661721-003
FS21	S	05.14.2020 10:50	2 ft	661721-004
FS22	S	05.14.2020 11:05	2 ft	661721-005
FS23	S	05.14.2020 11:06	2 ft	661721-006



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 159*

Project ID: 012919161
Work Order Number(s): 661721

Report Date: 05.18.2020
Date Received: 05.15.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS18** Matrix: Soil Date Received: 05.15.2020 09:27
 Lab Sample Id: 661721-001 Date Collected: 05.14.2020 10:23 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 15:12 Basis: Wet Weight
 Seq Number: 3126176

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.6	10.0	mg/kg	05.15.2020 17:53		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126211

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.16.2020 03:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.16.2020 03:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.16.2020 03:16	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.16.2020 03:16	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.16.2020 03:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	05.16.2020 03:16	
o-Terphenyl	84-15-1	121	%	70-135	05.16.2020 03:16	



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS18**
Lab Sample Id: 661721-001

Matrix: Soil
Date Collected: 05.14.2020 10:23

Date Received: 05.15.2020 09:27
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126174

Date Prep: 05.15.2020 11:07

Prep Method: SW5035A

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.15.2020 15:01	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.15.2020 15:01	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.15.2020 15:01	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.15.2020 15:01	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.15.2020 15:01	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.15.2020 15:01	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.15.2020 15:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.15.2020 15:01	
1,4-Difluorobenzene	540-36-3	118	%	70-130	05.15.2020 15:01	



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS19** Matrix: Soil Date Received: 05.15.2020 09:27
 Lab Sample Id: 661721-002 Date Collected: 05.14.2020 10:30 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 15:12 Basis: Wet Weight
 Seq Number: 3126176

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	246	10.1	mg/kg	05.15.2020 17:59		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126206

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.16.2020 06:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	67.2	50.2	mg/kg	05.16.2020 06:21		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.16.2020 06:21	U	1
Total GRO-DRO	PHC628	67.2	50.2	mg/kg	05.16.2020 06:21		1
Total TPH	PHC635	67.2	50.2	mg/kg	05.16.2020 06:21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	05.16.2020 06:21	
o-Terphenyl	84-15-1	117	%	70-135	05.16.2020 06:21	



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS19**
Lab Sample Id: 661721-002

Matrix: Soil
Date Collected: 05.14.2020 10:30

Date Received: 05.15.2020 09:27
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.15.2020 11:07

Basis: Wet Weight

Seq Number: 3126174

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.15.2020 15:22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.15.2020 15:22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.15.2020 15:22	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.15.2020 15:22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.15.2020 15:22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.15.2020 15:22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.15.2020 15:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	05.15.2020 15:22		
1,4-Difluorobenzene	540-36-3	117	%	70-130	05.15.2020 15:22		



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS20** Matrix: Soil Date Received: 05.15.2020 09:27
 Lab Sample Id: 661721-003 Date Collected: 05.14.2020 10:48 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 15:12 Basis: Wet Weight
 Seq Number: 3126176

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	93.9	10.1	mg/kg	05.15.2020 18:17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126206

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.16.2020 07:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	60.5	49.8	mg/kg	05.16.2020 07:24		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.16.2020 07:24	U	1
Total GRO-DRO	PHC628	60.5	49.8	mg/kg	05.16.2020 07:24		1
Total TPH	PHC635	60.5	49.8	mg/kg	05.16.2020 07:24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	05.16.2020 07:24	
o-Terphenyl	84-15-1	116	%	70-135	05.16.2020 07:24	



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS20**
Lab Sample Id: 661721-003

Matrix: Soil
Date Collected: 05.14.2020 10:48

Date Received: 05.15.2020 09:27
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126174

Prep Method: SW5035A

% Moisture:

Date Prep: 05.15.2020 11:07

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.15.2020 15:44	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.15.2020 15:44	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.15.2020 15:44	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.15.2020 15:44	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.15.2020 15:44	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.15.2020 15:44	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.15.2020 15:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	05.15.2020 15:44	
4-Bromofluorobenzene	460-00-4	104	%	70-130	05.15.2020 15:44	



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS21** Matrix: Soil Date Received: 05.15.2020 09:27
 Lab Sample Id: 661721-004 Date Collected: 05.14.2020 10:50 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 15:12 Basis: Wet Weight
 Seq Number: 3126176

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	243	9.94	mg/kg	05.15.2020 18:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.15.2020 21:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	413	50.2	mg/kg	05.15.2020 21:05		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	65.7	50.2	mg/kg	05.15.2020 21:05		1
Total GRO-DRO	PHC628	413	50.2	mg/kg	05.15.2020 21:05		1
Total TPH	PHC635	479	50.2	mg/kg	05.15.2020 21:05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	05.15.2020 21:05	
o-Terphenyl	84-15-1	114	%	70-135	05.15.2020 21:05	



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS21**
Lab Sample Id: 661721-004

Matrix: Soil
Date Collected: 05.14.2020 10:50

Date Received: 05.15.2020 09:27
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126174

Prep Method: SW5035A

% Moisture:

Date Prep: 05.15.2020 11:07

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.15.2020 16:05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.15.2020 16:05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.15.2020 16:05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.15.2020 16:05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.15.2020 16:05	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.15.2020 16:05	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.15.2020 16:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.15.2020 16:05		
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.15.2020 16:05		



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS22 Matrix: Soil Date Received: 05.15.2020 09:27
 Lab Sample Id: 661721-005 Date Collected: 05.14.2020 11:05 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 15:12 Basis: Wet Weight
 Seq Number: 3126176

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	221	9.98	mg/kg	05.15.2020 18:29		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.15.2020 22:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	364	50.1	mg/kg	05.15.2020 22:07		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	57.5	50.1	mg/kg	05.15.2020 22:07		1
Total GRO-DRO	PHC628	364	50.1	mg/kg	05.15.2020 22:07		1
Total TPH	PHC635	422	50.1	mg/kg	05.15.2020 22:07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	05.15.2020 22:07	
o-Terphenyl	84-15-1	113	%	70-135	05.15.2020 22:07	



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS22
Lab Sample Id: 661721-005

Matrix: Soil
Date Collected: 05.14.2020 11:05

Date Received: 05.15.2020 09:27
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.15.2020 11:07

Basis: Wet Weight

Seq Number: 3126174

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.15.2020 16:27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.15.2020 16:27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.15.2020 16:27	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.15.2020 16:27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.15.2020 16:27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.15.2020 16:27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.15.2020 16:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	05.15.2020 16:27	
1,4-Difluorobenzene	540-36-3	119	%	70-130	05.15.2020 16:27	



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS23** Matrix: Soil Date Received: 05.15.2020 09:27
 Lab Sample Id: 661721-006 Date Collected: 05.14.2020 11:06 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 15:12 Basis: Wet Weight
 Seq Number: 3126176

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	521	10.0	mg/kg	05.15.2020 18:35		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.15.2020 22:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	583	50.2	mg/kg	05.15.2020 22:28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	88.9	50.2	mg/kg	05.15.2020 22:28		1
Total GRO-DRO	PHC628	583	50.2	mg/kg	05.15.2020 22:28		1
Total TPH	PHC635	672	50.2	mg/kg	05.15.2020 22:28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.15.2020 22:28	
o-Terphenyl	84-15-1	112	%	70-135	05.15.2020 22:28	



Certificate of Analytical Results 661721

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS23**
Lab Sample Id: 661721-006

Matrix: Soil
Date Collected: 05.14.2020 11:06

Date Received: 05.15.2020 09:27
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.15.2020 11:07

Basis: Wet Weight

Seq Number: 3126174

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.15.2020 16:48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.15.2020 16:48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.15.2020 16:48	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.15.2020 16:48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.15.2020 16:48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.15.2020 16:48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.15.2020 16:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.15.2020 16:48		
1,4-Difluorobenzene	540-36-3	115	%	70-130	05.15.2020 16:48		



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. **ND** Not Detected.

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 159

Analytical Method: Chloride by EPA 300

Seq Number: 3126176

MB Sample Id: 7703455-1-BLK

Matrix: Solid

LCS Sample Id: 7703455-1-BKS

Prep Method: E300P

Date Prep: 05.15.2020

LCSD Sample Id: 7703455-1-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	249	100	248	99	90-110	0	20	mg/kg	05.15.2020 16:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3126176

Parent Sample Id: 661686-011

Matrix: Soil

MS Sample Id: 661686-011 S

Prep Method: E300P

Date Prep: 05.15.2020

MSD Sample Id: 661686-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	76.4	200	272	98	272	98	90-110	0	20	mg/kg	05.15.2020 16:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3126176

Parent Sample Id: 661686-021

Matrix: Soil

MS Sample Id: 661686-021 S

Prep Method: E300P

Date Prep: 05.15.2020

MSD Sample Id: 661686-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	90.5	199	273	92	274	92	90-110	0	20	mg/kg	05.15.2020 17:42	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126202

MB Sample Id: 7703509-1-BLK

Matrix: Solid

LCS Sample Id: 7703509-1-BKS

Prep Method: SW8015P

Date Prep: 05.15.2020

LCSD Sample Id: 7703509-1-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	924	92	70-135	10	35	mg/kg	05.15.2020 20:24	
Diesel Range Organics (DRO)	<50.0	1000	1180	118	1080	108	70-135	9	35	mg/kg	05.15.2020 20:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		130		122		70-135	%	05.15.2020 20:24
o-Terphenyl	106		129		123		70-135	%	05.15.2020 20:24

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126206

MB Sample Id: 7703510-1-BLK

Matrix: Solid

LCS Sample Id: 7703510-1-BKS

Prep Method: SW8015P

Date Prep: 05.15.2020

LCSD Sample Id: 7703510-1-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	1010	101	945	95	70-135	7	35	mg/kg	05.16.2020 05:40	
Diesel Range Organics (DRO)	<50.0	1000	1160	116	1070	107	70-135	8	35	mg/kg	05.16.2020 05:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		128		124		70-135	%	05.16.2020 05:40
o-Terphenyl	106		131		119		70-135	%	05.16.2020 05:40

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 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126211

MB Sample Id: 7703516-1-BLK

Matrix: Solid

LCS Sample Id: 7703516-1-BKS

Prep Method: SW8015P

Date Prep: 05.15.2020

LCSD Sample Id: 7703516-1-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	1090	109	989	99	70-135	10	35	mg/kg	05.15.2020 19:01	
Diesel Range Organics (DRO)	<50.0	1000	1210	121	1130	113	70-135	7	35	mg/kg	05.15.2020 19:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		133		120		70-135	%	05.15.2020 19:01
o-Terphenyl	114		131		130		70-135	%	05.15.2020 19:01

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126202

Matrix: Solid

MB Sample Id: 7703509-1-BLK

Prep Method: SW8015P

Date Prep: 05.15.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.15.2020 20:04	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126206

Matrix: Solid

MB Sample Id: 7703510-1-BLK

Prep Method: SW8015P

Date Prep: 05.15.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.16.2020 05:19	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126211

Matrix: Solid

MB Sample Id: 7703516-1-BLK

Prep Method: SW8015P

Date Prep: 05.15.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.15.2020 18:41	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126202

Matrix: Soil

Parent Sample Id: 661721-004

MS Sample Id: 661721-004 S

Prep Method: SW8015P

Date Prep: 05.15.2020

MSD Sample Id: 661721-004 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)	<50.1	1000	899	90	924	93	70-135	3	35	mg/kg	05.15.2020 21:25	
Diesel Range Organics (DRO)	413	1000	1250	84	1290	88	70-135	3	35	mg/kg	05.15.2020 21:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		118		70-135	%	05.15.2020 21:25
o-Terphenyl	122		123		70-135	%	05.15.2020 21:25

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



LT Environmental, Inc.

PLU 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126206

Parent Sample Id: 661721-002

Matrix: Soil

MS Sample Id: 661721-002 S

Prep Method: SW8015P

Date Prep: 05.15.2020

MSD Sample Id: 661721-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	940	94	902	90	70-135	4	35	mg/kg	05.16.2020 06:42	
Diesel Range Organics (DRO)	67.2	1000	1140	107	1110	104	70-135	3	35	mg/kg	05.16.2020 06:42	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		121		70-135	%	05.16.2020 06:42
o-Terphenyl	122		121		70-135	%	05.16.2020 06:42

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126211

Parent Sample Id: 661686-003

Matrix: Soil

MS Sample Id: 661686-003 S

Prep Method: SW8015P

Date Prep: 05.15.2020

MSD Sample Id: 661686-003 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	1020	102	976	98	70-135	4	35	mg/kg	05.15.2020 20:04	
Diesel Range Organics (DRO)	<50.2	1000	1110	111	1080	108	70-135	3	35	mg/kg	05.15.2020 20:04	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		94		70-135	%	05.15.2020 20:04
o-Terphenyl	123		74		70-135	%	05.15.2020 20:04

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126174

MB Sample Id: 7703451-1-BLK

Matrix: Solid

LCS Sample Id: 7703451-1-BKS

Prep Method: SW5035A

Date Prep: 05.15.2020

LCSD Sample Id: 7703451-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.109	109	0.112	112	70-130	3	35	mg/kg	05.15.2020 12:53	
Toluene	<0.00200	0.100	0.0991	99	0.103	103	70-130	4	35	mg/kg	05.15.2020 12:53	
Ethylbenzene	<0.00200	0.100	0.0933	93	0.0963	96	71-129	3	35	mg/kg	05.15.2020 12:53	
m,p-Xylenes	<0.00400	0.200	0.182	91	0.187	94	70-135	3	35	mg/kg	05.15.2020 12:53	
o-Xylene	<0.00200	0.100	0.0928	93	0.0952	95	71-133	3	35	mg/kg	05.15.2020 12:53	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	117		111		111		70-130	%	05.15.2020 12:53
4-Bromofluorobenzene	102		96		97		70-130	%	05.15.2020 12:53

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126174

Parent Sample Id: 661686-021

Matrix: Soil

MS Sample Id: 661686-021 S

Prep Method: SW5035A

Date Prep: 05.15.2020

MSD Sample Id: 661686-021 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	0.0998	0.128	128	0.115	115	70-130	11	35	mg/kg	05.15.2020 13:35	
Toluene	<0.00200	0.0998	0.117	117	0.104	104	70-130	12	35	mg/kg	05.15.2020 13:35	
Ethylbenzene	<0.00200	0.0998	0.109	109	0.0972	98	71-129	11	35	mg/kg	05.15.2020 13:35	
m,p-Xylenes	<0.00399	0.200	0.212	106	0.189	95	70-135	11	35	mg/kg	05.15.2020 13:35	
o-Xylene	<0.00200	0.0998	0.107	107	0.0962	97	71-133	11	35	mg/kg	05.15.2020 13:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		112		70-130	%	05.15.2020 13:35
4-Bromofluorobenzene	99		100		70-130	%	05.15.2020 13:35

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

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

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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05.15.2020 09.27.00 AM

Work Order #: 661721

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

Samples received in bulk containers.

* 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: 05.15.2020

Checklist reviewed by:



Jessica Kramer

Date: 05.15.2020



Certificate of Analysis Summary 661936

LT Environmental, Inc., Arvada, CO

Project Name: Nash Unit 302H-402H

Project Id: 012919253

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue 05.19.2020 08:15

Report Date: 05.27.2020 15:51

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	661936-001	661936-002	661936-003	661936-004		
	<i>Field Id:</i>	PH01A	PH02A	PH03	PH03A		
	<i>Depth:</i>	2- ft	2- ft	1- ft	2- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	05.18.2020 12:40	05.18.2020 13:02	05.18.2020 14:30	05.18.2020 14:40		
BTEX by EPA 8021B	<i>Extracted:</i>	05.19.2020 10:49	05.19.2020 10:49	05.19.2020 10:49	05.19.2020 10:49		
	<i>Analyzed:</i>	05.19.2020 17:53	05.19.2020 18:13	05.19.2020 18:34	05.19.2020 18:54		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200		
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200		
m,p-Xylenes		<0.00399 0.00399	<0.00402 0.00402	<0.00403 0.00403	<0.00400 0.00400		
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200		
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200		
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200		
Chloride by EPA 300	<i>Extracted:</i>	05.19.2020 11:53	05.19.2020 11:53	05.19.2020 11:53	05.19.2020 11:53		
	<i>Analyzed:</i>	05.19.2020 14:11	05.19.2020 14:31	05.19.2020 14:37	05.19.2020 14:57		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		80.8 X 50.0	389 49.9	257 200	294 9.90		
TPH by SW8015 Mod	<i>Extracted:</i>	05.19.2020 12:00	05.19.2020 12:00	05.19.2020 12:00	05.19.2020 12:00		
	<i>Analyzed:</i>	05.19.2020 12:59	05.19.2020 13:20	05.19.2020 13:41	05.19.2020 14:01		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.2 50.2	<50.3 50.3	<49.8 49.8		
Diesel Range Organics (DRO)		<50.3 50.3	78.9 50.2	<50.3 50.3	<49.8 49.8		
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.2 50.2	<50.3 50.3	<49.8 49.8		
Total GRO-DRO		<50.3 50.3	78.9 50.2	<50.3 50.3	<49.8 49.8		
Total TPH		<50.3 50.3	78.9 50.2	<50.3 50.3	<49.8 49.8		

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

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

John Builes
Project Manager



Analytical Report 661936

for

LT Environmental, Inc.

Project Manager: Dan Moir

Nash Unit 302H-402H

012919253

05.27.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-6)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



05.27.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **661936**

Nash Unit 302H-402H

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) 661936. 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. 661936 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, appearing to read 'JB', is written over a light blue rectangular background.

John Builes
Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 661936****LT Environmental, Inc., Arvada, CO**

Nash Unit 302H-402H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01A	S	05.18.2020 12:40	2 ft	661936-001
PH02A	S	05.18.2020 13:02	2 ft	661936-002
PH03	S	05.18.2020 14:30	1 ft	661936-003
PH03A	S	05.18.2020 14:40	2 ft	661936-004

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: Nash Unit 302H-402H**

Project ID: 012919253
Work Order Number(s): 661936

Report Date: 05.27.2020
Date Received: 05.19.2020

Sample receipt non conformances and comments:

Sample ID's renamed per client request 5/27/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3126381 TPH by SW8015 Mod

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

Samples affected are: 661936-004.

Batch: LBA-3126463 Chloride by EPA 300

Lab Sample ID 661936-001 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: 661936-001, -002, -003, -004.

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



Certificate of Analytical Results 661936

LT Environmental, Inc., Arvada, CO

Nash Unit 302H-402H

Sample Id: **PH01A**
Lab Sample Id: 661936-001

Matrix: Soil
Date Collected: 05.18.2020 12:40

Date Received: 05.19.2020 08:15
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3126463

Date Prep: 05.19.2020 11:53

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	80.8	50.0	mg/kg	05.19.2020 14:11	X	5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3126381

Date Prep: 05.19.2020 12:00

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	05.19.2020 12:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	05.19.2020 12:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	05.19.2020 12:59	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	05.19.2020 12:59	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	05.19.2020 12:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	05.19.2020 12:59	
o-Terphenyl	84-15-1	127	%	70-135	05.19.2020 12:59	



Certificate of Analytical Results 661936

LT Environmental, Inc., Arvada, CO

Nash Unit 302H-402H

Sample Id: **PH01A**
Lab Sample Id: 661936-001

Matrix: Soil
Date Collected: 05.18.2020 12:40

Date Received: 05.19.2020 08:15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126452

Prep Method: SW5035A

% Moisture:

Date Prep: 05.19.2020 10:49

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.19.2020 17:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.19.2020 17:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.19.2020 17:53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.19.2020 17:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.19.2020 17:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.19.2020 17:53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.19.2020 17:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.19.2020 17:53	
4-Bromofluorobenzene	460-00-4	96	%	70-130	05.19.2020 17:53	



Certificate of Analytical Results 661936

LT Environmental, Inc., Arvada, CO

Nash Unit 302H-402H

Sample Id: **PH02A**
Lab Sample Id: 661936-002

Matrix: Soil
Date Collected: 05.18.2020 13:02

Date Received: 05.19.2020 08:15
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3126463

Date Prep: 05.19.2020 11:53

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	389	49.9	mg/kg	05.19.2020 14:31		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3126381

Date Prep: 05.19.2020 12:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.19.2020 13:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	78.9	50.2	mg/kg	05.19.2020 13:20		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.19.2020 13:20	U	1
Total GRO-DRO	PHC628	78.9	50.2	mg/kg	05.19.2020 13:20		1
Total TPH	PHC635	78.9	50.2	mg/kg	05.19.2020 13:20		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	05.19.2020 13:20	
o-Terphenyl	84-15-1	119	%	70-135	05.19.2020 13:20	



Certificate of Analytical Results 661936

LT Environmental, Inc., Arvada, CO

Nash Unit 302H-402H

Sample Id: **PH02A**
Lab Sample Id: 661936-002

Matrix: Soil
Date Collected: 05.18.2020 13:02

Date Received: 05.19.2020 08:15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.19.2020 10:49

Basis: Wet Weight

Seq Number: 3126452

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.19.2020 18:13	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.19.2020 18:13	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.19.2020 18:13	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.19.2020 18:13	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.19.2020 18:13	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.19.2020 18:13	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.19.2020 18:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.19.2020 18:13	
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.19.2020 18:13	



Certificate of Analytical Results 661936

LT Environmental, Inc., Arvada, CO

Nash Unit 302H-402H

Sample Id: **PH03** Matrix: Soil Date Received: 05.19.2020 08:15
 Lab Sample Id: 661936-003 Date Collected: 05.18.2020 14:30 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.19.2020 11:53 Basis: Wet Weight
 Seq Number: 3126463

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	257	200	mg/kg	05.19.2020 14:37		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.19.2020 12:00 Basis: Wet Weight
 Seq Number: 3126381

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	05.19.2020 13:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	05.19.2020 13:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	05.19.2020 13:41	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	05.19.2020 13:41	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	05.19.2020 13:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	05.19.2020 13:41	
o-Terphenyl	84-15-1	119	%	70-135	05.19.2020 13:41	



Certificate of Analytical Results 661936

LT Environmental, Inc., Arvada, CO

Nash Unit 302H-402H

Sample Id: **PH03**
Lab Sample Id: 661936-003

Matrix: Soil
Date Collected: 05.18.2020 14:30

Date Received: 05.19.2020 08:15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.19.2020 10:49

Basis: Wet Weight

Seq Number: 3126452

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.19.2020 18:34	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.19.2020 18:34	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.19.2020 18:34	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.19.2020 18:34	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.19.2020 18:34	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.19.2020 18:34	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.19.2020 18:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.19.2020 18:34	
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.19.2020 18:34	



Certificate of Analytical Results 661936

LT Environmental, Inc., Arvada, CO

Nash Unit 302H-402H

Sample Id: **PH03A**
Lab Sample Id: 661936-004

Matrix: Soil
Date Collected: 05.18.2020 14:40

Date Received: 05.19.2020 08:15
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3126463

Date Prep: 05.19.2020 11:53

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	294	9.90	mg/kg	05.19.2020 14:57		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3126381

Date Prep: 05.19.2020 12:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.19.2020 14:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.19.2020 14:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.19.2020 14:01	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.19.2020 14:01	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.19.2020 14:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	05.19.2020 14:01	
o-Terphenyl	84-15-1	137	%	70-135	05.19.2020 14:01	**



Certificate of Analytical Results 661936

LT Environmental, Inc., Arvada, CO

Nash Unit 302H-402H

Sample Id: **PH03A**
Lab Sample Id: 661936-004

Matrix: Soil
Date Collected: 05.18.2020 14:40

Date Received: 05.19.2020 08:15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.19.2020 10:49

Basis: Wet Weight

Seq Number: 3126452

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.19.2020 18:54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.19.2020 18:54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.19.2020 18:54	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.19.2020 18:54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.19.2020 18:54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.19.2020 18:54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.19.2020 18:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.19.2020 18:54	
1,4-Difluorobenzene	540-36-3	104	%	70-130	05.19.2020 18:54	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

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.

Nash Unit 302H-402H

Analytical Method: Chloride by EPA 300

Seq Number: 3126463

MB Sample Id: 7703647-1-BLK

Matrix: Solid

LCS Sample Id: 7703647-1-BKS

Prep Method: E300P

Date Prep: 05.19.2020

LCSD Sample Id: 7703647-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	249	100	90-110	1	20	mg/kg	05.19.2020 12:31	

Analytical Method: Chloride by EPA 300

Seq Number: 3126463

Parent Sample Id: 661935-001

Matrix: Soil

MS Sample Id: 661935-001 S

Prep Method: E300P

Date Prep: 05.19.2020

MSD Sample Id: 661935-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	95.1	199	279	92	281	93	90-110	1	20	mg/kg	05.19.2020 12:48	

Analytical Method: Chloride by EPA 300

Seq Number: 3126463

Parent Sample Id: 661936-001

Matrix: Soil

MS Sample Id: 661936-001 S

Prep Method: E300P

Date Prep: 05.19.2020

MSD Sample Id: 661936-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	80.8	202	255	86	256	87	90-110	0	20	mg/kg	05.19.2020 14:18	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126381

MB Sample Id: 7703639-1-BLK

Matrix: Solid

LCS Sample Id: 7703639-1-BKS

Prep Method: SW8015P

Date Prep: 05.19.2020

LCSD Sample Id: 7703639-1-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	1030	103	907	91	70-135	13	35	mg/kg	05.19.2020 11:17	
Diesel Range Organics (DRO)	<50.0	1000	913	91	805	81	70-135	13	35	mg/kg	05.19.2020 11:17	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	130		116		117		70-135	%	05.19.2020 11:17
o-Terphenyl	130		112		97		70-135	%	05.19.2020 11:17

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126381

Matrix: Solid

MB Sample Id: 7703639-1-BLK

Prep Method: SW8015P

Date Prep: 05.19.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.19.2020 10:56	

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

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

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

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



LT Environmental, Inc.

Nash Unit 302H-402H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126381

Parent Sample Id: 661935-002

Matrix: Soil

MS Sample Id: 661935-002 S

Prep Method: SW8015P

Date Prep: 05.19.2020

MSD Sample Id: 661935-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	970	97	994	99	70-135	2	35	mg/kg	05.19.2020 12:18	
Diesel Range Organics (DRO)	<49.9	997	826	83	1030	103	70-135	22	35	mg/kg	05.19.2020 12:18	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		130		70-135	%	05.19.2020 12:18
o-Terphenyl	88		103		70-135	%	05.19.2020 12:18

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126452

MB Sample Id: 7703646-1-BLK

Matrix: Solid

LCS Sample Id: 7703646-1-BKS

Prep Method: SW5035A

Date Prep: 05.19.2020

LCSD Sample Id: 7703646-1-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	0.106	106	0.108	108	70-130	2	35	mg/kg	05.19.2020 12:06	
Toluene	<0.00200	0.100	0.102	102	0.101	101	70-130	1	35	mg/kg	05.19.2020 12:06	
Ethylbenzene	<0.00200	0.100	0.0942	94	0.0939	94	71-129	0	35	mg/kg	05.19.2020 12:06	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.193	97	70-135	1	35	mg/kg	05.19.2020 12:06	
o-Xylene	<0.00200	0.100	0.0992	99	0.0998	100	71-133	1	35	mg/kg	05.19.2020 12:06	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		104		105		70-130	%	05.19.2020 12:06
4-Bromofluorobenzene	99		94		93		70-130	%	05.19.2020 12:06

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126452

Parent Sample Id: 661935-001

Matrix: Soil

MS Sample Id: 661935-001 S

Prep Method: SW5035A

Date Prep: 05.19.2020

MSD Sample Id: 661935-001 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	0.110	110	0.117	117	70-130	6	35	mg/kg	05.19.2020 12:47	
Toluene	<0.00200	0.100	0.105	105	0.111	111	70-130	6	35	mg/kg	05.19.2020 12:47	
Ethylbenzene	<0.00200	0.100	0.0968	97	0.103	103	71-129	6	35	mg/kg	05.19.2020 12:47	
m,p-Xylenes	<0.00401	0.200	0.198	99	0.210	105	70-135	6	35	mg/kg	05.19.2020 12:47	
o-Xylene	<0.00200	0.100	0.0993	99	0.105	105	71-133	6	35	mg/kg	05.19.2020 12:47	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		102		70-130	%	05.19.2020 12:47
4-Bromofluorobenzene	95		94		70-130	%	05.19.2020 12:47

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) 962-0900 San Antonio, TX (210) 609-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1286
 Wichita, NM (575) 392-7550 Phoenix, AZ (480) 365-0600 Atlanta, GA (770) 446-8900 Tampa, FL (813) 520-2000

Chain of Custody

Work Order No: 1631www.xenco.com Page 1 of 1

Project Manager:	Dean McIvor	Bill No. (if different):	Kyle Little
Company Name:	L.T. Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432 238 3849	Email:	keno@xenco.com, dpm@xenco.com

Program: UST/PST	☐ PRP	☐ Brownfields	☐ RC	☐ Superfund
State of Project:				
Reporting Level II	☐ Level III	☐ STUST	☐ RRP	☐ Level IV
Deliverables: ERO	☐	ADAPT	☐	Other:

Project Name:	NASH / NIT 302H-402 H	Turn Around	☒ Routine
Project Number:	012919253	Rush:	
P.O. Number:		Due Date:	
Sampler's Name:	Ezequiel Moreno		

SAMPLE RECEIPT	Temp Blank:	☒ Yes	☐ No	Well loc:	☒ Yes	☐ No	
Temperature (°C):	1.8	Thermometer ID: TMM007					
Received intact:	☒ Yes	☐ No	Correction Factor: -0.2				
Cooler Custody Seals:	☒ Yes	☐ No	Total Containers: 4				
Sample Custody Seals:	☒ Yes	☐ No					

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Num	TPH (	BTEX	Chlor	Sample Comments									
PH04	S	5/18/20	1240	2'	1	X	X	X										
PH05	↓		1302	2'	↓	↓	↓	↓										
PH06		↓	1430	1'	↓	↓	↓	↓										
PH06A	↓		1440	2'	↓	↓	↓	↓										

Total 200.7 / 6010 200.8 / 6020:

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

BRCRA 13PPM Texas 11 A Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Br Ti Sn U V Zn

TCLP / SPLP 6010 BRCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 246.1 / 7470 / 7471 : Hg

Notes: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$1500 will be applicable 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>	5/19/20 08:15			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05.19.2020 08.15.00 AM

Work Order #: 661936

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

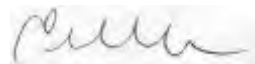
Samples received in bulk containers.

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

Analyst:

PH Device/Lot#:

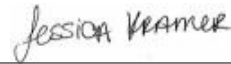
Checklist completed by:



Elizabeth McClellan

Date: 05.19.2020

Checklist reviewed by:



Jessica Kramer

Date: 05.19.2020



Certificate of Analysis Summary 661939

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Tue 05.19.2020 08:40

Report Date: 05.21.2020 10:16

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	661939-001	661939-002	661939-003	661939-004	661939-005	
	<i>Field Id:</i>	SW09	FS21A	FS22A	FS23A	FS29	
	<i>Depth:</i>	0-4 ft	4- ft	4- ft	4- ft	4- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	05.18.2020 10:54	05.18.2020 14:30	05.18.2020 14:32	05.18.2020 14:33	05.18.2020 13:21	
BTEX by EPA 8021B	<i>Extracted:</i>	05.19.2020 10:49	05.19.2020 10:49	05.19.2020 10:49	05.19.2020 10:49	05.19.2020 10:49	
	<i>Analyzed:</i>	05.19.2020 19:15	05.19.2020 19:35	05.19.2020 19:56	05.19.2020 20:16	05.19.2020 20:36	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
Toluene		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
Ethylbenzene		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
m,p-Xylenes		<0.00403 0.00403	<0.00403 0.00403	<0.00400 0.00400	<0.00401 0.00401	<0.00399 0.00399	
o-Xylene		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
Total Xylenes		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
Total BTEX		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
Chloride by EPA 300	<i>Extracted:</i>	05.19.2020 11:53	05.19.2020 11:53	05.19.2020 11:53	05.19.2020 11:53	05.19.2020 11:53	
	<i>Analyzed:</i>	05.19.2020 15:03	05.19.2020 15:10	05.19.2020 15:16	05.19.2020 15:22	05.19.2020 15:29	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		107 10.0	2900 101	2690 100	1620 50.2	14.8 9.98	
TPH by SW8015 Mod	<i>Extracted:</i>	05.19.2020 12:00	05.19.2020 12:00	05.19.2020 12:00	05.19.2020 12:00	05.19.2020 12:00	
	<i>Analyzed:</i>	05.19.2020 14:22	05.19.2020 14:43	05.19.2020 15:03	05.19.2020 15:24	05.19.2020 15:45	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0	<50.0 50.0	<50.1 50.1	<49.9 49.9	
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<50.0 50.0	<50.1 50.1	50.7 49.9	
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<50.0 50.0	<50.1 50.1	<49.9 49.9	
Total GRO-DRO		<50.0 50.0	<50.0 50.0	<50.0 50.0	<50.1 50.1	50.7 49.9	
Total TPH		<50.0 50.0	<50.0 50.0	<50.0 50.0	<50.1 50.1	50.7 49.9	

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

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

Jessica Kramer
Project Manager



Analytical Report 661939

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159

012919161

05.21.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
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)



05.21.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **661939**

PLU 159

Project Address: Eddy

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) 661939. 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. 661939 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 Manager

A Small Business and Minority Company

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

**Sample Cross Reference 661939****LT Environmental, Inc., Arvada, CO**

PLU 159

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW09	S	05.18.2020 10:54	0 - 4 ft	661939-001
FS21A	S	05.18.2020 14:30	4 ft	661939-002
FS22A	S	05.18.2020 14:32	4 ft	661939-003
FS23A	S	05.18.2020 14:33	4 ft	661939-004
FS29	S	05.18.2020 13:21	4 ft	661939-005



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 159*

Project ID: 012919161
Work Order Number(s): 661939

Report Date: 05.21.2020
Date Received: 05.19.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 661939

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW09** Matrix: Soil Date Received: 05.19.2020 08:40
 Lab Sample Id: 661939-001 Date Collected: 05.18.2020 10:54 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.19.2020 11:53 Basis: Wet Weight
 Seq Number: 3126463

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	107	10.0	mg/kg	05.19.2020 15:03		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.19.2020 12:00 Basis: Wet Weight
 Seq Number: 3126381

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.19.2020 14:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.19.2020 14:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.19.2020 14:22	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.19.2020 14:22	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.19.2020 14:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	05.19.2020 14:22	
o-Terphenyl	84-15-1	115	%	70-135	05.19.2020 14:22	



Certificate of Analytical Results 661939

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW09**
Lab Sample Id: 661939-001

Matrix: Soil
Date Collected: 05.18.2020 10:54

Date Received: 05.19.2020 08:40
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126452

Prep Method: SW5035A

% Moisture:

Date Prep: 05.19.2020 10:49

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.19.2020 19:15	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.19.2020 19:15	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.19.2020 19:15	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.19.2020 19:15	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.19.2020 19:15	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.19.2020 19:15	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.19.2020 19:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.19.2020 19:15		
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.19.2020 19:15		



Certificate of Analytical Results 661939

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS21A** Matrix: Soil Date Received: 05.19.2020 08:40
 Lab Sample Id: 661939-002 Date Collected: 05.18.2020 14:30 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.19.2020 11:53 Basis: Wet Weight
 Seq Number: 3126463

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2900	101	mg/kg	05.19.2020 15:10		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.19.2020 12:00 Basis: Wet Weight
 Seq Number: 3126381

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.19.2020 14:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.19.2020 14:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.19.2020 14:43	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.19.2020 14:43	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.19.2020 14:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	05.19.2020 14:43	
o-Terphenyl	84-15-1	126	%	70-135	05.19.2020 14:43	



Certificate of Analytical Results 661939

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS21A**
Lab Sample Id: 661939-002

Matrix: Soil
Date Collected: 05.18.2020 14:30

Date Received: 05.19.2020 08:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126452

Prep Method: SW5035A

% Moisture:

Date Prep: 05.19.2020 10:49

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.19.2020 19:35	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.19.2020 19:35	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.19.2020 19:35	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.19.2020 19:35	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.19.2020 19:35	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.19.2020 19:35	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.19.2020 19:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.19.2020 19:35	
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.19.2020 19:35	



Certificate of Analytical Results 661939

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS22A** Matrix: Soil Date Received: 05.19.2020 08:40
 Lab Sample Id: 661939-003 Date Collected: 05.18.2020 14:32 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.19.2020 11:53 Basis: Wet Weight
 Seq Number: 3126463

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2690	100	mg/kg	05.19.2020 15:16		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.19.2020 12:00 Basis: Wet Weight
 Seq Number: 3126381

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.19.2020 15:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.19.2020 15:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.19.2020 15:03	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.19.2020 15:03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.19.2020 15:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	05.19.2020 15:03	
o-Terphenyl	84-15-1	132	%	70-135	05.19.2020 15:03	



Certificate of Analytical Results 661939

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS22A**
Lab Sample Id: 661939-003

Matrix: Soil
Date Collected: 05.18.2020 14:32

Date Received: 05.19.2020 08:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.19.2020 10:49

Basis: Wet Weight

Seq Number: 3126452

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.19.2020 19:56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.19.2020 19:56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.19.2020 19:56	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.19.2020 19:56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.19.2020 19:56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.19.2020 19:56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.19.2020 19:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	05.19.2020 19:56	
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.19.2020 19:56	



Certificate of Analytical Results 661939

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS23A** Matrix: Soil Date Received: 05.19.2020 08:40
 Lab Sample Id: 661939-004 Date Collected: 05.18.2020 14:33 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.19.2020 11:53 Basis: Wet Weight
 Seq Number: 3126463

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1620	50.2	mg/kg	05.19.2020 15:22		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.19.2020 12:00 Basis: Wet Weight
 Seq Number: 3126381

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.19.2020 15:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.19.2020 15:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.19.2020 15:24	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.19.2020 15:24	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.19.2020 15:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	05.19.2020 15:24	
o-Terphenyl	84-15-1	118	%	70-135	05.19.2020 15:24	



Certificate of Analytical Results 661939

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS23A**
Lab Sample Id: 661939-004

Matrix: Soil
Date Collected: 05.18.2020 14:33

Date Received: 05.19.2020 08:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.19.2020 10:49

Basis: Wet Weight

Seq Number: 3126452

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.19.2020 20:16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.19.2020 20:16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.19.2020 20:16	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.19.2020 20:16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.19.2020 20:16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.19.2020 20:16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.19.2020 20:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	05.19.2020 20:16	
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.19.2020 20:16	



Certificate of Analytical Results 661939

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS29** Matrix: Soil Date Received: 05.19.2020 08:40
 Lab Sample Id: 661939-005 Date Collected: 05.18.2020 13:21 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.19.2020 11:53 Basis: Wet Weight
 Seq Number: 3126463

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.8	9.98	mg/kg	05.19.2020 15:29		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.19.2020 12:00 Basis: Wet Weight
 Seq Number: 3126381

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.19.2020 15:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	50.7	49.9	mg/kg	05.19.2020 15:45		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.19.2020 15:45	U	1
Total GRO-DRO	PHC628	50.7	49.9	mg/kg	05.19.2020 15:45		1
Total TPH	PHC635	50.7	49.9	mg/kg	05.19.2020 15:45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	130	%	70-135	05.19.2020 15:45	
o-Terphenyl	84-15-1	135	%	70-135	05.19.2020 15:45	



Certificate of Analytical Results 661939

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS29**
Lab Sample Id: 661939-005

Matrix: Soil
Date Collected: 05.18.2020 13:21

Date Received: 05.19.2020 08:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126452

Prep Method: SW5035A

% Moisture:

Date Prep: 05.19.2020 10:49

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.19.2020 20:36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.19.2020 20:36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.19.2020 20:36	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.19.2020 20:36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.19.2020 20:36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.19.2020 20:36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.19.2020 20:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.19.2020 20:36		
1,4-Difluorobenzene	540-36-3	107	%	70-130	05.19.2020 20:36		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

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 159

Analytical Method: Chloride by EPA 300

Seq Number: 3126463

MB Sample Id: 7703647-1-BLK

Matrix: Solid

LCS Sample Id: 7703647-1-BKS

Prep Method: E300P

Date Prep: 05.19.2020

LCSD Sample Id: 7703647-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	249	100	90-110	1	20	mg/kg	05.19.2020 12:31	

Analytical Method: Chloride by EPA 300

Seq Number: 3126463

Parent Sample Id: 661935-001

Matrix: Soil

MS Sample Id: 661935-001 S

Prep Method: E300P

Date Prep: 05.19.2020

MSD Sample Id: 661935-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	95.1	199	279	92	281	93	90-110	1	20	mg/kg	05.19.2020 12:48	

Analytical Method: Chloride by EPA 300

Seq Number: 3126463

Parent Sample Id: 661936-001

Matrix: Soil

MS Sample Id: 661936-001 S

Prep Method: E300P

Date Prep: 05.19.2020

MSD Sample Id: 661936-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	80.8	202	255	86	256	87	90-110	0	20	mg/kg	05.19.2020 14:18	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126381

MB Sample Id: 7703639-1-BLK

Matrix: Solid

LCS Sample Id: 7703639-1-BKS

Prep Method: SW8015P

Date Prep: 05.19.2020

LCSD Sample Id: 7703639-1-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	1030	103	907	91	70-135	13	35	mg/kg	05.19.2020 11:17	
Diesel Range Organics (DRO)	<50.0	1000	913	91	805	81	70-135	13	35	mg/kg	05.19.2020 11:17	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	130		116		117		70-135	%	05.19.2020 11:17
o-Terphenyl	130		112		97		70-135	%	05.19.2020 11:17

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126381

Matrix: Solid

MB Sample Id: 7703639-1-BLK

Prep Method: SW8015P

Date Prep: 05.19.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.19.2020 10:56	

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126381

Parent Sample Id: 661935-002

Matrix: Soil

MS Sample Id: 661935-002 S

Prep Method: SW8015P

Date Prep: 05.19.2020

MSD Sample Id: 661935-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	970	97	994	99	70-135	2	35	mg/kg	05.19.2020 12:18	
Diesel Range Organics (DRO)	<49.9	997	826	83	1030	103	70-135	22	35	mg/kg	05.19.2020 12:18	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		130		70-135	%	05.19.2020 12:18
o-Terphenyl	88		103		70-135	%	05.19.2020 12:18

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126452

MB Sample Id: 7703646-1-BLK

Matrix: Solid

LCS Sample Id: 7703646-1-BKS

Prep Method: SW5035A

Date Prep: 05.19.2020

LCSD Sample Id: 7703646-1-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	0.106	106	0.108	108	70-130	2	35	mg/kg	05.19.2020 12:06	
Toluene	<0.00200	0.100	0.102	102	0.101	101	70-130	1	35	mg/kg	05.19.2020 12:06	
Ethylbenzene	<0.00200	0.100	0.0942	94	0.0939	94	71-129	0	35	mg/kg	05.19.2020 12:06	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.193	97	70-135	1	35	mg/kg	05.19.2020 12:06	
o-Xylene	<0.00200	0.100	0.0992	99	0.0998	100	71-133	1	35	mg/kg	05.19.2020 12:06	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		104		105		70-130	%	05.19.2020 12:06
4-Bromofluorobenzene	99		94		93		70-130	%	05.19.2020 12:06

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126452

Parent Sample Id: 661935-001

Matrix: Soil

MS Sample Id: 661935-001 S

Prep Method: SW5035A

Date Prep: 05.19.2020

MSD Sample Id: 661935-001 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	0.110	110	0.117	117	70-130	6	35	mg/kg	05.19.2020 12:47	
Toluene	<0.00200	0.100	0.105	105	0.111	111	70-130	6	35	mg/kg	05.19.2020 12:47	
Ethylbenzene	<0.00200	0.100	0.0968	97	0.103	103	71-129	6	35	mg/kg	05.19.2020 12:47	
m,p-Xylenes	<0.00401	0.200	0.198	99	0.210	105	70-135	6	35	mg/kg	05.19.2020 12:47	
o-Xylene	<0.00200	0.100	0.0993	99	0.105	105	71-133	6	35	mg/kg	05.19.2020 12:47	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		102		70-130	%	05.19.2020 12:47
4-Bromofluorobenzene	95		94		70-130	%	05.19.2020 12:47

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: 461939

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)

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Page 1 of 1

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

Program: ☒ RP ☐ Growfields ☐ RC ☐ Superfund State of Project:	
Reporting Level: ☐ Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV	Deliverables: EDD ☐ ADAPT ☐ Other:

Project Name:	PLU 159	Turn Around
Project Number:	12919161	Routine ☒
P.O. Number:	Eddy	Rush:
Sampler's Name:	William Mather	Due Date:

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	2.0	Thermometer ID				
Received Intact:	Yes	No	TNN007			
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes	No	N/A	Total Containers:	5	

Sample Identification					Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA)	BTEX (EPA)	Chloride													Sample Comments
SW09		S	5/18/2020	10:54	0-4'	1	X	X	X									composite							
FS21A		S	5/18/2020	14:30	4'	1	X	X	X									composite							
FS22A		S	5/18/2020	14:32	4'	1	X	X	X									composite							
FS23A		S	5/18/2020	14:33	4'	1	X	X	X									composite							
FS29		S	5/18/2020	13:21	4'	1	X	X	X									composite							
</																									

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	1631 / 245.1 / 7470 / 7471 . Hg

office: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control 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>	5-19-2018 08:40	<i>[Signature]</i>	<i>[Signature]</i>	5/18/20 08:40

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05.19.2020 08.40.00 AM

Work Order #: 661939

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

Samples received in bulk containers.

*** 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: 05.19.2020

Checklist reviewed by:



Jessica Kramer

Date: 05.19.2020



Certificate of Analysis Summary 662066

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Wed 05.20.2020 11:00

Report Date: 05.22.2020 12:19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	662066-001	662066-002	662066-003	662066-004	662066-005	662066-006
	<i>Field Id:</i>	FS16A	SW10	SW11	FS24	FS25	FS26
	<i>Depth:</i>	4- ft	0-4 ft	0-4 ft	4- ft	4- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	05.19.2020 10:16	05.19.2020 10:19	05.19.2020 10:20	05.19.2020 10:45	05.19.2020 10:47	05.19.2020 10:49
BTEX by EPA 8021B	<i>Extracted:</i>	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30
	<i>Analyzed:</i>	05.20.2020 15:44	05.20.2020 16:05	05.20.2020 16:27	05.20.2020 16:48	05.20.2020 17:10	05.20.2020 17:31
	<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	<0.00198 0.00198
Toluene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
m,p-Xylenes		<0.00397 0.00397	<0.00398 0.00398	<0.00398 0.00398	<0.00401 0.00401	<0.00398 0.00398	<0.00395 0.00395
o-Xylene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Total Xylenes		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Total BTEX		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Chloride by EPA 300	<i>Extracted:</i>	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55
	<i>Analyzed:</i>	05.21.2020 11:14	05.21.2020 11:31	05.21.2020 11:37	05.21.2020 11:43	05.21.2020 11:49	05.21.2020 12:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		128 9.96	66.2 9.96	22.6 9.98	973 9.96	292 9.98	241 9.96
TPH by SW8015 Mod	<i>Extracted:</i>	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30
	<i>Analyzed:</i>	05.20.2020 12:42	05.20.2020 13:44	05.20.2020 14:05	05.20.2020 14:25	05.20.2020 14:46	05.20.2020 15:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<49.8 49.8	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.0 50.0
Diesel Range Organics (DRO)		<49.8 49.8	<49.8 49.8	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<49.8 49.8	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.0 50.0
Total GRO-DRO		<49.8 49.8	<49.8 49.8	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.0 50.0
Total TPH		<49.8 49.8	<49.8 49.8	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 662066

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Wed 05.20.2020 11:00

Report Date: 05.22.2020 12:19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	662066-007	662066-008	662066-009	662066-010	662066-011	662066-012
	Field Id:	FS27	FS28	SW12	SW13	SW14	SW15
	Depth:	4- ft	4- ft	0-4 ft	0-4 ft	0-4 ft	0-4 ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	05.19.2020 10:50	05.19.2020 10:53	05.19.2020 11:52	05.19.2020 11:55	05.19.2020 11:59	05.19.2020 12:03
BTEX by EPA 8021B	Extracted:	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30
	Analyzed:	05.20.2020 17:53	05.20.2020 18:14	05.20.2020 18:35	05.20.2020 18:57	05.20.2020 20:01	05.20.2020 20:23
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00401 0.00401	<0.00401 0.00401	<0.00402 0.00402	<0.00399 0.00399	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	Extracted:	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55
	Analyzed:	05.21.2020 12:13	05.21.2020 12:19	05.21.2020 12:24	05.21.2020 12:30	05.21.2020 12:36	05.21.2020 12:54
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		325 9.94	305 9.98	26.2 9.98	35.9 9.96	117 9.94	203 9.96
TPH by SW8015 Mod	Extracted:	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30
	Analyzed:	05.20.2020 15:27	05.20.2020 15:48	05.20.2020 16:09	05.20.2020 16:29	05.20.2020 17:10	05.20.2020 17:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<49.8 49.8	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	85.7 49.9	<49.8 49.8	<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	<49.8 49.8	<49.8 49.8	<50.0 50.0	<49.9 49.9
Total GRO-DRO		<50.0 50.0	85.7 49.9	<49.8 49.8	<49.8 49.8	<50.0 50.0	<49.9 49.9
Total TPH		<50.0 50.0	85.7 49.9	<49.8 49.8	<49.8 49.8	<50.0 50.0	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 662066

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Wed 05.20.2020 11:00

Report Date: 05.22.2020 12:19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	662066-013	662066-014	662066-015	662066-016	662066-017	662066-018
	Field Id:	SW16	SW17	SW18	SW19	FS30	FS31
	Depth:	0-4 ft	0-4 ft	0-4 ft	0-4 ft	2- ft	2- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	05.19.2020 12:08	05.19.2020 12:11	05.19.2020 12:15	05.19.2020 12:17	05.19.2020 13:32	05.19.2020 13:33
BTEX by EPA 8021B	Extracted:	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:30
	Analyzed:	05.20.2020 20:44	05.20.2020 21:05	05.20.2020 21:27	05.20.2020 21:48	05.20.2020 22:10	05.20.2020 22:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
	Toluene	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00401 0.00401	<0.00400 0.00400	<0.00402 0.00402
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Chloride by EPA 300	Extracted:	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 18:55
	Analyzed:	05.21.2020 13:00	05.21.2020 13:17	05.21.2020 13:23	05.21.2020 13:29	05.21.2020 13:35	05.21.2020 13:41
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Chloride	163 10.0	59.5 10.0	164 10.0	95.0 9.94	21.0 10.1	26.4 10.0
TPH by SW8015 Mod	Extracted:	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30
	Analyzed:	05.20.2020 14:46	05.20.2020 15:07	05.20.2020 15:27	05.20.2020 15:48	05.20.2020 16:09	05.20.2020 16:29
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Gasoline Range Hydrocarbons (GRO)	<50.1 50.1	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9	<49.9 49.9
	Diesel Range Organics (DRO)	85.4 50.1	<50.2 50.2	<50.2 50.2	199 50.2	<49.9 49.9	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9	<49.9 49.9
Total GRO-DRO		85.4 50.1	<50.2 50.2	<50.2 50.2	199 50.2	<49.9 49.9	<49.9 49.9
Total TPH		85.4 50.1	<50.2 50.2	<50.2 50.2	199 50.2	<49.9 49.9	<49.9 49.9

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 662066

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Wed 05.20.2020 11:00

Report Date: 05.22.2020 12:19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	662066-019	662066-020	662066-021	662066-022	662066-023	662066-024
	Field Id:	FS34	FS35	FS36	FS37	FS38	FS39
	Depth:	2- ft	2- ft	2- ft	2- ft	2- ft	2- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	05.19.2020 13:34	05.19.2020 13:46	05.19.2020 13:50	05.19.2020 13:52	05.19.2020 14:00	05.19.2020 14:01
BTEX by EPA 8021B	Extracted:	05.20.2020 13:30	05.20.2020 13:30	05.20.2020 13:32	05.20.2020 13:32	05.20.2020 13:32	05.20.2020 13:32
	Analyzed:	05.20.2020 22:53	05.20.2020 23:14	05.20.2020 18:24	05.20.2020 18:45	05.20.2020 19:05	05.20.2020 19:25
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00404 0.00404	<0.00401 0.00401	<0.00402 0.00402	<0.00403 0.00403	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
Chloride by EPA 300	Extracted:	05.20.2020 18:55	05.20.2020 18:55	05.20.2020 16:57	05.20.2020 16:57	05.20.2020 16:57	05.20.2020 16:57
	Analyzed:	05.21.2020 13:47	05.21.2020 13:52	05.21.2020 09:28	05.21.2020 09:46	05.21.2020 09:51	05.21.2020 09:57
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		171 10.0	64.0 10.0	48.3 9.96	11.3 9.90	13.0 10.0	77.5 10.0
TPH by SW8015 Mod	Extracted:	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30	05.20.2020 12:30
	Analyzed:	05.20.2020 17:10	05.20.2020 17:31	05.20.2020 12:42	05.20.2020 13:44	05.20.2020 14:05	05.20.2020 14:25
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.1 50.1	<50.3 50.3
Diesel Range Organics (DRO)		161 50.2	<49.9 49.9	55.8 49.9	<49.8 49.8	<50.1 50.1	<50.3 50.3
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.1 50.1	<50.3 50.3
Total GRO-DRO		161 50.2	<49.9 49.9	55.8 49.9	<49.8 49.8	<50.1 50.1	<50.3 50.3
Total TPH		161 50.2	<49.9 49.9	55.8 49.9	<49.8 49.8	<50.1 50.1	<50.3 50.3

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

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

Jessica Kramer
Project Manager



Analytical Report 662066

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159

012919161

05.22.2020

Collected By: William Mather

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-6)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



05.22.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **662066**

PLU 159

Project Address: Eddy

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) 662066. 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. 662066 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 Manager

A Small Business and Minority Company

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



Sample Cross Reference 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS16A	S	05.19.2020 10:16	4 ft	662066-001
SW10	S	05.19.2020 10:19	0 - 4 ft	662066-002
SW11	S	05.19.2020 10:20	0 - 4 ft	662066-003
FS24	S	05.19.2020 10:45	4 ft	662066-004
FS25	S	05.19.2020 10:47	4 ft	662066-005
FS26	S	05.19.2020 10:49	4 ft	662066-006
FS27	S	05.19.2020 10:50	4 ft	662066-007
FS28	S	05.19.2020 10:53	4 ft	662066-008
SW12	S	05.19.2020 11:52	0 - 4 ft	662066-009
SW13	S	05.19.2020 11:55	0 - 4 ft	662066-010
SW14	S	05.19.2020 11:59	0 - 4 ft	662066-011
SW15	S	05.19.2020 12:03	0 - 4 ft	662066-012
SW16	S	05.19.2020 12:08	0 - 4 ft	662066-013
SW17	S	05.19.2020 12:11	0 - 4 ft	662066-014
SW18	S	05.19.2020 12:15	0 - 4 ft	662066-015
SW19	S	05.19.2020 12:17	0 - 4 ft	662066-016
FS30	S	05.19.2020 13:32	2 ft	662066-017
FS31	S	05.19.2020 13:33	2 ft	662066-018
FS34	S	05.19.2020 13:34	2 ft	662066-019
FS35	S	05.19.2020 13:46	2 ft	662066-020
FS36	S	05.19.2020 13:50	2 ft	662066-021
FS37	S	05.19.2020 13:52	2 ft	662066-022
FS38	S	05.19.2020 14:00	2 ft	662066-023
FS39	S	05.19.2020 14:01	2 ft	662066-024



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 159

Project ID: 012919161
Work Order Number(s): 662066

Report Date: 05.22.2020
Date Received: 05.20.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3126575 TPH by SW8015 Mod

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

Samples affected are: 662066-005,662066-004.



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS16A** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-001 Date Collected: 05.19.2020 10:16 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	128	9.96	mg/kg	05.21.2020 11:14		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.20.2020 12:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.20.2020 12:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.20.2020 12:42	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.20.2020 12:42	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.20.2020 12:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	05.20.2020 12:42	
o-Terphenyl	84-15-1	130	%	70-135	05.20.2020 12:42	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS16A**
Lab Sample Id: 662066-001

Matrix: Soil
Date Collected: 05.19.2020 10:16

Date Received: 05.20.2020 11:00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126603

Prep Method: SW5035A

% Moisture:

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.20.2020 15:44	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.20.2020 15:44	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.20.2020 15:44	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.20.2020 15:44	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.20.2020 15:44	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.20.2020 15:44	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.20.2020 15:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	05.20.2020 15:44	
4-Bromofluorobenzene	460-00-4	103	%	70-130	05.20.2020 15:44	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW10** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-002 Date Collected: 05.19.2020 10:19 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	66.2	9.96	mg/kg	05.21.2020 11:31		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.20.2020 13:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.20.2020 13:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.20.2020 13:44	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.20.2020 13:44	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.20.2020 13:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	05.20.2020 13:44	
o-Terphenyl	84-15-1	132	%	70-135	05.20.2020 13:44	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW10**
Lab Sample Id: 662066-002

Matrix: Soil
Date Collected: 05.19.2020 10:19

Date Received: 05.20.2020 11:00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126603

Prep Method: SW5035A

% Moisture:

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.20.2020 16:05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.20.2020 16:05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.20.2020 16:05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.20.2020 16:05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.20.2020 16:05	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.20.2020 16:05	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.20.2020 16:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	05.20.2020 16:05	
4-Bromofluorobenzene	460-00-4	106	%	70-130	05.20.2020 16:05	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW11** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-003 Date Collected: 05.19.2020 10:20 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.6	9.98	mg/kg	05.21.2020 11:37		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.20.2020 14:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.20.2020 14:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.20.2020 14:05	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.20.2020 14:05	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.20.2020 14:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	05.20.2020 14:05	
o-Terphenyl	84-15-1	127	%	70-135	05.20.2020 14:05	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW11**
Lab Sample Id: 662066-003

Matrix: Soil
Date Collected: 05.19.2020 10:20

Date Received: 05.20.2020 11:00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.20.2020 16:27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.20.2020 16:27	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.20.2020 16:27	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.20.2020 16:27	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.20.2020 16:27	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.20.2020 16:27	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.20.2020 16:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.20.2020 16:27	
1,4-Difluorobenzene	540-36-3	117	%	70-130	05.20.2020 16:27	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS24** Matrix: **Soil** Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-004 Date Collected: 05.19.2020 10:45 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 05.20.2020 18:55 Basis: **Wet Weight**
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	973	9.96	mg/kg	05.21.2020 11:43		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DTH** % Moisture:
 Analyst: **DTH** Date Prep: 05.20.2020 12:30 Basis: **Wet Weight**
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.20.2020 14:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.20.2020 14:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.20.2020 14:25	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.20.2020 14:25	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.20.2020 14:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	05.20.2020 14:25	
o-Terphenyl	84-15-1	139	%	70-135	05.20.2020 14:25	**



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS24
Lab Sample Id: 662066-004

Matrix: Soil
Date Collected: 05.19.2020 10:45

Date Received: 05.20.2020 11:00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 16:48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 16:48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 16:48	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.20.2020 16:48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 16:48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 16:48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 16:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.20.2020 16:48	
4-Bromofluorobenzene	460-00-4	104	%	70-130	05.20.2020 16:48	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS25 Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-005 Date Collected: 05.19.2020 10:47 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	292	9.98	mg/kg	05.21.2020 11:49		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.20.2020 14:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.20.2020 14:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.20.2020 14:46	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.20.2020 14:46	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.20.2020 14:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	128	%	70-135	05.20.2020 14:46	
o-Terphenyl	84-15-1	136	%	70-135	05.20.2020 14:46	**



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS25
Lab Sample Id: 662066-005

Matrix: Soil
Date Collected: 05.19.2020 10:47

Date Received: 05.20.2020 11:00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.20.2020 17:10	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.20.2020 17:10	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.20.2020 17:10	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.20.2020 17:10	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.20.2020 17:10	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.20.2020 17:10	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.20.2020 17:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	05.20.2020 17:10		
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.20.2020 17:10		



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS26** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-006 Date Collected: 05.19.2020 10:49 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	241	9.96	mg/kg	05.21.2020 12:07		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.20.2020 15:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.20.2020 15:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.20.2020 15:07	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.20.2020 15:07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.20.2020 15:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	05.20.2020 15:07	
o-Terphenyl	84-15-1	127	%	70-135	05.20.2020 15:07	



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PLU 159

Sample Id: **FS26**
Lab Sample Id: 662066-006

Matrix: Soil
Date Collected: 05.19.2020 10:49

Date Received: 05.20.2020 11:00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.20.2020 17:31	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.20.2020 17:31	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.20.2020 17:31	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	05.20.2020 17:31	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.20.2020 17:31	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.20.2020 17:31	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.20.2020 17:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	05.20.2020 17:31	
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.20.2020 17:31	



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Sample Id: FS27 Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-007 Date Collected: 05.19.2020 10:50 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	325	9.94	mg/kg	05.21.2020 12:13		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.20.2020 15:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.20.2020 15:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.20.2020 15:27	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.20.2020 15:27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.20.2020 15:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	05.20.2020 15:27	
o-Terphenyl	84-15-1	129	%	70-135	05.20.2020 15:27	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS27
Lab Sample Id: 662066-007

Matrix: Soil
Date Collected: 05.19.2020 10:50

Date Received: 05.20.2020 11:00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 17:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 17:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 17:53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.20.2020 17:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 17:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 17:53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 17:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	05.20.2020 17:53	
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.20.2020 17:53	



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Sample Id: **FS28** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-008 Date Collected: 05.19.2020 10:53 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	305	9.98	mg/kg	05.21.2020 12:19		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.20.2020 15:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	85.7	49.9	mg/kg	05.20.2020 15:48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.20.2020 15:48	U	1
Total GRO-DRO	PHC628	85.7	49.9	mg/kg	05.20.2020 15:48		1
Total TPH	PHC635	85.7	49.9	mg/kg	05.20.2020 15:48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	05.20.2020 15:48	
o-Terphenyl	84-15-1	129	%	70-135	05.20.2020 15:48	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS28**
Lab Sample Id: 662066-008

Matrix: Soil
Date Collected: 05.19.2020 10:53

Date Received: 05.20.2020 11:00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 18:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 18:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 18:14	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.20.2020 18:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 18:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 18:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 18:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	70-130	05.20.2020 18:14	
1,4-Difluorobenzene	540-36-3	90	%	70-130	05.20.2020 18:14	



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PLU 159

Sample Id: **SW12** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-009 Date Collected: 05.19.2020 11:52 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.2	9.98	mg/kg	05.21.2020 12:24		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.20.2020 16:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.20.2020 16:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.20.2020 16:09	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.20.2020 16:09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.20.2020 16:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	05.20.2020 16:09	
o-Terphenyl	84-15-1	122	%	70-135	05.20.2020 16:09	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW12**
Lab Sample Id: 662066-009

Matrix: Soil
Date Collected: 05.19.2020 11:52

Date Received: 05.20.2020 11:00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 18:35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 18:35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 18:35	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.20.2020 18:35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 18:35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 18:35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 18:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	70-130	05.20.2020 18:35	
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.20.2020 18:35	



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Sample Id: **SW13** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-010 Date Collected: 05.19.2020 11:55 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	35.9	9.96	mg/kg	05.21.2020 12:30		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.20.2020 16:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.20.2020 16:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.20.2020 16:29	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.20.2020 16:29	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.20.2020 16:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	05.20.2020 16:29	
o-Terphenyl	84-15-1	122	%	70-135	05.20.2020 16:29	



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PLU 159

Sample Id: **SW13**
Lab Sample Id: 662066-010

Matrix: Soil
Date Collected: 05.19.2020 11:55

Date Received: 05.20.2020 11:00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.20.2020 18:57	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.20.2020 18:57	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.20.2020 18:57	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.20.2020 18:57	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.20.2020 18:57	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.20.2020 18:57	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.20.2020 18:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	05.20.2020 18:57	
4-Bromofluorobenzene	460-00-4	104	%	70-130	05.20.2020 18:57	



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Sample Id: **SW14** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-011 Date Collected: 05.19.2020 11:59 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	117	9.94	mg/kg	05.21.2020 12:36		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.20.2020 17:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.20.2020 17:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.20.2020 17:10	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.20.2020 17:10	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.20.2020 17:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	05.20.2020 17:10	
o-Terphenyl	84-15-1	129	%	70-135	05.20.2020 17:10	



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PLU 159

Sample Id: **SW14**
Lab Sample Id: 662066-011

Matrix: Soil
Date Collected: 05.19.2020 11:59

Date Received: 05.20.2020 11:00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 20:01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 20:01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 20:01	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.20.2020 20:01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 20:01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 20:01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 20:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.20.2020 20:01	
1,4-Difluorobenzene	540-36-3	117	%	70-130	05.20.2020 20:01	



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PLU 159

Sample Id: **SW15** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-012 Date Collected: 05.19.2020 12:03 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	203	9.96	mg/kg	05.21.2020 12:54		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.20.2020 17:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.20.2020 17:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.20.2020 17:31	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.20.2020 17:31	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.20.2020 17:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	05.20.2020 17:31	
o-Terphenyl	84-15-1	92	%	70-135	05.20.2020 17:31	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW15**
Lab Sample Id: 662066-012

Matrix: Soil
Date Collected: 05.19.2020 12:03

Date Received: 05.20.2020 11:00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126603

Prep Method: SW5035A

% Moisture:

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 20:23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 20:23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 20:23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.20.2020 20:23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 20:23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 20:23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 20:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.20.2020 20:23	
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.20.2020 20:23	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW16** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-013 Date Collected: 05.19.2020 12:08 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	163	10.0	mg/kg	05.21.2020 13:00		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.20.2020 14:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	85.4	50.1	mg/kg	05.20.2020 14:46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.20.2020 14:46	U	1
Total GRO-DRO	PHC628	85.4	50.1	mg/kg	05.20.2020 14:46		1
Total TPH	PHC635	85.4	50.1	mg/kg	05.20.2020 14:46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.20.2020 14:46	
o-Terphenyl	84-15-1	88	%	70-135	05.20.2020 14:46	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW16**
Lab Sample Id: 662066-013

Matrix: Soil
Date Collected: 05.19.2020 12:08

Date Received: 05.20.2020 11:00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 20:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 20:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 20:44	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.20.2020 20:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 20:44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 20:44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 20:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.20.2020 20:44	
1,4-Difluorobenzene	540-36-3	115	%	70-130	05.20.2020 20:44	



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Sample Id: **SW17** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-014 Date Collected: 05.19.2020 12:11 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	59.5	10.0	mg/kg	05.21.2020 13:17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.20.2020 15:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.20.2020 15:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.20.2020 15:07	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.20.2020 15:07	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.20.2020 15:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.20.2020 15:07	
o-Terphenyl	84-15-1	90	%	70-135	05.20.2020 15:07	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW17**
Lab Sample Id: 662066-014

Matrix: Soil
Date Collected: 05.19.2020 12:11

Date Received: 05.20.2020 11:00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126603

Prep Method: SW5035A

% Moisture:

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 21:05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 21:05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 21:05	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.20.2020 21:05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 21:05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 21:05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 21:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.20.2020 21:05	
4-Bromofluorobenzene	460-00-4	107	%	70-130	05.20.2020 21:05	



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Sample Id: **SW18** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-015 Date Collected: 05.19.2020 12:15 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	164	10.0	mg/kg	05.21.2020 13:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.20.2020 15:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.20.2020 15:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.20.2020 15:27	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.20.2020 15:27	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.20.2020 15:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.20.2020 15:27	
o-Terphenyl	84-15-1	94	%	70-135	05.20.2020 15:27	



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PLU 159

Sample Id: **SW18**
Lab Sample Id: 662066-015

Matrix: Soil
Date Collected: 05.19.2020 12:15

Date Received: 05.20.2020 11:00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 21:27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 21:27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 21:27	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.20.2020 21:27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 21:27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 21:27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 21:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	05.20.2020 21:27	
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.20.2020 21:27	



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Sample Id: **SW19** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-016 Date Collected: 05.19.2020 12:17 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	95.0	9.94	mg/kg	05.21.2020 13:29		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.20.2020 15:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	199	50.2	mg/kg	05.20.2020 15:48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.20.2020 15:48	U	1
Total GRO-DRO	PHC628	199	50.2	mg/kg	05.20.2020 15:48		1
Total TPH	PHC635	199	50.2	mg/kg	05.20.2020 15:48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	05.20.2020 15:48	
o-Terphenyl	84-15-1	84	%	70-135	05.20.2020 15:48	



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PLU 159

Sample Id: **SW19**
Lab Sample Id: 662066-016

Matrix: Soil
Date Collected: 05.19.2020 12:17

Date Received: 05.20.2020 11:00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126603

Prep Method: SW5035A

% Moisture:

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 21:48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 21:48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 21:48	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.20.2020 21:48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 21:48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 21:48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 21:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.20.2020 21:48	
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.20.2020 21:48	



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Sample Id: **FS30** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-017 Date Collected: 05.19.2020 13:32 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.0	10.1	mg/kg	05.21.2020 13:35		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.20.2020 16:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.20.2020 16:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.20.2020 16:09	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.20.2020 16:09	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.20.2020 16:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	05.20.2020 16:09	
o-Terphenyl	84-15-1	73	%	70-135	05.20.2020 16:09	



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PLU 159

Sample Id: **FS30**
Lab Sample Id: 662066-017

Matrix: Soil
Date Collected: 05.19.2020 13:32

Date Received: 05.20.2020 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 22:10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 22:10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 22:10	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.20.2020 22:10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 22:10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 22:10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 22:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.20.2020 22:10		
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.20.2020 22:10		



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Sample Id: **FS31** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-018 Date Collected: 05.19.2020 13:33 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.4	10.0	mg/kg	05.21.2020 13:41		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.20.2020 16:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.20.2020 16:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.20.2020 16:29	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.20.2020 16:29	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.20.2020 16:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	05.20.2020 16:29	
o-Terphenyl	84-15-1	89	%	70-135	05.20.2020 16:29	



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PLU 159

Sample Id: FS31
Lab Sample Id: 662066-018

Matrix: Soil
Date Collected: 05.19.2020 13:33

Date Received: 05.20.2020 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.20.2020 22:31	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.20.2020 22:31	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.20.2020 22:31	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.20.2020 22:31	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.20.2020 22:31	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.20.2020 22:31	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.20.2020 22:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.20.2020 22:31	
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.20.2020 22:31	



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Sample Id: **FS34** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-019 Date Collected: 05.19.2020 13:34 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	171	10.0	mg/kg	05.21.2020 13:47		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.20.2020 17:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	161	50.2	mg/kg	05.20.2020 17:10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.20.2020 17:10	U	1
Total GRO-DRO	PHC628	161	50.2	mg/kg	05.20.2020 17:10		1
Total TPH	PHC635	161	50.2	mg/kg	05.20.2020 17:10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	05.20.2020 17:10	
o-Terphenyl	84-15-1	106	%	70-135	05.20.2020 17:10	



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PLU 159

Sample Id: FS34
Lab Sample Id: 662066-019

Matrix: Soil
Date Collected: 05.19.2020 13:34

Date Received: 05.20.2020 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 22:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 22:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 22:53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.20.2020 22:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 22:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 22:53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 22:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.20.2020 22:53	
1,4-Difluorobenzene	540-36-3	117	%	70-130	05.20.2020 22:53	



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PLU 159

Sample Id: FS35 Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-020 Date Collected: 05.19.2020 13:46 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 18:55 Basis: Wet Weight
 Seq Number: 3126722

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	64.0	10.0	mg/kg	05.21.2020 13:52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.20.2020 17:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.20.2020 17:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.20.2020 17:31	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.20.2020 17:31	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.20.2020 17:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	05.20.2020 17:31	
o-Terphenyl	84-15-1	100	%	70-135	05.20.2020 17:31	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS35
Lab Sample Id: 662066-020

Matrix: Soil
Date Collected: 05.19.2020 13:46

Date Received: 05.20.2020 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:30

Basis: Wet Weight

Seq Number: 3126603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.20.2020 23:14	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.20.2020 23:14	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.20.2020 23:14	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.20.2020 23:14	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.20.2020 23:14	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.20.2020 23:14	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.20.2020 23:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.20.2020 23:14	
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.20.2020 23:14	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS36** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-021 Date Collected: 05.19.2020 13:50 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 16:57 Basis: Wet Weight
 Seq Number: 3126608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	48.3	9.96	mg/kg	05.21.2020 09:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.20.2020 12:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	55.8	49.9	mg/kg	05.20.2020 12:42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.20.2020 12:42	U	1
Total GRO-DRO	PHC628	55.8	49.9	mg/kg	05.20.2020 12:42		1
Total TPH	PHC635	55.8	49.9	mg/kg	05.20.2020 12:42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.20.2020 12:42	
o-Terphenyl	84-15-1	103	%	70-135	05.20.2020 12:42	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS36
Lab Sample Id: 662066-021

Matrix: Soil
Date Collected: 05.19.2020 13:50

Date Received: 05.20.2020 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3126601

Prep Method: SW5035A

% Moisture:

Date Prep: 05.20.2020 13:32

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 18:24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 18:24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 18:24	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.20.2020 18:24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 18:24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 18:24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 18:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	05.20.2020 18:24	
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.20.2020 18:24	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS37 Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-022 Date Collected: 05.19.2020 13:52 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 16:57 Basis: Wet Weight
 Seq Number: 3126608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.3	9.90	mg/kg	05.21.2020 09:46		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.20.2020 13:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.20.2020 13:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.20.2020 13:44	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.20.2020 13:44	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.20.2020 13:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	05.20.2020 13:44	
o-Terphenyl	84-15-1	93	%	70-135	05.20.2020 13:44	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS37
Lab Sample Id: 662066-022

Matrix: Soil
Date Collected: 05.19.2020 13:52

Date Received: 05.20.2020 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:32

Basis: Wet Weight

Seq Number: 3126601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.20.2020 18:45	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.20.2020 18:45	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.20.2020 18:45	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.20.2020 18:45	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.20.2020 18:45	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.20.2020 18:45	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.20.2020 18:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	05.20.2020 18:45	
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.20.2020 18:45	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS38** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-023 Date Collected: 05.19.2020 14:00 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 16:57 Basis: Wet Weight
 Seq Number: 3126608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.0	10.0	mg/kg	05.21.2020 09:51		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.20.2020 14:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.20.2020 14:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.20.2020 14:05	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.20.2020 14:05	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.20.2020 14:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.20.2020 14:05	
o-Terphenyl	84-15-1	95	%	70-135	05.20.2020 14:05	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS38**
Lab Sample Id: 662066-023

Matrix: Soil
Date Collected: 05.19.2020 14:00

Date Received: 05.20.2020 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:32

Basis: Wet Weight

Seq Number: 3126601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.20.2020 19:05	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.20.2020 19:05	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.20.2020 19:05	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.20.2020 19:05	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.20.2020 19:05	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.20.2020 19:05	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.20.2020 19:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.20.2020 19:05	
1,4-Difluorobenzene	540-36-3	110	%	70-130	05.20.2020 19:05	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS39** Matrix: Soil Date Received: 05.20.2020 11:00
 Lab Sample Id: 662066-024 Date Collected: 05.19.2020 14:01 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.20.2020 16:57 Basis: Wet Weight
 Seq Number: 3126608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	77.5	10.0	mg/kg	05.21.2020 09:57		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.20.2020 12:30 Basis: Wet Weight
 Seq Number: 3126581

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	05.20.2020 14:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	05.20.2020 14:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	05.20.2020 14:25	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	05.20.2020 14:25	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	05.20.2020 14:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	05.20.2020 14:25	
o-Terphenyl	84-15-1	92	%	70-135	05.20.2020 14:25	



Certificate of Analytical Results 662066

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS39**
Lab Sample Id: 662066-024

Matrix: Soil
Date Collected: 05.19.2020 14:01

Date Received: 05.20.2020 11:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.20.2020 13:32

Basis: Wet Weight

Seq Number: 3126601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.2020 19:25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.2020 19:25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.2020 19:25	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.20.2020 19:25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.2020 19:25	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.2020 19:25	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.2020 19:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.20.2020 19:25	
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.20.2020 19:25	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

PQL Practical Quantitation Limit **SQL** Sample Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 159

Analytical Method: Chloride by EPA 300

Seq Number: 3126608

MB Sample Id: 7703792-1-BLK

Matrix: Solid

LCS Sample Id: 7703792-1-BKS

Prep Method: E300P

Date Prep: 05.20.2020

LCSD Sample Id: 7703792-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	250	100	249	100	90-110	0	20	mg/kg	05.20.2020 20:39	

Analytical Method: Chloride by EPA 300

Seq Number: 3126722

MB Sample Id: 7703791-1-BLK

Matrix: Solid

LCS Sample Id: 7703791-1-BKS

Prep Method: E300P

Date Prep: 05.20.2020

LCSD Sample Id: 7703791-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	249	100	90-110	1	20	mg/kg	05.21.2020 11:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3126608

Parent Sample Id: 662066-021

Matrix: Soil

MS Sample Id: 662066-021 S

Prep Method: E300P

Date Prep: 05.20.2020

MSD Sample Id: 662066-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	48.3	200	248	100	249	100	90-110	0	20	mg/kg	05.21.2020 09:34	

Analytical Method: Chloride by EPA 300

Seq Number: 3126608

Parent Sample Id: 662179-011

Matrix: Soil

MS Sample Id: 662179-011 S

Prep Method: E300P

Date Prep: 05.20.2020

MSD Sample Id: 662179-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	437	200	624	94	624	94	90-110	0	20	mg/kg	05.20.2020 22:18	

Analytical Method: Chloride by EPA 300

Seq Number: 3126722

Parent Sample Id: 662066-001

Matrix: Soil

MS Sample Id: 662066-001 S

Prep Method: E300P

Date Prep: 05.20.2020

MSD Sample Id: 662066-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	128	200	314	93	314	93	90-110	0	20	mg/kg	05.21.2020 11:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3126722

Parent Sample Id: 662066-011

Matrix: Soil

MS Sample Id: 662066-011 S

Prep Method: E300P

Date Prep: 05.20.2020

MSD Sample Id: 662066-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	117	200	310	97	310	97	90-110	0	20	mg/kg	05.21.2020 12:42	

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 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126575

MB Sample Id: 7703779-1-BLK

Matrix: Solid

LCS Sample Id: 7703779-1-BKS

Prep Method: SW8015P

Date Prep: 05.20.2020

LCSD Sample Id: 7703779-1-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	939	94	957	96	70-135	2	35	mg/kg	05.20.2020 11:55	
Diesel Range Organics (DRO)	<50.0	1000	1090	109	1110	111	70-135	2	35	mg/kg	05.20.2020 11:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		129		129		70-135	%	05.20.2020 11:55
o-Terphenyl	132		133		133		70-135	%	05.20.2020 11:55

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126581

MB Sample Id: 7703783-1-BLK

Matrix: Solid

LCS Sample Id: 7703783-1-BKS

Prep Method: SW8015P

Date Prep: 05.20.2020

LCSD Sample Id: 7703783-1-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	983	98	1010	101	70-135	3	35	mg/kg	05.20.2020 11:55	
Diesel Range Organics (DRO)	<50.0	1000	865	87	876	88	70-135	1	35	mg/kg	05.20.2020 11:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		128		128		70-135	%	05.20.2020 11:55
o-Terphenyl	97		107		106		70-135	%	05.20.2020 11:55

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126575

Matrix: Solid

MB Sample Id: 7703779-1-BLK

Prep Method: SW8015P

Date Prep: 05.20.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.20.2020 11:35	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126581

Matrix: Solid

MB Sample Id: 7703783-1-BLK

Prep Method: SW8015P

Date Prep: 05.20.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.20.2020 11:35	

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126575

Parent Sample Id: 662066-001

Matrix: Soil

MS Sample Id: 662066-001 S

Prep Method: SW8015P

Date Prep: 05.20.2020

MSD Sample Id: 662066-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	879	88	934	94	70-135	6	35	mg/kg	05.20.2020 13:03	
Diesel Range Organics (DRO)	<49.9	997	1010	101	1080	108	70-135	7	35	mg/kg	05.20.2020 13:03	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	130		135		70-135	%	05.20.2020 13:03
o-Terphenyl	134		134		70-135	%	05.20.2020 13:03

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126581

Parent Sample Id: 662066-021

Matrix: Soil

MS Sample Id: 662066-021 S

Prep Method: SW8015P

Date Prep: 05.20.2020

MSD Sample Id: 662066-021 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	828	83	1030	102	70-135	22	35	mg/kg	05.20.2020 13:03	
Diesel Range Organics (DRO)	55.8	1000	850	79	1070	100	70-135	23	35	mg/kg	05.20.2020 13:03	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		124		70-135	%	05.20.2020 13:03
o-Terphenyl	92		106		70-135	%	05.20.2020 13:03

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126603

MB Sample Id: 7703736-1-BLK

Matrix: Solid

LCS Sample Id: 7703736-1-BKS

Prep Method: SW5035A

Date Prep: 05.20.2020

LCSD Sample Id: 7703736-1-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	0.123	123	70-130	9	35	mg/kg	05.20.2020 13:36	
Toluene	<0.00200	0.100	0.101	101	0.112	112	70-130	10	35	mg/kg	05.20.2020 13:36	
Ethylbenzene	<0.00200	0.100	0.0937	94	0.104	104	71-129	10	35	mg/kg	05.20.2020 13:36	
m,p-Xylenes	<0.00400	0.200	0.181	91	0.203	102	70-135	11	35	mg/kg	05.20.2020 13:36	
o-Xylene	<0.00200	0.100	0.0933	93	0.104	104	71-133	11	35	mg/kg	05.20.2020 13:36	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	115		109		109		70-130	%	05.20.2020 13:36
4-Bromofluorobenzene	100		95		98		70-130	%	05.20.2020 13:36

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126601

MB Sample Id: 7703737-1-BLK

Matrix: Solid

LCS Sample Id: 7703737-1-BKS

Prep Method: SW5035A

Date Prep: 05.20.2020

LCSD Sample Id: 7703737-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.110	110	0.104	104	70-130	6	35	mg/kg	05.20.2020 16:42	
Toluene	<0.00200	0.100	0.105	105	0.0999	100	70-130	5	35	mg/kg	05.20.2020 16:42	
Ethylbenzene	<0.00200	0.100	0.0987	99	0.0940	94	71-129	5	35	mg/kg	05.20.2020 16:42	
m,p-Xylenes	<0.00400	0.200	0.204	102	0.194	97	70-135	5	35	mg/kg	05.20.2020 16:42	
o-Xylene	<0.00200	0.100	0.103	103	0.0970	97	71-133	6	35	mg/kg	05.20.2020 16:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		105		104		70-130	%	05.20.2020 16:42
4-Bromofluorobenzene	97		94		93		70-130	%	05.20.2020 16:42

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126603

Parent Sample Id: 662066-001

Matrix: Soil

MS Sample Id: 662066-001 S

Prep Method: SW5035A

Date Prep: 05.20.2020

MSD Sample Id: 662066-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.122	123	0.119	119	70-130	2	35	mg/kg	05.20.2020 14:40	
Toluene	<0.00199	0.0994	0.109	110	0.108	108	70-130	1	35	mg/kg	05.20.2020 14:40	
Ethylbenzene	<0.00199	0.0994	0.101	102	0.0996	100	71-129	1	35	mg/kg	05.20.2020 14:40	
m,p-Xylenes	<0.00398	0.199	0.195	98	0.194	97	70-135	1	35	mg/kg	05.20.2020 14:40	
o-Xylene	<0.00199	0.0994	0.0990	100	0.0994	100	71-133	0	35	mg/kg	05.20.2020 14:40	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		70-130	%	05.20.2020 14:40
4-Bromofluorobenzene	98		99		70-130	%	05.20.2020 14:40

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126601

Parent Sample Id: 662066-021

Matrix: Soil

MS Sample Id: 662066-021 S

Prep Method: SW5035A

Date Prep: 05.20.2020

MSD Sample Id: 662066-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.108	108	0.119	119	70-130	10	35	mg/kg	05.21.2020 01:53	
Toluene	<0.00201	0.100	0.102	102	0.111	111	70-130	8	35	mg/kg	05.21.2020 01:53	
Ethylbenzene	<0.00201	0.100	0.0951	95	0.0981	98	71-129	3	35	mg/kg	05.21.2020 01:53	
m,p-Xylenes	<0.00402	0.201	0.195	97	0.200	100	70-135	3	35	mg/kg	05.21.2020 01:53	
o-Xylene	<0.00201	0.100	0.0991	99	0.102	102	71-133	3	35	mg/kg	05.21.2020 01:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		104		70-130	%	05.21.2020 01:53
4-Bromofluorobenzene	88		93		70-130	%	05.21.2020 01:53

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

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

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

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



Chain of Custody

Work Order No: 1632016

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)

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

Project Name:	PLU 159	Turn Around	
Project Number:	012919161	Routine	
P.O. Number:	Eddy	Rush:	
Sampler's Name:	William Mather	Due Date:	

Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	2.4		Thermometer ID	TMM007	
Received Intact:	Yes	No	Correction Factor:	-0.2	
Cooler Custody Seals:	Yes	No	Total Containers:	24	
Sample Custody Seals:	Yes	No			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST											Work Order Notes
					Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)								
FS16A	S	5/19/2020	10:16	4'	1	X	X	X								Composite
SW10	S	5/19/2020	10:19	0-4'	1	X	X	X								Composite
SW11	S	5/19/2020	10:20	0-4'	1	X	X	X								Composite
FS24	S	5/19/2020	10:45	4'	1	X	X	X								Composite
FS25	S	5/19/2020	10:47	4'	1	X	X	X								Composite
FS26	S	5/19/2020	10:49	4'	1	X	X	X								Composite
FS27	S	5/19/2020	10:50	4'	1	X	X	X								Composite
FS28	S	5/19/2020	10:53	4'	1	X	X	X								Composite
SW12	S	5/19/2020	11:52	0-4'	1	X	X	X								Composite
SW13	S	5/19/2020	11:55	0-4'	1	X	X	X								Composite

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	5/20/20 11:00	<i>[Signature]</i>	<i>[Signature]</i>	5/20/20 11:00



Chain of Custody

Work Order No: W2020

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

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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:	wmather@ltenv.com, dmoir@ltenv.com

Program: UST/PST	☐ RP	☐ Brownfields	☐ RC	☐ Deepfund
State of Project:				
Reporting Level II	☐ Level III	☐ ST/UST	☐ RP	☐ Level IV
Deliverables: EDD	☐ ADAPT	☐ Other:		

Project Name:	PLU 159	Turn Around	
Project Number:	012919161	Routine	☒
P.O. Number:	Eddy	Rush:	
Sampler's Name:	William Mather	Due Date:	

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers												
					TPH (EPA 8015)												
					BTEX (EPA 0=8021)												
					Chloride (EPA 300.0)												
SW14	S	5/19/2020	11:59	0-4'	1	X	X	X									Composite
SW15	S	5/19/2020	12:03	0-4'	1	X	X	X									Composite
SW16	S	5/19/2020	12:08	0-4'	1	X	X	X									Composite
SW17	S	5/19/2020	12:11	0-4'	1	X	X	X									Composite
SW18	S	5/19/2020	12:15	0-4'	1	X	X	X									Composite
SW19	S	5/19/2020	12:17	0-4'	1	X	X	X									Composite
FS30	S	5/19/2020	13:32	2'	1	X	X	X									Composite
FS31	S	5/19/2020	13:33	2'	1	X	X	X									Composite
FS34	S	5/19/2020	13:44	2'	1	X	X	X									Composite
FS35	S	5/19/2020	13:46	2'	1	X	X	X									Composite

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	5/20/20 10:00 AM	<i>[Signature]</i>	<i>[Signature]</i>	5/20/20 11:00



Chain of Custody

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

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Work Order No: 440747

cele 2020

6/6/20

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrell
Company Name:	LT Environmental Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	lmmather@ltenv.com, dmoir@ltenv.com
Project Name:	PLU 159	Turn Around	
Project Number:	0 12919161	Routine	
P.O. Number:	Eddy	Rush:	
Sampler's Name:	William Mather	Due Date:	
SAMPLE RECEIPT Temperature (°C): <u>28</u> Yes <u>No</u> Wet Ice: Yes <u>No</u> Received Intact: <u>Yes</u> No <u>No</u> Thermometer ID: <u>1</u> Cooler Custody Seals: Yes <u>No</u> N/A Correction Factor: <u>1</u> Sample Custody Seals: Yes <u>No</u> N/A Total Containers: <u>1</u>			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST										Work Order Notes
					Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)							
FS36	S	5/19/2020	13:50	2'	1	X	X	X							Composite
FS37	S	5/19/2020	13:52	2'	1	X	X	X							Composite
FS38	S	5/19/2020	14:00	2'	1	X	X	X							Composite
FS39	S	5/19/2020	14:01	2'	1	X	X	X							Composite
Work Order Comments TAT starts the day received by the lab, if received by 4:30pm															

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<u>[Signature]</u>	<u>[Signature]</u>	5/20/20 11:00	<u>[Signature]</u>	<u>[Signature]</u>	5/20/20 11:00

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05.20.2020 11.00.00 AM

Work Order #: 662066

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)?	2.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

Samples received in bulk containers.

* 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: 05.20.2020

Checklist reviewed by:



Jessica Kramer

Date: 05.20.2020



Certificate of Analysis Summary 662565

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Tue 05.26.2020 11:55

Report Date: 05.30.2020 23:43

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	662565-001	662565-002	662565-003	662565-004	662565-005	662565-006
	Field Id:	FS40	FS41	SW24	SW25	SW26	SW27
	Depth:	4- ft	4- ft	0-4 ft	0-4 ft	0-4 ft	0-4 ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	05.22.2020 09:47	05.22.2020 10:15	05.22.2020 09:49	05.22.2020 09:50	05.22.2020 13:44	05.22.2020 13:46
BTEX by EPA 8021B	Extracted:	05.26.2020 14:52	05.26.2020 14:52	05.26.2020 14:52	05.26.2020 14:52	05.26.2020 14:52	05.26.2020 14:52
	Analyzed:	05.26.2020 17:15	05.26.2020 17:35	05.26.2020 17:56	05.26.2020 18:16	05.26.2020 18:37	05.26.2020 18:57
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	0.0188 0.00200	0.0778 0.00200	<0.00198 0.00198
Toluene		<0.00201 0.00201	<0.00201 0.00201	0.0584 0.00200	0.109 0.00200	0.536 D 0.00990	0.140 0.00198
Ethylbenzene		<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	0.0177 0.00200	0.134 0.00200	0.0303 0.00198
m,p-Xylenes		<0.00402 0.00402	<0.00402 0.00402	0.0286 0.00401	0.0449 0.00399	0.377 0.00399	0.0795 0.00395
o-Xylene		<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	0.0123 0.00200	0.106 0.00200	0.0233 0.00198
Total Xylenes		<0.00201 0.00201	<0.00201 0.00201	0.0286 0.00200	0.0572 0.00200	0.483 0.00200	0.103 0.00198
Total BTEX		<0.00201 0.00201	<0.00201 0.00201	0.0870 0.00200	0.203 0.00200	1.23 0.00200	0.273 0.00198
Chloride by EPA 300	Extracted:	05.26.2020 15:00	05.26.2020 15:00	05.26.2020 15:00	05.26.2020 15:00	05.26.2020 15:00	05.26.2020 15:00
	Analyzed:	05.26.2020 16:00	05.26.2020 16:06	05.26.2020 16:12	05.26.2020 16:18	05.26.2020 16:36	05.26.2020 16:41
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		4680 99.4	4330 100	152 9.94	1070 9.98	287 10.0	352 9.92
TPH by SW8015 Mod	Extracted:	05.26.2020 13:45	05.26.2020 13:45	05.26.2020 13:45	05.26.2020 13:45	05.26.2020 13:45	05.26.2020 13:45
	Analyzed:	05.26.2020 14:09	05.26.2020 15:09	05.26.2020 15:09	05.26.2020 15:30	05.26.2020 15:30	05.26.2020 15:50
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.3 50.3	<50.0 50.0	<50.1 50.1	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<50.3 50.3	<50.0 50.0	<50.1 50.1	<50.0 50.0	132 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.3 50.3	<50.0 50.0	<50.1 50.1	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<50.0 50.0	<50.3 50.3	<50.0 50.0	<50.1 50.1	<50.0 50.0	132 50.0
Total TPH		<50.0 50.0	<50.3 50.3	<50.0 50.0	<50.1 50.1	<50.0 50.0	132 50.0

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

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 662565

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Tue 05.26.2020 11:55

Report Date: 05.30.2020 23:43

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	662565-007	662565-008	662565-009	662565-010	662565-011	
	Field Id:	SW28	SW29	SW30	SW31	SW32	
	Depth:	0-4 ft	0-4 ft	0-4 ft	0-4 ft	0-4 ft	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	05.22.2020 11:56	05.22.2020 13:06	05.22.2020 12:10	05.22.2020 12:12	05.22.2020 14:24	
BTEX by EPA 8021B	Extracted:	05.26.2020 14:52	05.26.2020 14:52	05.26.2020 14:52	05.26.2020 14:52	05.26.2020 14:52	
	Analyzed:	05.26.2020 19:18	05.26.2020 19:38	05.26.2020 19:58	05.26.2020 21:00	05.26.2020 21:20	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00200 0.00200	<0.00199 0.00199	0.0199 0.00199	0.0337 0.00198	<0.00198 0.00198	
Toluene		0.116 0.00200	<0.00199 0.00199	0.115 0.00199	0.239 0.00198	<0.00198 0.00198	
Ethylbenzene		0.0269 0.00200	<0.00199 0.00199	0.0159 0.00199	0.0584 0.00198	<0.00198 0.00198	
m,p-Xylenes		0.0749 0.00399	<0.00398 0.00398	0.0417 0.00398	0.166 0.00396	<0.00396 0.00396	
o-Xylene		0.0200 0.00200	<0.00199 0.00199	0.00994 0.00199	0.0436 0.00198	<0.00198 0.00198	
Total Xylenes		0.0949 0.00200	<0.00199 0.00199	0.0516 0.00199	0.210 0.00198	<0.00198 0.00198	
Total BTEX		0.238 0.00200	<0.00199 0.00199	0.202 0.00199	0.541 0.00198	<0.00198 0.00198	
Chloride by EPA 300	Extracted:	05.26.2020 15:00	05.26.2020 15:00	05.26.2020 15:00	05.26.2020 15:00	05.26.2020 15:00	
	Analyzed:	05.26.2020 16:47	05.26.2020 16:53	05.26.2020 16:59	05.26.2020 17:05	05.26.2020 17:23	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		181 9.98	272 9.96	76.6 9.96	<9.96 9.96	15.9 9.88	
TPH by SW8015 Mod	Extracted:	05.26.2020 13:45	05.26.2020 13:45	05.26.2020 13:45	05.26.2020 13:45	05.26.2020 13:45	
	Analyzed:	05.26.2020 15:50	05.26.2020 16:10	05.26.2020 16:10	05.26.2020 16:31	05.26.2020 16:31	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.8 49.8	<49.8 49.8	
Diesel Range Organics (DRO)		<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.8 49.8	<49.8 49.8	
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.8 49.8	<49.8 49.8	
Total GRO-DRO		<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.8 49.8	<49.8 49.8	
Total TPH		<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.8 49.8	<49.8 49.8	

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

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Jessica Kramer
Project Manager



Analytical Report 662565

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159

012919161

05.30.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-6)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



05.30.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **662565**

PLU 159

Project Address: Eddy

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) 662565. 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. 662565 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 Manager

A Small Business and Minority Company

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

**Sample Cross Reference 662565****LT Environmental, Inc., Arvada, CO**

PLU 159

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS40	S	05.22.2020 09:47	4 ft	662565-001
FS41	S	05.22.2020 10:15	4 ft	662565-002
SW24	S	05.22.2020 09:49	0 - 4 ft	662565-003
SW25	S	05.22.2020 09:50	0 - 4 ft	662565-004
SW26	S	05.22.2020 13:44	0 - 4 ft	662565-005
SW27	S	05.22.2020 13:46	0 - 4 ft	662565-006
SW28	S	05.22.2020 11:56	0 - 4 ft	662565-007
SW29	S	05.22.2020 13:06	0 - 4 ft	662565-008
SW30	S	05.22.2020 12:10	0 - 4 ft	662565-009
SW31	S	05.22.2020 12:12	0 - 4 ft	662565-010
SW32	S	05.22.2020 14:24	0 - 4 ft	662565-011



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 159*

Project ID: 012919161
Work Order Number(s): 662565

Report Date: 05.30.2020
Date Received: 05.26.2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS40** Matrix: Soil Date Received: 05.26.2020 11:55
 Lab Sample Id: 662565-001 Date Collected: 05.22.2020 09:47 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:00 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4680	99.4	mg/kg	05.26.2020 16:00		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 13:45 Basis: Wet Weight
 Seq Number: 3127053

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.26.2020 14:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.26.2020 14:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.26.2020 14:09	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.26.2020 14:09	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.26.2020 14:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	05.26.2020 14:09	
o-Terphenyl	84-15-1	77	%	70-135	05.26.2020 14:09	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS40**
Lab Sample Id: 662565-001

Matrix: Soil
Date Collected: 05.22.2020 09:47

Date Received: 05.26.2020 11:55
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 14:52

Basis: Wet Weight

Seq Number: 3127038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.26.2020 17:15	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.26.2020 17:15	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.26.2020 17:15	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.26.2020 17:15	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.26.2020 17:15	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.26.2020 17:15	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.26.2020 17:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.26.2020 17:15	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.26.2020 17:15	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS41** Matrix: Soil Date Received: 05.26.2020 11:55
 Lab Sample Id: 662565-002 Date Collected: 05.22.2020 10:15 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:00 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4330	100	mg/kg	05.26.2020 16:06		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 13:45 Basis: Wet Weight
 Seq Number: 3127053

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	05.26.2020 15:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	05.26.2020 15:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	05.26.2020 15:09	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	05.26.2020 15:09	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	05.26.2020 15:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	05.26.2020 15:09	
o-Terphenyl	84-15-1	88	%	70-135	05.26.2020 15:09	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS41**
Lab Sample Id: 662565-002

Matrix: Soil
Date Collected: 05.22.2020 10:15

Date Received: 05.26.2020 11:55
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127038

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 14:52

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.26.2020 17:35	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.26.2020 17:35	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.26.2020 17:35	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.26.2020 17:35	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.26.2020 17:35	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.26.2020 17:35	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.26.2020 17:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	05.26.2020 17:35	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.26.2020 17:35	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW24** Matrix: Soil Date Received: 05.26.2020 11:55
 Lab Sample Id: 662565-003 Date Collected: 05.22.2020 09:49 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:00 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	152	9.94	mg/kg	05.26.2020 16:12		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 13:45 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.26.2020 15:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.26.2020 15:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.26.2020 15:09	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.26.2020 15:09	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.26.2020 15:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	05.26.2020 15:09	
o-Terphenyl	84-15-1	94	%	70-135	05.26.2020 15:09	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW24**
Lab Sample Id: 662565-003

Matrix: Soil
Date Collected: 05.22.2020 09:49

Date Received: 05.26.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 14:52

Basis: Wet Weight

Seq Number: 3127038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.26.2020 17:56	U	1
Toluene	108-88-3	0.0584	0.00200	mg/kg	05.26.2020 17:56		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.26.2020 17:56	U	1
m,p-Xylenes	179601-23-1	0.0286	0.00401	mg/kg	05.26.2020 17:56		1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.26.2020 17:56	U	1
Total Xylenes	1330-20-7	0.0286	0.00200	mg/kg	05.26.2020 17:56		1
Total BTEX		0.0870	0.00200	mg/kg	05.26.2020 17:56		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	05.26.2020 17:56		
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.26.2020 17:56		



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW25** Matrix: Soil Date Received: 05.26.2020 11:55
 Lab Sample Id: 662565-004 Date Collected: 05.22.2020 09:50 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:00 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1070	9.98	mg/kg	05.26.2020 16:18		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 13:45 Basis: Wet Weight
 Seq Number: 3127053

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.26.2020 15:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.26.2020 15:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.26.2020 15:30	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.26.2020 15:30	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.26.2020 15:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	05.26.2020 15:30	
o-Terphenyl	84-15-1	75	%	70-135	05.26.2020 15:30	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: SW25
Lab Sample Id: 662565-004

Matrix: Soil
Date Collected: 05.22.2020 09:50

Date Received: 05.26.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 14:52

Basis: Wet Weight

Seq Number: 3127038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0188	0.00200	mg/kg	05.26.2020 18:16		1
Toluene	108-88-3	0.109	0.00200	mg/kg	05.26.2020 18:16		1
Ethylbenzene	100-41-4	0.0177	0.00200	mg/kg	05.26.2020 18:16		1
m,p-Xylenes	179601-23-1	0.0449	0.00399	mg/kg	05.26.2020 18:16		1
o-Xylene	95-47-6	0.0123	0.00200	mg/kg	05.26.2020 18:16		1
Total Xylenes	1330-20-7	0.0572	0.00200	mg/kg	05.26.2020 18:16		1
Total BTEX		0.203	0.00200	mg/kg	05.26.2020 18:16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.26.2020 18:16	
4-Bromofluorobenzene	460-00-4	93	%	70-130	05.26.2020 18:16	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW26** Matrix: Soil Date Received: 05.26.2020 11:55
 Lab Sample Id: 662565-005 Date Collected: 05.22.2020 13:44 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:00 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	287	10.0	mg/kg	05.26.2020 16:36		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 13:45 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.26.2020 15:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.26.2020 15:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.26.2020 15:30	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.26.2020 15:30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.26.2020 15:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	05.26.2020 15:30	
o-Terphenyl	84-15-1	83	%	70-135	05.26.2020 15:30	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW26**
Lab Sample Id: 662565-005

Matrix: Soil
Date Collected: 05.22.2020 13:44

Date Received: 05.26.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127038

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 14:52

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0778	0.00200	mg/kg	05.26.2020 18:37		1
Toluene	108-88-3	0.536	0.00990	mg/kg	05.27.2020 11:37	D	1
Ethylbenzene	100-41-4	0.134	0.00200	mg/kg	05.26.2020 18:37		1
m,p-Xylenes	179601-23-1	0.377	0.00399	mg/kg	05.26.2020 18:37		1
o-Xylene	95-47-6	0.106	0.00200	mg/kg	05.26.2020 18:37		1
Total Xylenes	1330-20-7	0.483	0.00200	mg/kg	05.26.2020 18:37		1
Total BTEX		1.23	0.00200	mg/kg	05.27.2020 11:37		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	88	%	70-130	05.26.2020 18:37		
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.26.2020 18:37		



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW27** Matrix: Soil Date Received: 05.26.2020 11:55
 Lab Sample Id: 662565-006 Date Collected: 05.22.2020 13:46 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:00 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	352	9.92	mg/kg	05.26.2020 16:41		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 13:45 Basis: Wet Weight
 Seq Number: 3127053

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.26.2020 15:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	132	50.0	mg/kg	05.26.2020 15:50		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.26.2020 15:50	U	1
Total GRO-DRO	PHC628	132	50.0	mg/kg	05.26.2020 15:50		1
Total TPH	PHC635	132	50.0	mg/kg	05.26.2020 15:50		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	05.26.2020 15:50	
o-Terphenyl	84-15-1	90	%	70-135	05.26.2020 15:50	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW27**
Lab Sample Id: 662565-006

Matrix: Soil
Date Collected: 05.22.2020 13:46

Date Received: 05.26.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 14:52

Basis: Wet Weight

Seq Number: 3127038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.26.2020 18:57	U	1
Toluene	108-88-3	0.140	0.00198	mg/kg	05.26.2020 18:57		1
Ethylbenzene	100-41-4	0.0303	0.00198	mg/kg	05.26.2020 18:57		1
m,p-Xylenes	179601-23-1	0.0795	0.00395	mg/kg	05.26.2020 18:57		1
o-Xylene	95-47-6	0.0233	0.00198	mg/kg	05.26.2020 18:57		1
Total Xylenes	1330-20-7	0.103	0.00198	mg/kg	05.26.2020 18:57		1
Total BTEX		0.273	0.00198	mg/kg	05.26.2020 18:57		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.26.2020 18:57		
4-Bromofluorobenzene	460-00-4	89	%	70-130	05.26.2020 18:57		



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW28** Matrix: Soil Date Received: 05.26.2020 11:55
 Lab Sample Id: 662565-007 Date Collected: 05.22.2020 11:56 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:00 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	181	9.98	mg/kg	05.26.2020 16:47		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 13:45 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.26.2020 15:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.26.2020 15:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.26.2020 15:50	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.26.2020 15:50	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.26.2020 15:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	05.26.2020 15:50	
o-Terphenyl	84-15-1	89	%	70-135	05.26.2020 15:50	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW28**
Lab Sample Id: 662565-007

Matrix: Soil
Date Collected: 05.22.2020 11:56

Date Received: 05.26.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127038

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 14:52

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.26.2020 19:18	U	1
Toluene	108-88-3	0.116	0.00200	mg/kg	05.26.2020 19:18		1
Ethylbenzene	100-41-4	0.0269	0.00200	mg/kg	05.26.2020 19:18		1
m,p-Xylenes	179601-23-1	0.0749	0.00399	mg/kg	05.26.2020 19:18		1
o-Xylene	95-47-6	0.0200	0.00200	mg/kg	05.26.2020 19:18		1
Total Xylenes	1330-20-7	0.0949	0.00200	mg/kg	05.26.2020 19:18		1
Total BTEX		0.238	0.00200	mg/kg	05.26.2020 19:18		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	05.26.2020 19:18		
1,4-Difluorobenzene	540-36-3	112	%	70-130	05.26.2020 19:18		



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW29** Matrix: Soil Date Received: 05.26.2020 11:55
 Lab Sample Id: 662565-008 Date Collected: 05.22.2020 13:06 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:00 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	272	9.96	mg/kg	05.26.2020 16:53		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 13:45 Basis: Wet Weight
 Seq Number: 3127053

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.26.2020 16:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.26.2020 16:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.26.2020 16:10	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.26.2020 16:10	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.26.2020 16:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	05.26.2020 16:10	
o-Terphenyl	84-15-1	89	%	70-135	05.26.2020 16:10	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW29**
Lab Sample Id: 662565-008

Matrix: Soil
Date Collected: 05.22.2020 13:06

Date Received: 05.26.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127038

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 14:52

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.26.2020 19:38	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.26.2020 19:38	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.26.2020 19:38	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.26.2020 19:38	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.26.2020 19:38	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.26.2020 19:38	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.26.2020 19:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	05.26.2020 19:38	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.26.2020 19:38	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW30** Matrix: Soil Date Received: 05.26.2020 11:55
 Lab Sample Id: 662565-009 Date Collected: 05.22.2020 12:10 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:00 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	76.6	9.96	mg/kg	05.26.2020 16:59		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 13:45 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.26.2020 16:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.26.2020 16:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.26.2020 16:10	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.26.2020 16:10	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.26.2020 16:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	05.26.2020 16:10	
o-Terphenyl	84-15-1	90	%	70-135	05.26.2020 16:10	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW30**
Lab Sample Id: 662565-009

Matrix: Soil
Date Collected: 05.22.2020 12:10

Date Received: 05.26.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 14:52

Basis: Wet Weight

Seq Number: 3127038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0199	0.00199	mg/kg	05.26.2020 19:58		1
Toluene	108-88-3	0.115	0.00199	mg/kg	05.26.2020 19:58		1
Ethylbenzene	100-41-4	0.0159	0.00199	mg/kg	05.26.2020 19:58		1
m,p-Xylenes	179601-23-1	0.0417	0.00398	mg/kg	05.26.2020 19:58		1
o-Xylene	95-47-6	0.00994	0.00199	mg/kg	05.26.2020 19:58		1
Total Xylenes	1330-20-7	0.0516	0.00199	mg/kg	05.26.2020 19:58		1
Total BTEX		0.202	0.00199	mg/kg	05.26.2020 19:58		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	70-130	05.26.2020 19:58		
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.26.2020 19:58		



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW31**
Lab Sample Id: 662565-010

Matrix: Soil
Date Collected: 05.22.2020 12:12

Date Received: 05.26.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3127046

Date Prep: 05.26.2020 15:00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	05.26.2020 17:05	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3127053

Date Prep: 05.26.2020 13:45

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.26.2020 16:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.26.2020 16:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.26.2020 16:31	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.26.2020 16:31	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.26.2020 16:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	05.26.2020 16:31	
o-Terphenyl	84-15-1	86	%	70-135	05.26.2020 16:31	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW31**
Lab Sample Id: 662565-010

Matrix: Soil
Date Collected: 05.22.2020 12:12

Date Received: 05.26.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 14:52

Basis: Wet Weight

Seq Number: 3127038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0337	0.00198	mg/kg	05.26.2020 21:00		1
Toluene	108-88-3	0.239	0.00198	mg/kg	05.26.2020 21:00		1
Ethylbenzene	100-41-4	0.0584	0.00198	mg/kg	05.26.2020 21:00		1
m,p-Xylenes	179601-23-1	0.166	0.00396	mg/kg	05.26.2020 21:00		1
o-Xylene	95-47-6	0.0436	0.00198	mg/kg	05.26.2020 21:00		1
Total Xylenes	1330-20-7	0.210	0.00198	mg/kg	05.26.2020 21:00		1
Total BTEX		0.541	0.00198	mg/kg	05.26.2020 21:00		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	70-130	05.26.2020 21:00		
1,4-Difluorobenzene	540-36-3	104	%	70-130	05.26.2020 21:00		



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW32** Matrix: Soil Date Received: 05.26.2020 11:55
 Lab Sample Id: 662565-011 Date Collected: 05.22.2020 14:24 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:00 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.9	9.88	mg/kg	05.26.2020 17:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 13:45 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.26.2020 16:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.26.2020 16:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.26.2020 16:31	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.26.2020 16:31	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.26.2020 16:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	05.26.2020 16:31	
o-Terphenyl	84-15-1	91	%	70-135	05.26.2020 16:31	



Certificate of Analytical Results 662565

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW32**
Lab Sample Id: 662565-011

Matrix: Soil
Date Collected: 05.22.2020 14:24

Date Received: 05.26.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 14:52

Basis: Wet Weight

Seq Number: 3127038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.26.2020 21:20	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.26.2020 21:20	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.26.2020 21:20	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	05.26.2020 21:20	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.26.2020 21:20	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.26.2020 21:20	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.26.2020 21:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.26.2020 21:20		
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.26.2020 21:20		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

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 159

Analytical Method: Chloride by EPA 300

Seq Number: 3127046

MB Sample Id: 7704078-1-BLK

Matrix: Solid

LCS Sample Id: 7704078-1-BKS

Prep Method: E300P

Date Prep: 05.26.2020

LCSD Sample Id: 7704078-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	250	100	250	100	90-110	0	20	mg/kg	05.26.2020 15:31	

Analytical Method: Chloride by EPA 300

Seq Number: 3127046

Parent Sample Id: 662558-001

Matrix: Soil

MS Sample Id: 662558-001 S

Prep Method: E300P

Date Prep: 05.26.2020

MSD Sample Id: 662558-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	300	199	495	98	486	93	90-110	2	20	mg/kg	05.26.2020 15:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3127046

Parent Sample Id: 662565-010

Matrix: Soil

MS Sample Id: 662565-010 S

Prep Method: E300P

Date Prep: 05.26.2020

MSD Sample Id: 662565-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.98	200	198	99	198	99	90-110	0	20	mg/kg	05.26.2020 17:11	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127053

MB Sample Id: 7704130-1-BLK

Matrix: Solid

LCS Sample Id: 7704130-1-BKS

Prep Method: SW8015P

Date Prep: 05.26.2020

LCSD Sample Id: 7704130-1-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	993	99	1090	109	70-135	9	35	mg/kg	05.26.2020 12:42	
Diesel Range Organics (DRO)	<50.0	1000	1050	105	1140	114	70-135	8	35	mg/kg	05.26.2020 12:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		114		121		70-135	%	05.26.2020 12:42
o-Terphenyl	108		108		114		70-135	%	05.26.2020 12:42

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127057

MB Sample Id: 7704132-1-BLK

Matrix: Solid

LCS Sample Id: 7704132-1-BKS

Prep Method: SW8015P

Date Prep: 05.26.2020

LCSD Sample Id: 7704132-1-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	959	96	940	94	70-135	2	35	mg/kg	05.26.2020 12:42	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1090	109	70-135	1	35	mg/kg	05.26.2020 12:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		132		128		70-135	%	05.26.2020 12:42
o-Terphenyl	124		126		133		70-135	%	05.26.2020 12:42

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 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127053

Matrix: Solid

Prep Method: SW8015P

Date Prep: 05.26.2020

MB Sample Id: 7704130-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.26.2020 12:22	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127057

Matrix: Solid

Prep Method: SW8015P

Date Prep: 05.26.2020

MB Sample Id: 7704132-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.26.2020 12:22	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127053

Matrix: Soil

Prep Method: SW8015P

Date Prep: 05.26.2020

Parent Sample Id: 662565-001

MS Sample Id: 662565-001 S

MSD Sample Id: 662565-001 SD

Parameter

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	964	96	1020	102	70-135	6	35	mg/kg	05.26.2020 14:29	
Diesel Range Organics (DRO)	<50.1	1000	984	98	1020	102	70-135	4	35	mg/kg	05.26.2020 14:29	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		110		70-135	%	05.26.2020 14:29
o-Terphenyl	78		84		70-135	%	05.26.2020 14:29

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127057

Matrix: Soil

Prep Method: SW8015P

Date Prep: 05.26.2020

Parent Sample Id: 662558-001

MS Sample Id: 662558-001 S

MSD Sample Id: 662558-001 SD

Parameter

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	871	87	872	86	70-135	0	35	mg/kg	05.26.2020 14:29	
Diesel Range Organics (DRO)	<50.2	1000	1010	101	1000	99	70-135	1	35	mg/kg	05.26.2020 14:29	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		100		70-135	%	05.26.2020 14:29
o-Terphenyl	104		100		70-135	%	05.26.2020 14:29

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: BTEX by EPA 8021B

Seq Number: 3127038

MB Sample Id: 7704075-1-BLK

Matrix: Solid

LCS Sample Id: 7704075-1-BKS

Prep Method: SW5035A

Date Prep: 05.26.2020

LCSD Sample Id: 7704075-1-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	0.109	109	70-130	1	35	mg/kg	05.26.2020 15:13	
Toluene	<0.00200	0.100	0.102	102	0.104	104	70-130	2	35	mg/kg	05.26.2020 15:13	
Ethylbenzene	<0.00200	0.100	0.0938	94	0.0944	94	71-129	1	35	mg/kg	05.26.2020 15:13	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.190	95	70-135	0	35	mg/kg	05.26.2020 15:13	
o-Xylene	<0.00200	0.100	0.0984	98	0.0997	100	71-133	1	35	mg/kg	05.26.2020 15:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		104		106		70-130	%	05.26.2020 15:13
4-Bromofluorobenzene	95		89		90		70-130	%	05.26.2020 15:13

Analytical Method: BTEX by EPA 8021B

Seq Number: 3127038

Parent Sample Id: 662558-001

Matrix: Soil

MS Sample Id: 662558-001 S

Prep Method: SW5035A

Date Prep: 05.26.2020

MSD Sample Id: 662558-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.121	121	0.113	113	70-130	7	35	mg/kg	05.26.2020 15:53	
Toluene	<0.00200	0.0998	0.116	116	0.108	108	70-130	7	35	mg/kg	05.26.2020 15:53	
Ethylbenzene	<0.00200	0.0998	0.109	109	0.103	103	71-129	6	35	mg/kg	05.26.2020 15:53	
m,p-Xylenes	<0.00399	0.200	0.222	111	0.210	105	70-135	6	35	mg/kg	05.26.2020 15:53	
o-Xylene	<0.00200	0.0998	0.112	112	0.104	104	71-133	7	35	mg/kg	05.26.2020 15:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	05.26.2020 15:53
4-Bromofluorobenzene	87		94		70-130	%	05.26.2020 15:53

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

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

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

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



Chain of Custody

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

Work Order No: 1622515
 www.xenco.com Page 1 of 3

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:	wmather@ltenv.com, dmoir@ltenv.com

Project Name:	PLU 159	Turn Around	
Project Number:	012919161	Routine	☒
P.O. Number:	Eddy	Rush:	
Sampler's Name:	William Mather	Due Date:	

SAMPLE RECEIPT		Temp Blank:	☒ Yes	☐ No	Wet Ice:	☒ Yes	☐ No	
Temperature (°C):	0.6	Thermometer ID						
Received Intact:	☒ Yes	☐ No	Correction Factor: <u>TMM007 -0.2</u>					
Cooler Custody Seals:	☒ Yes	☐ No	Total Containers: <u>11</u>					
Sample Custody Seals:	☒ Yes	☐ No						

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST																Work Order Notes			
FS40	S	5/22/2020	9:47	4'	1	X	X	X																Composite
FS41	S	5/22/2020	10:15	4'	1	X	X	X																Composite
SW24	S	5/22/2020	9:49	0-4'	1	X	X	X																Composite
SW25	S	5/22/2020	9:50	0-4'	1	X	X	X																Composite
SW26	S	5/22/2020	13:44	0-4'	1	X	X	X																Composite
SW27	S	5/22/2020	13:46	0-4'	1	X	X	X																Composite
SW28	S	5/22/2020	11:56	0-4'	1	X	X	X																Composite
SW29	S	5/22/2020	13:06	0-4'	1	X	X	X																Composite
SW30	S	5/22/2020	12:10	0-4'	1	X	X	X																Composite
SW31	S	5/22/2020	12:12	0-4'	1	X	X	X																Composite

Total 200.7 / 6010 200.8 / 6020:

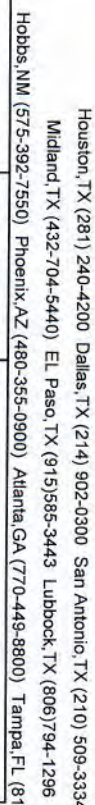
Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SIO2 Na Sr Ti Sn U V Zn

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
<i>[Signature]</i>	<i>[Signature]</i>	5/26/20 11:48	<i>[Signature]</i>	<i>[Signature]</i>	5/26/20 11:55



Chain of Custody

Work Order No.:

1022565

Work Order Comments	
Program: UST/PST	☐ RP ☒ Brownfields ☐ RC ☒ Superfund ☐
State of Project:	
Reporting Level II	☐ Level III ☐ P/UST ☐ RP ☒ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

ANALYSIS REQUEST									Work Order Notes
Project Name:	PLU 159								
Project Number:	012919161								
P.O. Number:	Eddy								
Sampler's Name:	William Mather								
	Turn Around								
	Routine								
	Rush:								
	Due Date:								

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	0.6	Thermometer ID					
Received intact:	Yes	No					
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:			
Sample Custody Seals:	Yes	No	N/A	Total Containers:			

Number of Containers

PA 8015)

EPA 0=8021)

e (EPA 300.0)

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (%)	BTEX (%)	Chloride
SW32	s	5/22/2020	14:24	0-4'	1	x	x	x
Composite								

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		5/26/20 11:46			5/26/20 11:55



Certificate of Analysis Summary 662582

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Tue 05.26.2020 14:27

Report Date: 05.30.2020 23:42

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	662582-001		662582-002		662582-003		662582-004		662582-005		662582-006		
	Field Id:	FS32		FS33		SW20		SW21		SW22		SW23		
	Depth:	4- ft		4- ft		0-4 ft		0-4 ft		0-4 ft		0-4 ft		
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		
	Sampled:	05.20.2020 10:20		05.20.2020 10:22		05.20.2020 10:27		05.20.2020 10:28		05.20.2020 10:30		05.20.2020 10:33		
BTEX by EPA 8021B		Extracted:	05.26.2020 15:00		05.26.2020 15:00		05.26.2020 15:00		05.26.2020 15:00		05.26.2020 15:00		05.26.2020 15:00	
		Analyzed:	05.26.2020 21:40		05.26.2020 22:01		05.26.2020 22:21		05.26.2020 22:41		05.26.2020 23:02		05.26.2020 23:22	
		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene			<0.00200	0.00200	<0.00200	0.00200	0.0520	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202
Toluene			<0.00200	0.00200	<0.00200	0.00200	0.610 D	0.00625	<0.00200	0.00200	0.0822	0.00200	<0.00202	0.00202
Ethylbenzene			<0.00200	0.00200	<0.00200	0.00200	0.0818	0.00200	<0.00200	0.00200	0.0160	0.00200	<0.00202	0.00202
m,p-Xylenes			<0.00399	0.00399	<0.00400	0.00400	0.220	0.00401	<0.00399	0.00399	0.0441	0.00401	<0.00403	0.00403
o-Xylene			<0.00200	0.00200	<0.00200	0.00200	0.0698	0.00200	<0.00200	0.00200	0.0130	0.00200	<0.00202	0.00202
Total Xylenes			<0.00200	0.00200	<0.00200	0.00200	0.290	0.00200	<0.00200	0.00200	0.0571	0.00200	<0.00202	0.00202
Total BTEX			<0.00200	0.00200	<0.00200	0.00200	1.03	0.00200	<0.00200	0.00200	0.155	0.00200	<0.00202	0.00202
Chloride by EPA 300		Extracted:	05.26.2020 15:30		05.26.2020 15:30		05.26.2020 15:30		05.26.2020 15:30		05.26.2020 15:30		05.26.2020 15:30	
		Analyzed:	05.26.2020 17:40		05.26.2020 17:46		05.26.2020 17:52		05.26.2020 17:58		05.26.2020 18:04		05.26.2020 18:10	
		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride			1140	9.88	4110	100	63.7	10.0	109	10.0	144	10.0	101	10.0
TPH by SW8015 Mod		Extracted:	05.26.2020 16:30		05.26.2020 16:30		05.26.2020 16:30		05.26.2020 16:30		05.26.2020 16:30		05.26.2020 16:30	
		Analyzed:	05.26.2020 16:51		05.26.2020 17:11		05.26.2020 17:32		05.26.2020 17:52		05.26.2020 18:33		05.26.2020 18:53	
		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)			<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<49.8	49.8	<49.9	49.9
Diesel Range Organics (DRO)			147	50.2	89.7	50.2	125	50.2	79.2	50.3	205	49.8	89.0	49.9
Motor Oil Range Hydrocarbons (MRO)			<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<49.8	49.8	<49.9	49.9
Total GRO-DRO			147	50.2	89.7	50.2	125	50.2	79.2	50.3	205	49.8	89.0	49.9
Total TPH			147	50.2	89.7	50.2	125	50.2	79.2	50.3	205	49.8	89.0	49.9

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

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 662582

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Tue 05.26.2020 14:27

Report Date: 05.30.2020 23:42

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	662582-007	662582-008	662582-009	662582-010	662582-011	662582-012
	<i>Field Id:</i>	FS34A	SW33	SW34	FS42	FS43	FS44
	<i>Depth:</i>	4- ft	0-4 ft	0-4 ft	4- ft	4- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	05.26.2020 09:07	05.26.2020 09:09	05.26.2020 09:11	05.26.2020 09:41	05.26.2020 09:43	05.26.2020 09:54
BTEX by EPA 8021B	<i>Extracted:</i>	05.26.2020 15:00	05.26.2020 15:00	05.26.2020 18:00	05.26.2020 18:00	05.26.2020 18:00	05.26.2020 18:00
	<i>Analyzed:</i>	05.26.2020 23:43	05.27.2020 00:03	05.27.2020 03:07	05.27.2020 03:27	05.27.2020 03:47	05.27.2020 04:08
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Toluene		0.0393 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00202 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		0.0454 0.00403	<0.00403 0.00403	<0.00404 0.00404	<0.00399 0.00399	<0.00399 0.00399	<0.00395 0.00395
o-Xylene		<0.00202 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		0.0454 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		0.0847 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Chloride by EPA 300	<i>Extracted:</i>	05.26.2020 15:30	05.26.2020 15:30	05.26.2020 17:26	05.26.2020 17:26	05.26.2020 17:26	05.26.2020 17:26
	<i>Analyzed:</i>	05.26.2020 18:16	05.26.2020 18:22	05.26.2020 19:14	05.26.2020 18:57	05.26.2020 19:20	05.26.2020 19:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		339 10.1	217 9.94	86.1 9.94	241 9.96	637 9.90	2680 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	05.26.2020 16:30	05.26.2020 16:30	05.26.2020 16:30	05.26.2020 16:30	05.26.2020 16:30	05.26.2020 16:30
	<i>Analyzed:</i>	05.26.2020 19:14	05.26.2020 19:34	05.26.2020 19:54	05.26.2020 20:15	05.26.2020 20:35	05.26.2020 20:55
	<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	<49.8 49.8	<50.3 50.3	<49.9 49.9	<49.9 49.9
Diesel Range Organics (DRO)		<50.3 50.3	<50.1 50.1	<49.8 49.8	<50.3 50.3	<49.9 49.9	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.1 50.1	<49.8 49.8	<50.3 50.3	<49.9 49.9	<49.9 49.9
Total GRO-DRO		<50.3 50.3	<50.1 50.1	<49.8 49.8	<50.3 50.3	<49.9 49.9	<49.9 49.9
Total TPH		<50.3 50.3	<50.1 50.1	<49.8 49.8	<50.3 50.3	<49.9 49.9	<49.9 49.9

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

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 662582

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Tue 05.26.2020 14:27

Report Date: 05.30.2020 23:42

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	662582-013	662582-014	662582-015	662582-016	662582-017	662582-018
	Field Id:	FS45	FS46	FS47	FS48	FS49	FS50
	Depth:	4- ft	4- ft	4- ft	4- ft	4- ft	4- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	05.26.2020 09:55	05.26.2020 10:07	05.26.2020 10:09	05.26.2020 10:23	05.26.2020 10:25	05.26.2020 10:31
BTEX by EPA 8021B	Extracted:	05.26.2020 18:00	05.26.2020 18:00	05.26.2020 18:00	05.26.2020 18:00	05.26.2020 18:00	05.26.2020 18:00
	Analyzed:	05.27.2020 04:28	05.27.2020 04:49	05.27.2020 05:09	05.27.2020 05:30	05.27.2020 05:50	05.27.2020 06:10
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00399 0.00399	<0.00399 0.00399	<0.00400 0.00400	<0.00399 0.00399	<0.00401 0.00401
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	Extracted:	05.26.2020 17:26	05.26.2020 17:26	05.26.2020 17:26	05.26.2020 17:26	05.26.2020 17:26	05.26.2020 17:26
	Analyzed:	05.26.2020 19:32	05.26.2020 19:50	05.26.2020 19:56	05.26.2020 20:01	05.26.2020 20:07	05.26.2020 20:13
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1110 9.90	4420 99.8	3500 99.0	9500 198	3990 99.4	11200 198
TPH by SW8015 Mod	Extracted:	05.26.2020 16:30	05.26.2020 16:30	05.26.2020 16:30	05.26.2020 16:30	05.26.2020 16:30	05.26.2020 16:30
	Analyzed:	05.26.2020 21:16	05.26.2020 21:36	05.26.2020 16:51	05.26.2020 17:11	05.26.2020 17:32	05.26.2020 17:52
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<50.0 50.0	146 49.8	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<50.0 50.0	<50.0 50.0	<50.0 50.0	146 49.8	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<50.0 50.0	<50.0 50.0	146 49.8	<50.0 50.0	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 662582

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Tue 05.26.2020 14:27

Report Date: 05.30.2020 23:42

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	662582-019					
	Field Id:	FS51					
	Depth:	4- ft					
	Matrix:	SOIL					
	Sampled:	05.26.2020 10:37					
BTEX by EPA 8021B	Extracted:	05.26.2020 18:00					
	Analyzed:	05.27.2020 07:12					
	Units/RL:	mg/kg RL					
Benzene		<0.00200 0.00200					
Toluene		<0.00200 0.00200					
Ethylbenzene		<0.00200 0.00200					
m,p-Xylenes		<0.00399 0.00399					
o-Xylene		<0.00200 0.00200					
Total Xylenes		<0.00200 0.00200					
Total BTEX		<0.00200 0.00200					
Chloride by EPA 300	Extracted:	05.26.2020 17:26					
	Analyzed:	05.26.2020 20:19					
	Units/RL:	mg/kg RL					
Chloride		1880 50.0					
TPH by SW8015 Mod	Extracted:	05.26.2020 16:30					
	Analyzed:	05.26.2020 18:33					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0					
Diesel Range Organics (DRO)		<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0					
Total GRO-DRO		<50.0 50.0					
Total TPH		<50.0 50.0					

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Jessica Kramer
Project Manager



Analytical Report 662582

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159

012919161

05.30.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-6)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



05.30.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **662582**

PLU 159

Project Address: Eddy

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) 662582. 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. 662582 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 662582****LT Environmental, Inc., Arvada, CO**

PLU 159

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS32	S	05.20.2020 10:20	4 ft	662582-001
FS33	S	05.20.2020 10:22	4 ft	662582-002
SW20	S	05.20.2020 10:27	0 - 4 ft	662582-003
SW21	S	05.20.2020 10:28	0 - 4 ft	662582-004
SW22	S	05.20.2020 10:30	0 - 4 ft	662582-005
SW23	S	05.20.2020 10:33	0 - 4 ft	662582-006
FS34A	S	05.26.2020 09:07	4 ft	662582-007
SW33	S	05.26.2020 09:09	0 - 4 ft	662582-008
SW34	S	05.26.2020 09:11	0 - 4 ft	662582-009
FS42	S	05.26.2020 09:41	4 ft	662582-010
FS43	S	05.26.2020 09:43	4 ft	662582-011
FS44	S	05.26.2020 09:54	4 ft	662582-012
FS45	S	05.26.2020 09:55	4 ft	662582-013
FS46	S	05.26.2020 10:07	4 ft	662582-014
FS47	S	05.26.2020 10:09	4 ft	662582-015
FS48	S	05.26.2020 10:23	4 ft	662582-016
FS49	S	05.26.2020 10:25	4 ft	662582-017
FS50	S	05.26.2020 10:31	4 ft	662582-018
FS51	S	05.26.2020 10:37	4 ft	662582-019



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 159*

Project ID: 012919161
Work Order Number(s): 662582

Report Date: 05.30.2020
Date Received: 05.26.2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 662582

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS32 Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-001 Date Collected: 05.20.2020 10:20 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:30 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1140	9.88	mg/kg	05.26.2020 17:40		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.26.2020 16:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	147	50.2	mg/kg	05.26.2020 16:51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.26.2020 16:51	U	1
Total GRO-DRO	PHC628	147	50.2	mg/kg	05.26.2020 16:51		1
Total TPH	PHC635	147	50.2	mg/kg	05.26.2020 16:51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	05.26.2020 16:51	
o-Terphenyl	84-15-1	93	%	70-135	05.26.2020 16:51	



Certificate of Analytical Results 662582

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS32
Lab Sample Id: 662582-001

Matrix: Soil
Date Collected: 05.20.2020 10:20

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127038

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 15:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.26.2020 21:40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.26.2020 21:40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.26.2020 21:40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.26.2020 21:40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.26.2020 21:40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.26.2020 21:40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.26.2020 21:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.26.2020 21:40	
4-Bromofluorobenzene	460-00-4	90	%	70-130	05.26.2020 21:40	



Certificate of Analytical Results 662582

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS33** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-002 Date Collected: 05.20.2020 10:22 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:30 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4110	100	mg/kg	05.26.2020 17:46		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.26.2020 17:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	89.7	50.2	mg/kg	05.26.2020 17:11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.26.2020 17:11	U	1
Total GRO-DRO	PHC628	89.7	50.2	mg/kg	05.26.2020 17:11		1
Total TPH	PHC635	89.7	50.2	mg/kg	05.26.2020 17:11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	05.26.2020 17:11	
o-Terphenyl	84-15-1	95	%	70-135	05.26.2020 17:11	



Certificate of Analytical Results 662582

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS33
Lab Sample Id: 662582-002

Matrix: Soil
Date Collected: 05.20.2020 10:22

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 15:00

Basis: Wet Weight

Seq Number: 3127038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.26.2020 22:01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.26.2020 22:01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.26.2020 22:01	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.26.2020 22:01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.26.2020 22:01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.26.2020 22:01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.26.2020 22:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	05.26.2020 22:01	
4-Bromofluorobenzene	460-00-4	90	%	70-130	05.26.2020 22:01	



Certificate of Analytical Results 662582

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW20** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-003 Date Collected: 05.20.2020 10:27 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:30 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	63.7	10.0	mg/kg	05.26.2020 17:52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.26.2020 17:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	125	50.2	mg/kg	05.26.2020 17:32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.26.2020 17:32	U	1
Total GRO-DRO	PHC628	125	50.2	mg/kg	05.26.2020 17:32		1
Total TPH	PHC635	125	50.2	mg/kg	05.26.2020 17:32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	05.26.2020 17:32	
o-Terphenyl	84-15-1	93	%	70-135	05.26.2020 17:32	



Certificate of Analytical Results 662582

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW20**
Lab Sample Id: 662582-003

Matrix: Soil
Date Collected: 05.20.2020 10:27

Date Received: 05.26.2020 14:27
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127038

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 15:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0520	0.00200	mg/kg	05.26.2020 22:21		1
Toluene	108-88-3	0.610	0.00625	mg/kg	05.27.2020 11:57	D	1
Ethylbenzene	100-41-4	0.0818	0.00200	mg/kg	05.26.2020 22:21		1
m,p-Xylenes	179601-23-1	0.220	0.00401	mg/kg	05.26.2020 22:21		1
o-Xylene	95-47-6	0.0698	0.00200	mg/kg	05.26.2020 22:21		1
Total Xylenes	1330-20-7	0.290	0.00200	mg/kg	05.26.2020 22:21		1
Total BTEX		1.03	0.00200	mg/kg	05.27.2020 11:57		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.26.2020 22:21		
4-Bromofluorobenzene	460-00-4	90	%	70-130	05.26.2020 22:21		



Certificate of Analytical Results 662582

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW21** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-004 Date Collected: 05.20.2020 10:28 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:30 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	109	10.0	mg/kg	05.26.2020 17:58		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	05.26.2020 17:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	79.2	50.3	mg/kg	05.26.2020 17:52		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	05.26.2020 17:52	U	1
Total GRO-DRO	PHC628	79.2	50.3	mg/kg	05.26.2020 17:52		1
Total TPH	PHC635	79.2	50.3	mg/kg	05.26.2020 17:52		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.26.2020 17:52	
o-Terphenyl	84-15-1	102	%	70-135	05.26.2020 17:52	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: SW21
Lab Sample Id: 662582-004

Matrix: Soil
Date Collected: 05.20.2020 10:28

Date Received: 05.26.2020 14:27
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127038

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 15:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.26.2020 22:41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.26.2020 22:41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.26.2020 22:41	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.26.2020 22:41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.26.2020 22:41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.26.2020 22:41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.26.2020 22:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.26.2020 22:41		
1,4-Difluorobenzene	540-36-3	107	%	70-130	05.26.2020 22:41		



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW22** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-005 Date Collected: 05.20.2020 10:30 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:30 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	144	10.0	mg/kg	05.26.2020 18:04		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.26.2020 18:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	205	49.8	mg/kg	05.26.2020 18:33		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.26.2020 18:33	U	1
Total GRO-DRO	PHC628	205	49.8	mg/kg	05.26.2020 18:33		1
Total TPH	PHC635	205	49.8	mg/kg	05.26.2020 18:33		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	05.26.2020 18:33	
o-Terphenyl	84-15-1	93	%	70-135	05.26.2020 18:33	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: SW22
Lab Sample Id: 662582-005

Matrix: Soil
Date Collected: 05.20.2020 10:30

Date Received: 05.26.2020 14:27
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 15:00

Basis: Wet Weight

Seq Number: 3127038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.26.2020 23:02	U	1
Toluene	108-88-3	0.0822	0.00200	mg/kg	05.26.2020 23:02		1
Ethylbenzene	100-41-4	0.0160	0.00200	mg/kg	05.26.2020 23:02		1
m,p-Xylenes	179601-23-1	0.0441	0.00401	mg/kg	05.26.2020 23:02		1
o-Xylene	95-47-6	0.0130	0.00200	mg/kg	05.26.2020 23:02		1
Total Xylenes	1330-20-7	0.0571	0.00200	mg/kg	05.26.2020 23:02		1
Total BTEX		0.155	0.00200	mg/kg	05.26.2020 23:02		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	70-130	05.26.2020 23:02		
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.26.2020 23:02		



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW23** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-006 Date Collected: 05.20.2020 10:33 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:30 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	101	10.0	mg/kg	05.26.2020 18:10		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.26.2020 18:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	89.0	49.9	mg/kg	05.26.2020 18:53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.26.2020 18:53	U	1
Total GRO-DRO	PHC628	89.0	49.9	mg/kg	05.26.2020 18:53		1
Total TPH	PHC635	89.0	49.9	mg/kg	05.26.2020 18:53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	05.26.2020 18:53	
o-Terphenyl	84-15-1	91	%	70-135	05.26.2020 18:53	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW23**
Lab Sample Id: 662582-006

Matrix: Soil
Date Collected: 05.20.2020 10:33

Date Received: 05.26.2020 14:27
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127038

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 15:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.26.2020 23:22	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.26.2020 23:22	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.26.2020 23:22	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.26.2020 23:22	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.26.2020 23:22	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.26.2020 23:22	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.26.2020 23:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	05.26.2020 23:22		
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.26.2020 23:22		



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS34A**
Lab Sample Id: 662582-007

Matrix: Soil
Date Collected: 05.26.2020 09:07

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3127046

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 05.26.2020 15:30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	339	10.1	mg/kg	05.26.2020 18:16		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3127057

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 05.26.2020 16:30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	05.26.2020 19:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	05.26.2020 19:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	05.26.2020 19:14	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	05.26.2020 19:14	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	05.26.2020 19:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	05.26.2020 19:14	
o-Terphenyl	84-15-1	96	%	70-135	05.26.2020 19:14	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS34A**
Lab Sample Id: 662582-007

Matrix: Soil
Date Collected: 05.26.2020 09:07

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127038

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 15:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.26.2020 23:43	U	1
Toluene	108-88-3	0.0393	0.00202	mg/kg	05.26.2020 23:43		1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.26.2020 23:43	U	1
m,p-Xylenes	179601-23-1	0.0454	0.00403	mg/kg	05.26.2020 23:43		1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.26.2020 23:43	U	1
Total Xylenes	1330-20-7	0.0454	0.00202	mg/kg	05.26.2020 23:43		1
Total BTEX		0.0847	0.00202	mg/kg	05.26.2020 23:43		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.26.2020 23:43		
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.26.2020 23:43		



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW33** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-008 Date Collected: 05.26.2020 09:09 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 15:30 Basis: Wet Weight
 Seq Number: 3127046

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	217	9.94	mg/kg	05.26.2020 18:22		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.26.2020 19:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.26.2020 19:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.26.2020 19:34	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.26.2020 19:34	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.26.2020 19:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	05.26.2020 19:34	
o-Terphenyl	84-15-1	91	%	70-135	05.26.2020 19:34	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW33**
Lab Sample Id: 662582-008

Matrix: Soil
Date Collected: 05.26.2020 09:09

Date Received: 05.26.2020 14:27
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 15:00

Basis: Wet Weight

Seq Number: 3127038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.27.2020 00:03	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.27.2020 00:03	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.27.2020 00:03	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.27.2020 00:03	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.27.2020 00:03	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.27.2020 00:03	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.27.2020 00:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.27.2020 00:03	
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.27.2020 00:03	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW34** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-009 Date Collected: 05.26.2020 09:11 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 17:26 Basis: Wet Weight
 Seq Number: 3127049

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	86.1	9.94	mg/kg	05.26.2020 19:14		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.26.2020 19:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.26.2020 19:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.26.2020 19:54	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.26.2020 19:54	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.26.2020 19:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.26.2020 19:54	
o-Terphenyl	84-15-1	101	%	70-135	05.26.2020 19:54	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW34**
Lab Sample Id: 662582-009

Matrix: Soil
Date Collected: 05.26.2020 09:11

Date Received: 05.26.2020 14:27
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 18:00

Basis: Wet Weight

Seq Number: 3127099

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.27.2020 03:07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.27.2020 03:07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.27.2020 03:07	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.27.2020 03:07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.27.2020 03:07	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.27.2020 03:07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.27.2020 03:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.27.2020 03:07	
4-Bromofluorobenzene	460-00-4	101	%	70-130	05.27.2020 03:07	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS42** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-010 Date Collected: 05.26.2020 09:41 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 17:26 Basis: Wet Weight
 Seq Number: 3127049

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	241	9.96	mg/kg	05.26.2020 18:57		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	05.26.2020 20:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	05.26.2020 20:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	05.26.2020 20:15	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	05.26.2020 20:15	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	05.26.2020 20:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	05.26.2020 20:15	
o-Terphenyl	84-15-1	90	%	70-135	05.26.2020 20:15	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS42**
Lab Sample Id: 662582-010

Matrix: Soil
Date Collected: 05.26.2020 09:41

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.26.2020 18:00

Basis: Wet Weight

Seq Number: 3127099

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.27.2020 03:27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.27.2020 03:27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.27.2020 03:27	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.27.2020 03:27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.27.2020 03:27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.27.2020 03:27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.27.2020 03:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.27.2020 03:27	
1,4-Difluorobenzene	540-36-3	110	%	70-130	05.27.2020 03:27	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS43**
Lab Sample Id: 662582-011

Matrix: Soil
Date Collected: 05.26.2020 09:43

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3127049

Date Prep: 05.26.2020 17:26

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	637	9.90	mg/kg	05.26.2020 19:20		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3127057

Date Prep: 05.26.2020 16:30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.26.2020 20:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.26.2020 20:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.26.2020 20:35	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.26.2020 20:35	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.26.2020 20:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	05.26.2020 20:35	
o-Terphenyl	84-15-1	92	%	70-135	05.26.2020 20:35	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS43**
Lab Sample Id: 662582-011

Matrix: Soil
Date Collected: 05.26.2020 09:43

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127099

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 18:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.27.2020 03:47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.27.2020 03:47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.27.2020 03:47	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.27.2020 03:47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.27.2020 03:47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.27.2020 03:47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.27.2020 03:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.27.2020 03:47	
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.27.2020 03:47	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS44** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-012 Date Collected: 05.26.2020 09:54 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 17:26 Basis: Wet Weight
 Seq Number: 3127049

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2680	9.98	mg/kg	05.26.2020 19:26		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.26.2020 20:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.26.2020 20:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.26.2020 20:55	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.26.2020 20:55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.26.2020 20:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	05.26.2020 20:55	
o-Terphenyl	84-15-1	93	%	70-135	05.26.2020 20:55	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS44**
Lab Sample Id: 662582-012

Matrix: Soil
Date Collected: 05.26.2020 09:54

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127099

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 18:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.27.2020 04:08	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.27.2020 04:08	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.27.2020 04:08	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	05.27.2020 04:08	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.27.2020 04:08	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.27.2020 04:08	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.27.2020 04:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.27.2020 04:08	
4-Bromofluorobenzene	460-00-4	96	%	70-130	05.27.2020 04:08	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS45 Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-013 Date Collected: 05.26.2020 09:55 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 17:26 Basis: Wet Weight
 Seq Number: 3127049

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1110	9.90	mg/kg	05.26.2020 19:32		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.26.2020 21:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.26.2020 21:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.26.2020 21:16	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.26.2020 21:16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.26.2020 21:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	05.26.2020 21:16	
o-Terphenyl	84-15-1	90	%	70-135	05.26.2020 21:16	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS45**
Lab Sample Id: 662582-013

Matrix: Soil
Date Collected: 05.26.2020 09:55

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127099

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 18:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.27.2020 04:28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.27.2020 04:28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.27.2020 04:28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.27.2020 04:28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.27.2020 04:28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.27.2020 04:28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.27.2020 04:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	05.27.2020 04:28	
1,4-Difluorobenzene	540-36-3	110	%	70-130	05.27.2020 04:28	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS46** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-014 Date Collected: 05.26.2020 10:07 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 17:26 Basis: Wet Weight
 Seq Number: 3127049

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4420	99.8	mg/kg	05.26.2020 19:50		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127057

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.26.2020 21:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.26.2020 21:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.26.2020 21:36	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.26.2020 21:36	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.26.2020 21:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	05.26.2020 21:36	
o-Terphenyl	84-15-1	92	%	70-135	05.26.2020 21:36	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS46**
Lab Sample Id: 662582-014

Matrix: Soil
Date Collected: 05.26.2020 10:07

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127099

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 18:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.27.2020 04:49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.27.2020 04:49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.27.2020 04:49	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.27.2020 04:49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.27.2020 04:49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.27.2020 04:49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.27.2020 04:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.27.2020 04:49	
1,4-Difluorobenzene	540-36-3	111	%	70-130	05.27.2020 04:49	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS47** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-015 Date Collected: 05.26.2020 10:09 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 17:26 Basis: Wet Weight
 Seq Number: 3127049

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3500	99.0	mg/kg	05.26.2020 19:56		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127053

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.26.2020 16:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.26.2020 16:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.26.2020 16:51	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.26.2020 16:51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.26.2020 16:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	05.26.2020 16:51	
o-Terphenyl	84-15-1	76	%	70-135	05.26.2020 16:51	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS47**
Lab Sample Id: 662582-015

Matrix: Soil
Date Collected: 05.26.2020 10:09

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127099

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 18:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.27.2020 05:09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.27.2020 05:09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.27.2020 05:09	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.27.2020 05:09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.27.2020 05:09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.27.2020 05:09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.27.2020 05:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	05.27.2020 05:09		
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.27.2020 05:09		



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS48** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-016 Date Collected: 05.26.2020 10:23 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 17:26 Basis: Wet Weight
 Seq Number: 3127049

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9500	198	mg/kg	05.26.2020 20:01		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127053

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.26.2020 17:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	146	49.8	mg/kg	05.26.2020 17:11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.26.2020 17:11	U	1
Total GRO-DRO	PHC628	146	49.8	mg/kg	05.26.2020 17:11		1
Total TPH	PHC635	146	49.8	mg/kg	05.26.2020 17:11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	05.26.2020 17:11	
o-Terphenyl	84-15-1	85	%	70-135	05.26.2020 17:11	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS48**
Lab Sample Id: 662582-016

Matrix: Soil
Date Collected: 05.26.2020 10:23

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127099

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 18:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.27.2020 05:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.27.2020 05:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.27.2020 05:30	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.27.2020 05:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.27.2020 05:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.27.2020 05:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.27.2020 05:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	05.27.2020 05:30	
4-Bromofluorobenzene	460-00-4	94	%	70-130	05.27.2020 05:30	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS49** Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-017 Date Collected: 05.26.2020 10:25 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 17:26 Basis: Wet Weight
 Seq Number: 3127049

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3990	99.4	mg/kg	05.26.2020 20:07		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127053

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.26.2020 17:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.26.2020 17:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.26.2020 17:32	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.26.2020 17:32	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.26.2020 17:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	05.26.2020 17:32	
o-Terphenyl	84-15-1	90	%	70-135	05.26.2020 17:32	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS49**
Lab Sample Id: 662582-017

Matrix: Soil
Date Collected: 05.26.2020 10:25

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127099

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 18:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.27.2020 05:50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.27.2020 05:50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.27.2020 05:50	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.27.2020 05:50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.27.2020 05:50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.27.2020 05:50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.27.2020 05:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	05.27.2020 05:50	
4-Bromofluorobenzene	460-00-4	101	%	70-130	05.27.2020 05:50	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **FS50** Matrix: **Soil** Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-018 Date Collected: 05.26.2020 10:31 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 05.26.2020 17:26 Basis: **Wet Weight**
 Seq Number: 3127049

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11200	198	mg/kg	05.26.2020 20:13		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DTH** % Moisture:
 Analyst: **DTH** Date Prep: 05.26.2020 16:30 Basis: **Wet Weight**
 Seq Number: 3127053

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.26.2020 17:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.26.2020 17:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.26.2020 17:52	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.26.2020 17:52	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.26.2020 17:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	05.26.2020 17:52	
o-Terphenyl	84-15-1	72	%	70-135	05.26.2020 17:52	



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LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS50
Lab Sample Id: 662582-018

Matrix: Soil
Date Collected: 05.26.2020 10:31

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127099

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 18:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.27.2020 06:10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.27.2020 06:10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.27.2020 06:10	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.27.2020 06:10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.27.2020 06:10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.27.2020 06:10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.27.2020 06:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.27.2020 06:10	
4-Bromofluorobenzene	460-00-4	94	%	70-130	05.27.2020 06:10	



Certificate of Analytical Results 662582

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS51 Matrix: Soil Date Received: 05.26.2020 14:27
 Lab Sample Id: 662582-019 Date Collected: 05.26.2020 10:37 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.26.2020 17:26 Basis: Wet Weight
 Seq Number: 3127049

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1880	50.0	mg/kg	05.26.2020 20:19		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.26.2020 16:30 Basis: Wet Weight
 Seq Number: 3127053

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.26.2020 18:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.26.2020 18:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.26.2020 18:33	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.26.2020 18:33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.26.2020 18:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	05.26.2020 18:33	
o-Terphenyl	84-15-1	71	%	70-135	05.26.2020 18:33	



Certificate of Analytical Results 662582

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: FS51
Lab Sample Id: 662582-019

Matrix: Soil
Date Collected: 05.26.2020 10:37

Date Received: 05.26.2020 14:27
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3127099

Prep Method: SW5035A

% Moisture:

Date Prep: 05.26.2020 18:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.27.2020 07:12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.27.2020 07:12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.27.2020 07:12	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.27.2020 07:12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.27.2020 07:12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.27.2020 07:12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.27.2020 07:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	05.27.2020 07:12	
4-Bromofluorobenzene	460-00-4	94	%	70-130	05.27.2020 07:12	



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. **ND** Not Detected.

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 159

Analytical Method: Chloride by EPA 300

Seq Number: 3127046

MB Sample Id: 7704078-1-BLK

Matrix: Solid

LCS Sample Id: 7704078-1-BKS

Prep Method: E300P

Date Prep: 05.26.2020

LCSD Sample Id: 7704078-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	250	100	250	100	90-110	0	20	mg/kg	05.26.2020 15:31	

Analytical Method: Chloride by EPA 300

Seq Number: 3127049

MB Sample Id: 7704118-1-BLK

Matrix: Solid

LCS Sample Id: 7704118-1-BKS

Prep Method: E300P

Date Prep: 05.26.2020

LCSD Sample Id: 7704118-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	249	100	90-110	1	20	mg/kg	05.26.2020 18:45	

Analytical Method: Chloride by EPA 300

Seq Number: 3127046

Parent Sample Id: 662558-001

Matrix: Soil

MS Sample Id: 662558-001 S

Prep Method: E300P

Date Prep: 05.26.2020

MSD Sample Id: 662558-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	300	199	495	98	486	93	90-110	2	20	mg/kg	05.26.2020 15:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3127046

Parent Sample Id: 662565-010

Matrix: Soil

MS Sample Id: 662565-010 S

Prep Method: E300P

Date Prep: 05.26.2020

MSD Sample Id: 662565-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.98	200	198	99	198	99	90-110	0	20	mg/kg	05.26.2020 17:11	

Analytical Method: Chloride by EPA 300

Seq Number: 3127049

Parent Sample Id: 662582-010

Matrix: Soil

MS Sample Id: 662582-010 S

Prep Method: E300P

Date Prep: 05.26.2020

MSD Sample Id: 662582-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	241	200	432	96	432	96	90-110	0	20	mg/kg	05.26.2020 19:03	

Analytical Method: Chloride by EPA 300

Seq Number: 3127049

Parent Sample Id: 662582-019

Matrix: Soil

MS Sample Id: 662582-019 S

Prep Method: E300P

Date Prep: 05.26.2020

MSD Sample Id: 662582-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1880	202	2080	99	2090	106	90-110	0	20	mg/kg	05.26.2020 20:25	

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = 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 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127053

MB Sample Id: 7704130-1-BLK

Matrix: Solid

LCS Sample Id: 7704130-1-BKS

Prep Method: SW8015P

Date Prep: 05.26.2020

LCSD Sample Id: 7704130-1-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	993	99	1090	109	70-135	9	35	mg/kg	05.26.2020 12:42	
Diesel Range Organics (DRO)	<50.0	1000	1050	105	1140	114	70-135	8	35	mg/kg	05.26.2020 12:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		114		121		70-135	%	05.26.2020 12:42
o-Terphenyl	108		108		114		70-135	%	05.26.2020 12:42

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127057

MB Sample Id: 7704132-1-BLK

Matrix: Solid

LCS Sample Id: 7704132-1-BKS

Prep Method: SW8015P

Date Prep: 05.26.2020

LCSD Sample Id: 7704132-1-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	959	96	940	94	70-135	2	35	mg/kg	05.26.2020 12:42	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1090	109	70-135	1	35	mg/kg	05.26.2020 12:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		132		128		70-135	%	05.26.2020 12:42
o-Terphenyl	124		126		133		70-135	%	05.26.2020 12:42

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127053

Matrix: Solid

MB Sample Id: 7704130-1-BLK

Prep Method: SW8015P

Date Prep: 05.26.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.26.2020 12:22	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127057

Matrix: Solid

MB Sample Id: 7704132-1-BLK

Prep Method: SW8015P

Date Prep: 05.26.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.26.2020 12:22	

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127053

Parent Sample Id: 662565-001

Matrix: Soil

MS Sample Id: 662565-001 S

Prep Method: SW8015P

Date Prep: 05.26.2020

MSD Sample Id: 662565-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	964	96	1020	102	70-135	6	35	mg/kg	05.26.2020 14:29	
Diesel Range Organics (DRO)	<50.1	1000	984	98	1020	102	70-135	4	35	mg/kg	05.26.2020 14:29	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		110		70-135	%	05.26.2020 14:29
o-Terphenyl	78		84		70-135	%	05.26.2020 14:29

Analytical Method: TPH by SW8015 Mod

Seq Number: 3127057

Parent Sample Id: 662558-001

Matrix: Soil

MS Sample Id: 662558-001 S

Prep Method: SW8015P

Date Prep: 05.26.2020

MSD Sample Id: 662558-001 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	871	87	872	86	70-135	0	35	mg/kg	05.26.2020 14:29	
Diesel Range Organics (DRO)	<50.2	1000	1010	101	1000	99	70-135	1	35	mg/kg	05.26.2020 14:29	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		100		70-135	%	05.26.2020 14:29
o-Terphenyl	104		100		70-135	%	05.26.2020 14:29

Analytical Method: BTEX by EPA 8021B

Seq Number: 3127038

MB Sample Id: 7704075-1-BLK

Matrix: Solid

LCS Sample Id: 7704075-1-BKS

Prep Method: SW5035A

Date Prep: 05.26.2020

LCSD Sample Id: 7704075-1-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	0.109	109	70-130	1	35	mg/kg	05.26.2020 15:13	
Toluene	<0.00200	0.100	0.102	102	0.104	104	70-130	2	35	mg/kg	05.26.2020 15:13	
Ethylbenzene	<0.00200	0.100	0.0938	94	0.0944	94	71-129	1	35	mg/kg	05.26.2020 15:13	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.190	95	70-135	0	35	mg/kg	05.26.2020 15:13	
o-Xylene	<0.00200	0.100	0.0984	98	0.0997	100	71-133	1	35	mg/kg	05.26.2020 15:13	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		104		106		70-130	%	05.26.2020 15:13
4-Bromofluorobenzene	95		89		90		70-130	%	05.26.2020 15:13

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 159

Analytical Method: BTEX by EPA 8021B

Seq Number: 3127099

MB Sample Id: 7704119-1-BLK

Matrix: Solid

LCS Sample Id: 7704119-1-BKS

Prep Method: SW5035A

Date Prep: 05.26.2020

LCSD Sample Id: 7704119-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.109	109	0.106	106	70-130	3	35	mg/kg	05.27.2020 01:25	
Toluene	<0.00200	0.100	0.103	103	0.0989	99	70-130	4	35	mg/kg	05.27.2020 01:25	
Ethylbenzene	<0.00200	0.100	0.0939	94	0.0906	91	71-129	4	35	mg/kg	05.27.2020 01:25	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.183	92	70-135	3	35	mg/kg	05.27.2020 01:25	
o-Xylene	<0.00200	0.100	0.0984	98	0.0955	96	71-133	3	35	mg/kg	05.27.2020 01:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	112		105		106		70-130	%	05.27.2020 01:25
4-Bromofluorobenzene	96		91		90		70-130	%	05.27.2020 01:25

Analytical Method: BTEX by EPA 8021B

Seq Number: 3127038

Parent Sample Id: 662558-001

Matrix: Soil

MS Sample Id: 662558-001 S

Prep Method: SW5035A

Date Prep: 05.26.2020

MSD Sample Id: 662558-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.121	121	0.113	113	70-130	7	35	mg/kg	05.26.2020 15:53	
Toluene	<0.00200	0.0998	0.116	116	0.108	108	70-130	7	35	mg/kg	05.26.2020 15:53	
Ethylbenzene	<0.00200	0.0998	0.109	109	0.103	103	71-129	6	35	mg/kg	05.26.2020 15:53	
m,p-Xylenes	<0.00399	0.200	0.222	111	0.210	105	70-135	6	35	mg/kg	05.26.2020 15:53	
o-Xylene	<0.00200	0.0998	0.112	112	0.104	104	71-133	7	35	mg/kg	05.26.2020 15:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	05.26.2020 15:53
4-Bromofluorobenzene	87		94		70-130	%	05.26.2020 15:53

Analytical Method: BTEX by EPA 8021B

Seq Number: 3127099

Parent Sample Id: 662582-009

Matrix: Soil

MS Sample Id: 662582-009 S

Prep Method: SW5035A

Date Prep: 05.26.2020

MSD Sample Id: 662582-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.110	109	0.0963	95	70-130	13	35	mg/kg	05.27.2020 02:05	
Toluene	<0.00202	0.101	0.102	101	0.0898	89	70-130	13	35	mg/kg	05.27.2020 02:05	
Ethylbenzene	<0.00202	0.101	0.0931	92	0.0836	83	71-129	11	35	mg/kg	05.27.2020 02:05	
m,p-Xylenes	<0.00403	0.202	0.189	94	0.169	84	70-135	11	35	mg/kg	05.27.2020 02:05	
o-Xylene	<0.00202	0.101	0.0969	96	0.0862	85	71-133	12	35	mg/kg	05.27.2020 02:05	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		110		70-130	%	05.27.2020 02:05
4-Bromofluorobenzene	92		93		70-130	%	05.27.2020 02:05

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



Chain of Custody

Work Order No.:

cel 2582

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0330 San Antonio, TX (210) 509-3333
Midland TX (432-704-5440) El Paso TX (915) 585-3443 Lubbock, TX (806) 784-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 392-7550
Hobbs, NM (575-392-7550)

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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:	wmathner@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: ☐

Project Name:	PLU 159	Turn Around
Project Number:	012919161	Routine
P.O. Number:	Eddy	Rush:
Sampler's Name:	William Mather	Due Date:

SAMPLE RECEIPT		Temp Blank:	Yes	No	Well Ice:	Yes	No
Temperature (°C):		4.2					
Received Inact:		Yes	No		Thermometer ID		
Cooler Custody Seals:		Yes	No		T-NM-007		
Sample Custody Seals:		Yes	No		Correction Factor: -0.2		
		Yes	No		Total Containers: 19		

[illegible]

Total 200.7 / 6010 200.8 / 6020:

8RCRA 13PPM Texas 11 Al Sh As Ba Be B Cd Ca Cr Co Cu Ee Pb Mn Mo Ni K C-A C:Co N C H:Co

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

Continued on next page

1631 / 245.1 / 470 / 7471 :Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Handwritten Signature]</i>	<i>[Handwritten Signature]</i>	5 / Jul 20 1427			

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) 233-3927
Hobbs, NM (575-392-7550)

Chain of Custody

Work Order No: 6462582

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:	lwmather@ltenv.com, dmoir@ltenv.com

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

[illegible]

Total 200.7 / 6010 200.8 / 6020: <i>Circle Method(s) and Metal(s) to be analyzed</i> 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 TC1P / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 7471 : Hg
Note: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control 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.

Revised Date 051418 Rev. 2018.1



Certificate of Analysis Summary 664285

LT Environmental, Inc., Arvada, CO

Project Name: PLU 159

Project Id: 012919161

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Thu 06.11.2020 13:55

Report Date: 06.15.2020 11:31

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664285-001	664285-002	664285-003	664285-004		
	Field Id:	SW35	SW36	SW37	SW38		
	Depth:	0-4 ft	0-4 ft	0-4 ft	0-4 ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	06.11.2020 09:29	06.11.2020 09:49	06.11.2020 10:50	06.11.2020 10:52		
BTEX by EPA 8021B	Extracted:	06.12.2020 12:01	06.12.2020 12:01	06.12.2020 12:01	06.12.2020 12:01		
	Analyzed:	06.12.2020 16:16	06.12.2020 16:36	06.12.2020 16:56	06.12.2020 17:17		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202		
Toluene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202		
Ethylbenzene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202		
m,p-Xylenes		<0.00404 0.00404	<0.00402 0.00402	<0.00404 0.00404	<0.00403 0.00403		
o-Xylene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202		
Total Xylenes		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202		
Total BTEX		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202		
Chloride by EPA 300	Extracted:	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00		
	Analyzed:	06.12.2020 16:53	06.12.2020 17:10	06.12.2020 17:16	06.12.2020 17:22		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		374 9.96	415 10.0	10.6 10.0	29.4 9.92		
TPH by SW8015 Mod	Extracted:	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00		
	Analyzed:	06.12.2020 13:23	06.12.2020 13:23	06.12.2020 14:24	06.12.2020 14:45		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.1 50.1		
Diesel Range Organics (DRO)		<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.1 50.1		
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.1 50.1		
Total GRO-DRO		<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.1 50.1		
Total TPH		<49.8 49.8	<50.1 50.1	<49.8 49.8	<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 Manager



Analytical Report 664285

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 159

012919161

06.15.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



06.15.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **664285**

PLU 159

Project Address: Eddy

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) 664285. 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. 664285 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 Manager

A Small Business and Minority Company

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

**Sample Cross Reference 664285****LT Environmental, Inc., Arvada, CO**

PLU 159

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW35	S	06.11.2020 09:29	0 - 4 ft	664285-001
SW36	S	06.11.2020 09:49	0 - 4 ft	664285-002
SW37	S	06.11.2020 10:50	0 - 4 ft	664285-003
SW38	S	06.11.2020 10:52	0 - 4 ft	664285-004



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU 159*

Project ID: 012919161
Work Order Number(s): 664285

Report Date: 06.15.2020
Date Received: 06.11.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 664285

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW35** Matrix: Soil Date Received: 06.11.2020 13:55
 Lab Sample Id: 664285-001 Date Collected: 06.11.2020 09:29 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 06.12.2020 16:00 Basis: Wet Weight
 Seq Number: 3128910

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	374	9.96	mg/kg	06.12.2020 16:53		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 06.12.2020 12:00 Basis: Wet Weight
 Seq Number: 3128908

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.12.2020 13:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.12.2020 13:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.12.2020 13:23	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	06.12.2020 13:23	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.12.2020 13:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	06.12.2020 13:23	
o-Terphenyl	84-15-1	110	%	70-135	06.12.2020 13:23	



Certificate of Analytical Results 664285

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: SW35
Lab Sample Id: 664285-001

Matrix: Soil
Date Collected: 06.11.2020 09:29

Date Received: 06.11.2020 13:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 06.12.2020 12:01

Basis: Wet Weight

Seq Number: 3128788

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.12.2020 16:16	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.12.2020 16:16	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.12.2020 16:16	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	06.12.2020 16:16	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.12.2020 16:16	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.12.2020 16:16	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.12.2020 16:16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	06.12.2020 16:16		
1,4-Difluorobenzene	540-36-3	110	%	70-130	06.12.2020 16:16		



Certificate of Analytical Results 664285

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW36** Matrix: Soil Date Received: 06.11.2020 13:55
 Lab Sample Id: 664285-002 Date Collected: 06.11.2020 09:49 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 06.12.2020 16:00 Basis: Wet Weight
 Seq Number: 3128910

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	415	10.0	mg/kg	06.12.2020 17:10		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 06.12.2020 12:00 Basis: Wet Weight
 Seq Number: 3128905

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	06.12.2020 13:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	06.12.2020 13:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	06.12.2020 13:23	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	06.12.2020 13:23	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	06.12.2020 13:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	06.12.2020 13:23	
o-Terphenyl	84-15-1	92	%	70-135	06.12.2020 13:23	



Certificate of Analytical Results 664285

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW36**
Lab Sample Id: 664285-002

Matrix: Soil
Date Collected: 06.11.2020 09:49

Date Received: 06.11.2020 13:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 06.12.2020 12:01

Basis: Wet Weight

Seq Number: 3128788

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.12.2020 16:36	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.12.2020 16:36	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.12.2020 16:36	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.12.2020 16:36	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.12.2020 16:36	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.12.2020 16:36	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.12.2020 16:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	06.12.2020 16:36	
4-Bromofluorobenzene	460-00-4	100	%	70-130	06.12.2020 16:36	



Certificate of Analytical Results 664285

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW37** Matrix: Soil Date Received: 06.11.2020 13:55
 Lab Sample Id: 664285-003 Date Collected: 06.11.2020 10:50 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 06.12.2020 16:00 Basis: Wet Weight
 Seq Number: 3128910

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.6	10.0	mg/kg	06.12.2020 17:16		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 06.12.2020 12:00 Basis: Wet Weight
 Seq Number: 3128908

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.12.2020 14:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.12.2020 14:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.12.2020 14:24	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	06.12.2020 14:24	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.12.2020 14:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	06.12.2020 14:24	
o-Terphenyl	84-15-1	99	%	70-135	06.12.2020 14:24	



Certificate of Analytical Results 664285

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW37**
Lab Sample Id: 664285-003

Matrix: Soil
Date Collected: 06.11.2020 10:50

Date Received: 06.11.2020 13:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 06.12.2020 12:01

Basis: Wet Weight

Seq Number: 3128788

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.12.2020 16:56	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.12.2020 16:56	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.12.2020 16:56	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	06.12.2020 16:56	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.12.2020 16:56	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.12.2020 16:56	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.12.2020 16:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	06.12.2020 16:56	
1,4-Difluorobenzene	540-36-3	106	%	70-130	06.12.2020 16:56	



Certificate of Analytical Results 664285

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW38** Matrix: Soil Date Received: 06.11.2020 13:55
 Lab Sample Id: 664285-004 Date Collected: 06.11.2020 10:52 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 06.12.2020 16:00 Basis: Wet Weight
 Seq Number: 3128910

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.4	9.92	mg/kg	06.12.2020 17:22		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 06.12.2020 12:00 Basis: Wet Weight
 Seq Number: 3128908

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	06.12.2020 14:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	06.12.2020 14:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	06.12.2020 14:45	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	06.12.2020 14:45	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	06.12.2020 14:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	06.12.2020 14:45	
o-Terphenyl	84-15-1	95	%	70-135	06.12.2020 14:45	



Certificate of Analytical Results 664285

LT Environmental, Inc., Arvada, CO

PLU 159

Sample Id: **SW38**
Lab Sample Id: 664285-004

Matrix: Soil
Date Collected: 06.11.2020 10:52

Date Received: 06.11.2020 13:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 06.12.2020 12:01

Basis: Wet Weight

Seq Number: 3128788

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.12.2020 17:17	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.12.2020 17:17	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.12.2020 17:17	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.12.2020 17:17	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.12.2020 17:17	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.12.2020 17:17	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.12.2020 17:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	06.12.2020 17:17	
1,4-Difluorobenzene	540-36-3	113	%	70-130	06.12.2020 17:17	



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. **ND** Not Detected.

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 159

Analytical Method: Chloride by EPA 300

Seq Number: 3128910

MB Sample Id: 7705387-1-BLK

Matrix: Solid

LCS Sample Id: 7705387-1-BKS

Prep Method: E300P

Date Prep: 06.12.2020

LCSD Sample Id: 7705387-1-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	243	97	249	100	90-110	2	20	mg/kg	06.12.2020 16:41	

Analytical Method: Chloride by EPA 300

Seq Number: 3128910

Parent Sample Id: 664285-001

Matrix: Soil

MS Sample Id: 664285-001 S

Prep Method: E300P

Date Prep: 06.12.2020

MSD Sample Id: 664285-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	374	200	562	94	564	95	90-110	0	20	mg/kg	06.12.2020 16:58	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128905

MB Sample Id: 7705382-1-BLK

Matrix: Solid

LCS Sample Id: 7705382-1-BKS

Prep Method: SW8015P

Date Prep: 06.12.2020

LCSD Sample Id: 7705382-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1120	112	1090	109	70-135	3	35	mg/kg	06.12.2020 12:43	
Diesel Range Organics (DRO)	<50.0	1000	1170	117	1150	115	70-135	2	35	mg/kg	06.12.2020 12:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		126		122		70-135	%	06.12.2020 12:43
o-Terphenyl	96		104		100		70-135	%	06.12.2020 12:43

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128908

MB Sample Id: 7705381-1-BLK

Matrix: Solid

LCS Sample Id: 7705381-1-BKS

Prep Method: SW8015P

Date Prep: 06.12.2020

LCSD Sample Id: 7705381-1-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	974	97	959	96	70-135	2	35	mg/kg	06.12.2020 12:43	
Diesel Range Organics (DRO)	<50.0	1000	1090	109	1090	109	70-135	0	35	mg/kg	06.12.2020 12:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		110		108		70-135	%	06.12.2020 12:43
o-Terphenyl	96		104		102		70-135	%	06.12.2020 12:43

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128905

Matrix: Solid

MB Sample Id: 7705382-1-BLK

Prep Method: SW8015P

Date Prep: 06.12.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	06.12.2020 12:23	

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128908

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.12.2020

MB Sample Id: 7705381-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

06.12.2020 12:23

Flag

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128905

Matrix: Soil

Prep Method: SW8015P

Date Prep: 06.12.2020

Parent Sample Id: 664285-002

MS Sample Id: 664285-002 S

MSD Sample Id: 664285-002 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<50.2

Spike
Amount

1000

MS
Result

1090

MS
%Rec

109

MSD
Result

1150

MSD
%Rec

115

Limits

70-135

%RPD

5

RPD
Limit

35

Units

mg/kg

Analysis
Date

06.12.2020 13:44

Flag

Diesel Range Organics (DRO)

<50.2

1000

1160

116

1070

107

70-135

8

35

mg/kg

06.12.2020 13:44

Surrogate

1-Chlorooctane

MS
%Rec

127

MS
FlagMSD
%Rec

131

MSD
Flag

Limits

70-135

Units

%

Analysis
Date

06.12.2020 13:44

o-Terphenyl

105

108

70-135

%

06.12.2020 13:44

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128908

Matrix: Soil

Prep Method: SW8015P

Date Prep: 06.12.2020

Parent Sample Id: 664285-001

MS Sample Id: 664285-001 S

MSD Sample Id: 664285-001 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<49.8

Spike
Amount

995

MS
Result

941

MS
%Rec

95

MSD
Result

956

MSD
%Rec

96

Limits

70-135

%RPD

2

RPD
Limit

35

Units

mg/kg

Analysis
Date

06.12.2020 13:44

Flag

Diesel Range Organics (DRO)

<49.8

995

1070

108

1070

107

70-135

0

35

mg/kg

06.12.2020 13:44

Surrogate

1-Chlorooctane

MS
%Rec

112

MS
FlagMSD
%Rec

109

MSD
Flag

Limits

70-135

Units

%

Analysis
Date

06.12.2020 13:44

o-Terphenyl

107

104

70-135

%

06.12.2020 13:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3128788

Matrix: Solid

Prep Method: SW5035A

Date Prep: 06.12.2020

MB Sample Id: 7705312-1-BLK

LCS Sample Id: 7705312-1-BKS

LCSD Sample Id: 7705312-1-BSD

Parameter

Benzene

MB
Result

<0.00200

Spike
Amount

0.100

LCS
Result

0.105

LCS
%Rec

105

LCSD
Result

0.109

LCSD
%Rec

109

Limits

70-130

%RPD

4

RPD
Limit

35

Units

mg/kg

Analysis
Date

06.12.2020 10:08

Flag

Toluene

<0.00200

0.100

0.0998

100

0.104

104

70-130

4

35

mg/kg

06.12.2020 10:08

Ethylbenzene

<0.00200

0.100

0.0920

92

0.0972

97

71-129

5

35

mg/kg

06.12.2020 10:08

m,p-Xylenes

<0.00400

0.200

0.189

95

0.197

99

70-135

4

35

mg/kg

06.12.2020 10:08

o-Xylene

<0.00200

0.100

0.0969

97

0.101

101

71-133

4

35

mg/kg

06.12.2020 10:08

Surrogate

1,4-Difluorobenzene

MB
%Rec

110

MB
FlagLCS
%Rec

107

LCS
FlagLCSD
%Rec

109

LCSD
Flag

Limits

70-130

Units

%

Analysis
Date

06.12.2020 10:08

4-Bromofluorobenzene

96

93

92

70-130

%

06.12.2020 10:08

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

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

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

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



LT Environmental, Inc.

PLU 159

Analytical Method: BTEX by EPA 8021B

Seq Number: 3128788

Parent Sample Id: 664229-004

Matrix: Soil

MS Sample Id: 664229-004 S

Prep Method: SW5035A

Date Prep: 06.12.2020

MSD Sample Id: 664229-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.101	101	0.0996	99	70-130	1	35	mg/kg	06.12.2020 10:49	
Toluene	<0.00199	0.0996	0.0962	97	0.0950	94	70-130	1	35	mg/kg	06.12.2020 10:49	
Ethylbenzene	<0.00199	0.0996	0.0905	91	0.0887	88	71-129	2	35	mg/kg	06.12.2020 10:49	
m,p-Xylenes	<0.00398	0.199	0.184	92	0.181	90	70-135	2	35	mg/kg	06.12.2020 10:49	
o-Xylene	<0.00199	0.0996	0.0928	93	0.0910	90	71-133	2	35	mg/kg	06.12.2020 10:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		107		70-130	%	06.12.2020 10:49
4-Bromofluorobenzene	95		90		70-130	%	06.12.2020 10:49

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) 291-1111
Hobbs, NM (575-382-7550)

Chain of Custody

Work Order No:

1664285

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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:	wmattner@ltenv.com, dmoir@ltenv.com

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

Project Name:	PLU 159	Turn Around
Project Number:	02919161	Routine <i>W</i>
P.O. Number:	Eddy	Rush:
Sampler's Name:	William Mather	Due Date:

SAMPLE RECEIPT		Temp Blank	Yes	No	Wet Ice:	Yes	No
Temperature (°C):		3.8/3.6			Thermometer ID		
Received In tact:		Yes	No		71111007		
Cooler Custody Seals:		Yes	No		Correction Factor:	-0.2	
Sample Custody Seals:		Yes	No		Total Containers:	4	

[illegible][illegible]

Total 200.7 / 6010 200.8 / 6020:

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Cl H₂O V Zn
4631/2451/7470/74

Oxidation of Methyl(6) and Methyl(6) to be analyzed

TCIP / SPIP 6010. 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag I I U

1001/240.1/1710

ce: 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 sale. 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 \$8 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
		6/11/20 13:55			

Revised Date 05/14/18 Rev. 2018

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 06.11.2020 01:55.00 PM

Work Order #: 664285

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	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

Samples received in bulk containers.

* 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: 06.11.2020

Checklist reviewed by:



Jessica Kramer

Date: 06.15.2020

ATTACHMENT 4: LITHOLOGIC / SOIL SAMPLING LOGS



 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation					BH or PH Name: PH01		Date: 12/18/2019	
					Site Name: PLU 159			
					RP or Incident Number: NAB1921727653			
					LTE Job Number: 12919161			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Fatima Smith, SL		Method: Excavator	
Lat/Long:			Field Screening: Chloride, PID		Hole Diameter: 3'		Total Depth: 6'	
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	481	0.1	N	PH01		1	SP	SAND, fine grain, poor grade, reddish brown, roots at 1-2'
D	1,803	0.2	N	PH01A		2	SP	SAA
D	9,621	0.0	N			3	SP-SM	Pothole continued on 12/20/19 by Spencer Lo SAND, fine grain, poor grade, brown, trace silt
D	10,416	0.0	N	PH01B		4	SP-SM	SAA
D	<179	0.0	N	PH01C		5	SP-SM	SAA
D	<179	0.0	N			6	SP-SM	SAA

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation					BH or PH Name: PH02		Date: 12/18/2019	
					Site Name: PLU 159			
					RP or Incident Number: NAB1921727653			
					LTE Job Number: 12919161			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Fatima Smith, SL, RM		Method: Excavator	
Lat/Long:			Field Screening: Chloride, PID		Hole Diameter: 3'		Total Depth: 2'	
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	<168	0.1	N	PH02		1	SP	SAND, fine grain, poor grade, reddish brown, rootas at 1-2'
D	739	0.2	N	PH02A		2	SP	SAA
D	8,893	0.0	N			3	SC	Pothole continued on 12/20/19 by Spencer Lo Clayey SAND, fine grain, poor grade, brown, low plasticity, cohesive
D	8,893	0.0	N	PH02B		4	SC	SAA
D	8,893	0.0	N	PH02C		5	SC	SAA
D	6,418	0.0	N			5.5	CCHE	Caliche, white/tan
D	10,180	0	N			6	CCHE	SAA, Continued on 3/12/20 by Robert McAfee
D	10,180	0	N			7	CCHE	SAA
D	1,887	0	N	PH02D		7.5	CCHE	SAA

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		PH03		12/20/2019				
		Site Name: PLU 159						
		RP or Incident Number: NAB1921727653						
LTE Job Number: 12919161								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Hole Diameter:				
		Chloride, PID		2'				
Total Depth: 6'								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	1,075	0.0	N			1	SP	SAND, fine grain, poor grade, reddish brown, roots at 1-2'
D	2,134	0.0	N			2	SP-SM	SAND, fine grain, poor grade, brown, some caliche gravel
D	9,621	0.0	N			3	SP-SM	SAA
D	8,215	0.0	N	PH03		4	CCHE	Caliche, tan/white
D	13,278	0.0	N			5	CCHE	SAA
D	14,457	0.0	N	PH03B		6	CCHE	SAA

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation					BH or PH Name: BH01		Date: 12/18/2019	
					Site Name: PLU 159			
					RP or Incident Number: NAB1921727653			
					LTE Job Number: 12919161			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Fatima Smith, RM		Method: Hand Auger	
Lat/Long:			Field Screening: Chloride, PID		Hole Diameter: 4"		Total Depth: 2'	
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	375	0.1	N	BH01		1	SP	SAND, fine grain, poor grade, reddish brown, roots at 1-2'
D	890	0.2	N	BH01A		2	SP	SAA
M	1,560	<5.0	N			3	SP-SC	Continued on 3/12/20 by Robert McAfee SAND, fine grain, poor grade, brown, some clay, low plasticity, cohesive
D	543	<5.0	N			4	CCHE	Caliche, white/tan, low consolidation
D	<124	<5.0	N	BH01B		5	CCHE	SAA

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation					BH or PH Name: BH02		Date: 12/18/2019	
					Site Name: PLU 159			
					RP or Incident Number: NAB1921727653			
					LTE Job Number: 12919161			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Fatima Smith, RM		Method: Hand Auger	
Lat/Long:			Field Screening: Chloride, PID		Hole Diameter: 4"		Total Depth: 5'	
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	<168	0.1	N	BH02		1	SP	SAND, fine grain, poor grade, reddish brown, roots at 1-2'
D	<168	0.0	N	BH02A		2	SP	SAA
D	1,014	<5.0	N	BH02B		3	CCHE	Continued on 3/12/20 by Robert McAfee Caliche, poor consolidation, white/tan
D	970	<5.0	N			4	CCHE	SAA
D	<125	<5.0	N	BH02C		5	CCHE	SAA

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		BH03		12/18/2019				
		Site Name: PLU 159						
		RP or Incident Number: NAB1921727653						
LTE Job Number: 12919161								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: Fatima Smith				
		Chloride, PID		Method: Hand Auger				
Hole Diameter: 4"								
Total Depth: 2'								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	812	0.0	N	BH03		1	SP	SAND, fine grain, poor grade, reddish brown, roots at 1-2'
D	425	0.1	N	BH03A		2	SP	SAA

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		BH04		12/18/2019				
		Site Name: PLU 159						
		RP or Incident Number: NAB1921727653						
LTE Job Number: 12919161								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: Fatima Smith				
		Chloride, PID		Method: Hand Auger				
Hole Diameter:		Total Depth:						
4"		2'						
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D	<168	0.1	N	BH04		0		
						1	SP	SAND, fine grain, poor grade, reddish brown, roots at 1-2'
D	<168	0.0	N	BH04A		2	SP	SAA

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		BH05		12/18/2019				
		Site Name: PLU 159						
		RP or Incident Number: NAB1921727653						
LTE Job Number: 12919161								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: Fatima Smith				
		Chloride, PID		Method: Hand Auger				
Hole Diameter:		Total Depth:						
4'		2'						
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D	3,628	0.2	N	BH05		0		SAND, fine-medium grain, well graded, brown, some silt, moist-wet, no odor, no stain
D	7,324	0.1	N	BH05A		1	SP	
						2	SP	SAA

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		BH07		5/6/2020				
		Site Name: PLU 159						
		RP or Incident Number: NAB1921727653						
LTE Job Number: 12919161								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: Spencer Lo				
		Chloride, PID		Method: Hand Auger				
Hole Diameter:		Total Depth:						
4"		2'						
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	320	1.9	N	BH07		0		
						1		
						2	SP-SM	SAND, fine grain, poor grade, brown, some caliche gravel

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		BH08		5/6/2020				
		Site Name: PLU 159						
		RP or Incident Number: NAB1921727653						
LTE Job Number: 12919161								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: Spencer Lo				
		Chloride, PID		Method: Hand Auger				
Hole Diameter:		Total Depth:						
4"		2'						
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	269	1.7	N	BH08		0		
						1		
						2	SP-SM	SAND, fine grain, poor grade, brown, some caliche gravel

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or PH Name:		Date:				
		BH09		5/6/2020				
		Site Name: PLU 159						
		RP or Incident Number: NAB1921727653						
LTE Job Number: 12919161								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Logged By: Spencer Lo				
		Chloride, PID		Method: Hand Auger				
Hole Diameter:		Total Depth:						
4"		2'						
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<186	0.3	N	BH09		0		SAND, fine grain, poor grade, brown, some caliche gravel
						1		
						2	SP-SM	

Incident ID	NAB1921727653
District RP	2RP-5545
Facility ID	
Application ID	pAB1921727325

Closure

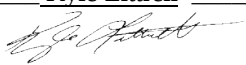
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled 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: 08/11/2020

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

OCD Only

Received by: Robert Hamlet Date: 12/10/2020

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: Robert Hamlet Date: 12/10/2020

Printed Name: Robert Hamlet Title: Environmental Eng. Tech. III

From: [Hamlet, Robert, EMNRD](#)
To: [Baker, Adrian](#); "[garrett_green@xtoenergy.com](#)"
Cc: [Bratcher, Mike, EMNRD](#); [Eads, Cristina, EMNRD](#); [CFO_Spill, BLM_NM](#)
Subject: Closure Approval - XTO - SWD Line at Poker Lake Unit #159 - (Incident #NAB1921727653)
Date: Thursday, December 10, 2020 9:15:00 AM
Attachments: [Closure Approval - XTO - SWD Line at Poker Lake Unit #159 - \(Incident #NAB1921727653\).pdf](#)

Adrian,

We have received your closure report and final C-141 for **Incident #NAB1921727653 SWD Line at Poker Lake Unit #159**, thank you. This closure is approved.

Please let me know if you have any further questions.

Regards,

Robert Hamlet • Environmental Eng. Tech. III
Environmental Bureau
EMNRD - Oil Conservation Division
811 S. First Street | Artesia, NM 88210
505.748.1283 | robert.hamlet@state.nm.us
<http://www.emnrd.state.nm.us/OCD/>



District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 9809

CONDITIONS OF APPROVAL

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Building #5 Midland, TX79707		OGRID: 5380	Action Number: 9809	Action Type: C-141
OCD Reviewer	Condition			
rhamlet	We have received your closure report and final C-141 for Incident #NAB1921727653 SWD Line at Poker Lake Unit #159, thank you. This closure is approved.			